# EXPLORING SOCIAL INFLUENCES ON ANTENATAL PHYSICAL ACTIVITY: THE PLAYERS OF INFLUENCE, THE POSITIONS OF NEGOTIATION AND THE SENSE-MAKING EXPERIENCES OF PREGNANT WOMEN NAVIGATING THEIR PHYSICAL ACTIVITY RELATIONSHIPS AND IDENTITIES

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September 2022

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Exploring social influences on antenatal physical activity: the players of influence, the positions of negotiation and the sense-making experiences of pregnant women navigating their physical activity relationships and identities

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Doctor of Philosophy

2022

## Abstract

**Background:** Despite antenatal physical activity conferring numerous health benefits on maternal and foetal wellbeing, physical activity uptake generally declines throughout pregnancy. While literature increasingly cites interpersonal factors as important, there remains a paucity of research exploring social influence specifically. The proceeding thesis addresses this gap, by drawing upon various qualitative methodologies to illuminate, conceptualise and articulate social influence within this specific context, formulating a theory-informed approach to the dual-question: *what are pregnant women's social experiences concerning their physical activity relationships and identities and how do they navigate them?*

**Methods:** Three studies were conducted. A systematic review and meta-synthesis of 50 qualitative studies, aimed to identify the individuals and social support types of potential influence on antenatal physical activity. A discursive psychology study examined how pregnant women navigate and account for their physical activity relationships and identities. A longitudinal interpretative phenomenological analysis approach explored pregnant women's sense-making of social experience concerning their physical activity throughout pregnancy.

**Results:** Study one identified 13 groups of individuals and six social support types as influential, including novel findings of the 'proximity principle', 'Role' and 'Monitor/overseer' support. Study two presents a discursive navigation model along a 'proactive' and 'protective' antenatal physical activity continuum, depicting ten subject-positions and 12 discourses available to pregnant women when accounting for their physical activity identity/relationship. Study three yielded socio-behavioural themes of social comparison, social selection and social contrivance, describing pregnant women's sense-making of physical activity-related social experience over time.

**Conclusion:** This thesis presents a diverse exploration of social influence on antenatal physical activity, generating novel findings unarticulated elsewhere. Recommendations include a hybrid digital-person-facing intervention incorporating social support, and equipping pregnant women with coping mechanisms to retain a sense of agency and autonomy. Thus, supporting pregnant women to establish a physical activity relationship/identity compatible with their transition to motherhood, while navigating the myriad of social experiences that ebb and flow throughout the tidal vicissitudes of pregnancy.

*Key words:* social influence, antenatal physical activity, social support, discourse, sense-making, longitudinal.

# Dedication

*I dedicate this thesis to my beloved dog TJ,*
*who slept and snored by my side while I wrote.*

# Acknowledgements

I would like to thank my supervisors for being a constant source of guidance and support throughout this privileged experience of undertaking a PhD.

I would like to thank all the researchers, whose inspiring work has paved the way for me to explore my chosen subject area.

I would like to thank my participants, who generously shared their views and experiences.

I would also like to thank my partner, family, friends and work colleagues, who have supported me to complete my thesis with their patience and understanding.

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# Chapter 1: Thesis Introduction

## 1.1 Antenatal physical activity

According to UK guidelines, based on research commissioned by the four UK Chief Medical Officers, pregnant women should aim to engage in 150 minutes of moderate-intensity physical activity each week (Dept. of Health, 2019). From 2017, these guidelines brought advice for pregnant women in line with that provided for the general adult population, aiming to make clear, for both health professionals and pregnant women, how physical activity can feature as part of a healthy lifestyle during the antenatal period (Smith et al., 2017). These guidelines also aim to support health professionals to provide 'simple, clear and consistent messages' to pregnant women (Smith et al., 2017), with pregnancy being a time where physical activity uptake notably reduces. Indeed, prospective research has long reported a general and progressive decline in physical activity throughout pregnancy (Fell et al., 2009; Hausenblas et al., 2011), a decline, at times, owing to misinformation or misconceptions surrounding appropriate prenatal health behaviours, such as the popular adages of "eating for two" (Kraschnewski and Chuang, 2014; May et al., 2014) and indulging rest and relaxation over physical activity (Clarke and Gross, 2004; Okafor and Goon, 2021). Furthermore, these guidelines promote antenatal physical activity in recognition of the numerous health benefits to mother and baby, which are supported by a body of research. Indeed, numerous studies demonstrate that moderate levels of physical activity during pregnancy can have positive effects on maternal health and on physical symptoms (Mottola et al., 2019), such as improved cardiorespiratory fitness (Perales et al., 2016) compared to non-active pregnant women (Halvorsen et al., 2013; Melzer et al., 2010), a reduction against the risk of hypertensive disorders and gestational diabetes mellitus (Mascio et al., 2016; Teede et al., 2021), gestational weight gain (Teede, et al., 2021) and caesarean intervention (Domenjoz, Kayser, Boulvain, 2014; Mascio et al., 2016; Melzer et al., 2010; Tinloy et al., 2014) and even improving foetal cardiac responses (i.e., lower heart rate and higher heart variability) (May et al., 2010). Physical activity is also associated with improved prenatal mental/psychological outcomes (Mottola et al., 2019), such as reducing stress and the risk and severity of prenatal depression and anxiety while improving quality of life (Cai et al., 2022), supporting self-esteem and mental wellbeing (Poudevigne & O'Conner, 2006), as well as improving pregnant women's perceived health status (Barakat et al., 2011; Lindqvist et al., 2016) and body image satisfaction (Sun et al., 2018). Being physically active throughout pregnancy has also been associated with supporting the prospect of enduring physical, psychological and behavioural benefits in postpartum, including a retention of pelvic floor muscle and prevention against urinary incontinence (Perales et al., 2016), and offering a potential reduction in the risk of postpartum depression symptoms (Nakamura et al., 2019), as well as a reduced risk of early breastfeeding cessation (Nguyen et al., 2019).

Despite these benefits pregnant women's uptake and/or continuation of physical activity are reportedly met with challenges or barriers (Clarke & Gross, 2004; Chang et al., 2015), which logically coincide with a reported decline in physical activity throughout pregnancy (Clarke & Gross, 2004; Merkx et al., 2017). According to numerous reviews, the reasons for this decline appear to be complex, involving environmental, intrapersonal and interpersonal factors (Coll et al., 2017; Harrison et al., 2018; Thompson et al., 2018).

### 1.2 Environmental factors

Common environmental barriers include inadequate resources to perform physical activity (Coll et al., 2017; Flannery et al., 2018; Harrison et al., 2018), poor access to facilities, such as suitable physical activity groups or classes (Currie et al., 2016), living in an 'obesogenic' or urbanised environments, rendering it difficult to engage in outdoor physical activities, such as walking or cycling (O'Brien et al., 2017) and simply having a lack of time (Currie et al., 2016; Leiferman et al., 2011) and childcare resources (Currie et al., 2016; Evenson et al., 2009; Leiferman et al., 2011) to invest in physical activity. Beyond these environmental factors, intrapersonal barriers to physical activity are more frequently highlighted in the literature.

### 1.3 Intrapersonal factors

Intrapersonal barriers are commonly described by pregnant women as negative physical symptoms, such as fatigue (Currie et al, 2016; Flannery et al., 2018; Whitaker et al., 2016), sickness/nausea (Currie et al., 2016) and pain or discomfort from pregnancy-symptoms (Coll et al., 2017; Flannery et al., 2018; Harrison et al., 2018; Whitaker et al., 2016; Gaston & Cramp, 2011). Indeed, intrapersonal factors present significant challenges, as naturally experiencing a reduction in or having feelings of control over physical symptoms, have been found to improve pregnant women's capability to engage in physical activity during pregnancy. In a secondary analysis of a prospective randomised controlled trial, comprising 50 pregnant women with obesity in an exercise programme, amongst other variables, those that reported no nausea or sickness, and no lower back pain demonstrated a greater likelihood of engaging in physical activity during pregnancy (Foxcroft et al., 2011). Other intrapersonal barriers to physical activity experienced by pregnant women involve views and perceptions, such as perceiving themselves to have insufficient time to exercise (Coll et al., 2017; Flannery et al., 2018; Harrison et al., 2018; Whitaker et al., 2016). Additionally, holding negative beliefs stemming from risk perceptions over the safety of physical activity for mother and baby is also a prominent intrapersonal barrier; for instance, the risk of incurring injuries from physical exertion (Currie et al., 2016; Clarke & Gross, 2004). Some research suggests that holding positive beliefs and conservative risk perceptions towards antenatal physical activity can act as an enabler for pregnant women, namely the belief in the

safety and wellbeing effects of physical activity for maternal and foetal outcomes (Cioffi et al., 2010; Harrison et al., 2018). Interestingly, beliefs concerning the safety of physical activity appear to be shaped by interpersonal factors, as confusion and uncertainty over the safety of physical activity has been attributed to a perceived lack of advice on safe physical activity practices (Coll et al., 2017; Flannery et al., 2018), contradictory information (Clarke and Gross, 2004) and limited information from individuals of expert influence, namely health professionals (Flannery et al., 2018). Acknowledging this, dovetails neatly with the perception that while intrapersonal factors are well-known amongst the literature, interpersonal factors have also been identified as increasingly important, yet less incorporated into intervention design. In a scoping review of prenatal exercise programs and interventions, Jette et al., (2017) asserts that there exists a disproportionate focus on intrapersonal barriers to antenatal physical activity in intervention design; recommending that intervention designers should also consider the cumulative influence of interpersonal or 'social factors', with 'structural disadvantage' as key 'systemic inequality' barriers to antenatal physical activity engagement throughout pregnancy.

**1.4 Interpersonal factors**

Altogether, this leads one to consider the increasing evidence suggesting that pregnant women's physical activity is shaped and notably influenced by interpersonal or social factors (Coll et al., 2017; Harrison et al., 2018; O'Brien et al., 2017), with pregnant women reporting a need for greater social support to enable positive health behaviours during pregnancy, including physical activity (Smith, Taylor & Lavender, 2014; Coll et al., 2017). Indeed, in their decision-making (Findley et al., 2020) and negotiating of physical activity (Wagnild and Pollard, 2020), pregnant women consider and describe the influential role of individuals who attempt to inform their views and perspectives, which can enable and impede their physical activity. Interestingly, pregnant women's partners/spouses have been repeatedly identified as important enabling influencers on their physical activity (Cioffi et al., 2010; Greenhill and Vollmer, 2019; Liu et al., 2011; Thornton et al., 2006; Flannery et al., 2018; Whitaker et al., 2016). In a study conducted by Liu et al., (2011), pregnant women with partners/spouses who were physically active at 18 weeks' gestation, were more likely to undertake physical activity at 18- and 32-weeks' gestation, compared to pregnant women with partners/spouses who were not physically active. Although this study reportedly did not assess participants' physical activity levels prior to 18 weeks gestation, the maintenance or performance of physical activity during the third trimester, which presents notable physical barriers to exercise, suggest the potential for partners/spouses to influence pregnant women's physical activity.

In other research pregnant women participants have been found to identify the individuals who they perceive would enable their physical activity, such as receiving encouragement or advice from

partners, health professionals, family, and friends (Chang et al., 2015; Cioffi et al., 2010; Flannery et al., 2018). Interestingly, such individuals have also been identified as presenting barriers to physical activity, particularly by holding beliefs concerning the risks of physical activity to foetal safety and development (Evenson et al., 2009; van Mulken et al., 2016; Fathnezhad-Kazemi & Haijan, 2019; Hanghoj, 2013). Indeed, the advice pregnant women receive from people within their social networks seems to be influential, as studies have shown that the type, amount and content of information pregnant women receive has an impact on their physical activity during pregnancy (Chang et al., 2015; Clarke & Gross, 2004; Cioffi et al., 2010; Flannery et al., 2018; van Mulken et al., 2016). In relation to expert-sourced advice specifically, some studies have found that the way in which physical activity information is provided to pregnant women by health professionals for example, appears to carry the potential to both motivate (Whitaker et al., 2016) and de-motivate (Thornton et al., 2006) their physical activity behaviour, as well as influence their views and beliefs (Cioffi et al., 2010). Indeed, research describes how pregnant women consider health professionals to be highly important and therefore influential on their physical activity (Beckham et al., 2015; Muzigaba et al., 2014). Health professionals are often considered to be sources of advice and expertise, as there appears to be a need amongst pregnant women to obtain physical activity information from *'credible sources'* (Harrison et al., 2019:39). The need for such expertise also appears to co-exist with a perceived lack of knowledge about antenatal physical activity amongst pregnant women (Beckham et al., 2015; Cioffi et al., 2010; Chang et al., 2015; Ferrari et al, 2013); particularly, knowledge that specifies the physical activities that are safe for their pregnancies (Cioffi et al., 2010; Connolly et al. 2015; Heslehurst, et al., 2017; Muzigaba et al., 2014). Despite this, some pregnant women's experiences have highlighted a perceived lack of clear and consistent knowledge and expertise amongst healthcare professionals (Clarke and Gross, 2004; Findley et al., 2020), such as a lack of explanation on the benefits of antenatal physical activity (Evenson et al., 2009), which may be owing to inadequate training and support. Indeed, recent primary (De Vivo and Mills, 2019) and secondary research (Okafor and Goon, 2021) highlights that while health professionals, particularly midwives, feel obligated to provide prenatal advice on physical activity, such deliberation is met with multiple barriers precluding both activation and feelings of confidence around this role.

Although numerous studies describing pregnant women's social experiences, identified health professionals as being positive about antenatal physical activity (Fathnezhad-Kazemi and Haijan, 2018; Fieril et al., 2014, 2017; Groth and Morrison-Beedy, 2013; Harrison et al., 2019; Ogle, Tyner, Schofield-Tomschin, 2011). Such advice however was sometimes described as vague or confusing (Connolly et al., 2015; Findley et al., 2020), particularly when advice was teamed with the caveat of practicing physical activity with caution (Ogle et al., 2011), which thus placed a cautionary or neutral slant on antenatal physical activity. In a qualitative study exploring pregnant women's physical activity decision-making processes, Findley et al., (2020:09) aptly highlighted this contention under the theme

'unclear advice', where *'[a]round half of participants reported that the advice they received was unclear and/or conflicting in nature'*. Despite the perceived importance of expert knowledge from health professionals and the deficit in knowledge amongst pregnant women, the data from some studies highlights that health professionals can fail to provide sufficient information (Beckham et al., 2015; Ekelin et al., 2018; Evenson et al., 2009; Ferrari et al., 2013; Leiferman et al., 2011; Trevorrow, 2016; Watson et al., 2016). Furthermore, health professionals can also be instrumental in perpetuating myths or erroneous information (Cioffi et al., 2010), and can even be found to advise against physical activity altogether (Connolly et al., 2015; Heslehurst et al., 2017). A deficit in obtaining the required expert knowledge from health professionals, in some cases, has been linked to pregnant women seeking information elsewhere, such as from impersonal sources like the internet or media, as well as from close personal individuals, including family, friends and associates who have direct experience of pregnancy (Watson et al., 2016).

Veritably, other studies highlight how family and friends can be a positive but more often negative source of influence concerning antenatal physical activity. Negative influence can manifest indirectly, through deficits in familial support or advocation for physical activity (Chang et al., 2015; Evenson et al., 2009; Fathnezhad-Kazemi and Haijan, 2019). However, more often negative influence occurs where family and friends promote rest and relaxation as a primary behaviour, either (i) through direct instruction (Muzigaba et al., 2014), (ii) by relieving pregnant women of normal physical activities and resuming these responsibilities on their behalf (Ogle et al., 2011), or (iii) by perpetuating myths, such as the umbilical becoming entangled round the baby's neck as a consequence of overhead movements (Krans and Chang, 2012). Interestingly, some studies have identified the influence of familial culture as a potential negative influence on antenatal physical activity (Chang, Kenney, Chao, 2010; Harrison et al., 2019; Krans, 2011; Watson et al., 2016). This has been reported in some instances where 'indigenous knowledge' (Watson et al., 2016) about pregnancy was carried through the generations; knowledge which was antithetical to the benefits of antenatal physical activity. In these instances, role modelling within the familial setting was a prominent theme for both positive and negative influence. This was demonstrated where pregnant women highlighted how an absence of physical activity behaviour amongst the female and pregnant members of their family, would serve to discourage them from engaging in physical activity during their own pregnancies (Krans, 2011; Leiferman et al., 2011; O'Brien et al., 2017; Watson et al., 2016). For instance, in Leiferman et al.'s (2011) study, one participant described how social norms can present a barrier to physical activity during pregnancy, by both defining and perpetuating culturally or generationally accepted maternal behaviour in utero: *"…in my family I haven't seen pregnant women do anything at all but just be at home and eat so I never really thought about it"* (p.36). Conversely, in the same study, it was highlighted that where physical activity was a normative function of familial life, this enabled one pregnant woman to continue her physical activities into her pregnancy: *"Well, just my husband and*

*both my brothers, they all work out together, and me and my cousin work out, so everybody around me works out, so that kind of helped me"* (Leiferman et al., 2011:37). Furthermore, the act of physical activity being *"instilled in you…[from] when you was a child"* (Krans, 2011:784) through familial role modelling, was considered to be both a motivator for (O'Brien et al., 2017) and against (Krans, 2011) antenatal physical activity. Thereby demonstrating the capability of family, friends, partners and culture to be either positively or negatively influential. Indeed, some studies reflect pregnant women's experiences of a range of non-professional individuals who encouraged antenatal physical activity, including family members (Fathnezhad-Kazemi and Haijan, 2019; Fieril et al., 2014; Goodrich et al., 2013; Krans and Chang, 2012; Watson et al., 2016), partners (Fieril et al., 2017) and friends (Goodrich et al., 2013), particularly friends who exercised during pregnancy (Fieril et al., 2014). In addition, research has also identified descriptions of how others motivated pregnant women to be physically active by engaging in group exercise with them, such as other pregnant women (Cioffi et al., 2010; Fieril et al., 2017), as well as exercising with family members (Krans and Chang, 2012; Leiferman et al., 2011; Groth and Morrison-Beedy, 2013; Heery et al., 2013), particularly partners (Fieril et al., 2017; Heery et al., 2013) and friends (Fieril et al., 2014).

Both quantitative and qualitative research purports that positive advice or encouragement from individuals, such as partner, family, friends, pregnant women peers, health professionals and exercise professionals is perceived to influence pregnant women's physical activity (Chang et al., 2015; Cioffi et al., 2010; Flannery et al., 2018; O'Brien et al., 2017). Such findings have led to recommendations for the incorporation of interpersonal factors into behaviour change interventions for antenatal physical activity. In particular, the types of individuals and the characteristics thought to influence pregnant women's physical activity feature as recommendations for behaviour change interventions, such as friendly and engaging exercise professionals (Clarke & Gross, 2004; Currie et al., 2016), or having encouraging spouses/partners (Chang et al., 2015; Flannery et al., 2018) and family members (Clarke & Gross, 2004) actively participating in physical activity. Yet, despite the growing recognition in the importance of interpersonal factors, the role of social influence on pregnant women's physical activity remains an underexplored area (van Mulken et al., 2016). This renders it difficult to conclude 'who' or 'what' kind of individual is influential on pregnant women's physical activity, as well as 'how' they may potentially exert influence. Furthermore, answering such questions attends to a greater problem of understanding pregnant women's interpersonal relationships concerning their physical activity, thus calibrating a picture of pregnant women's social experiences and indeed 'how' they themselves navigate and make sense of them. This thesis attends to these varying questions in a comprehensive manner to address this gap concerning pregnant women's social experiences, by drawing upon various qualitative methodologies and constructing a tapestry of social worlds that define, construct and influence pregnant women's physical activity.

### 1.5 Thesis Aim and Research Question

This thesis aims to qualitatively explore the role of social influence on antenatal physical activity by answering the following research question: *what are pregnant women's social experiences concerning their physical activity relationships and identities, and how do they navigate them?*

In answering this question, a key thread of the thesis is the use of varying qualitative methodologies to examine social influence by illuminating, conceptualising and articulating it through language. This includes the use of a 'best-fit' framework synthesis in a systematic review and meta-synthesis, a discursive psychology approach drawing upon positioning theory and finally a longitudinal interpretative phenomenological analysis exploring social experience through sense-making. The rationale underpinning these methodologies is explained in greater detail in the introductory sections of each study chapter, but in summary, the three studies focus on:

(1) Exploring the relevant literature in a systematic review and meta-synthesis to identify the [i] **individuals of potential influence**, whom pregnant women interact with and consider in their physical activity and [ii] the **social support** that appears to underpin or frame those interactions.

(2) Turning to pregnant women's agency and autonomy,[1] the thesis then examines 'how' pregnant women navigate and account for their physical activity relationship and identities through **social discourse;** another qualitative tool for illuminating social influence.

(3) The thesis then aims to bring these notions of social interactions (comprising social support) and deliberation of agency and autonomy (through discursive navigation) into 'sense-making', by exploring 'what' and 'how' pregnant women make sense of and utilise **social experiences** concerning their physical activity relationship and identities.

The thesis therefore flows through a range of qualitative methodologies deployed to illuminate, conceptualise and articulate social influence from secondary, primary and longitudinal data, with each study applying a different theoretical lens to reveal the complexities of social influence concerning pregnant women's physical activity relationships and identities (see Diagram 1.1).

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[1] Definitions of 'agency' and 'autonomy' used here relate to self-perceptions and beliefs around personal agency and self-determinism; they are perceived states of being and functioning, rather than testamentary of the freedom to act uninfluenced by extrinsic factors. 'Agency' thus relates to 'personal agency' or capacity to consider and choose options: 'the ability to take action or to choose what action to take' (Cambridge Dictionary, 2022). 'Autonomy' relates to 'self-determinism' and the perceived right to govern, organise and determine one's actions and choices (Cambridge Dictionary, 2022). In this way, agency may precede autonomy, yet the existence of one does not necessarily automate the ownership or enactment of the other.

### 1.6 A Scene Setting Piece (the theory behind the thesis aim and research question)

The application of different qualitative methodologies enables the investigation of the thesis question in varying ways, with each study offering a different perspective and approach to elicit findings concerning the phenomenon of interest: social influence. Where study one attends to 'what' in terms of 'who' and 'what' social support types have potential influence, studies two and three revisit differing perspectives of 'what', in terms of social discourse and social experiences, by also investigating 'how' pregnant women navigate these interpersonal factors. Where study two focuses on 'how' pregnant women deploy and utilise discourse and thus position themselves, and others, to account for their physical identity and relationship; study three explores 'how' pregnant women navigate their physical activity identities and relationships through their sense-making of their social experiences.

***Diagram 1.1: The nexuses between each study in addressing the thesis aim and research question***

*Thesis question: what are pregnant women's social experiences concerning their physical activity relationships and identities, and how do they navigate them?*

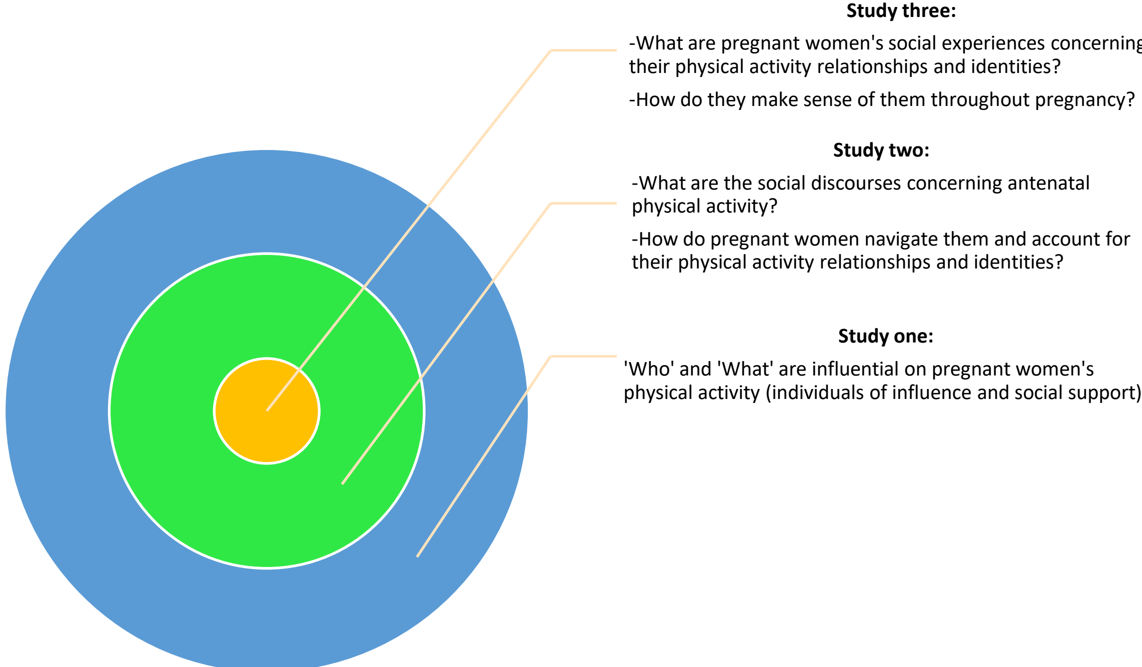
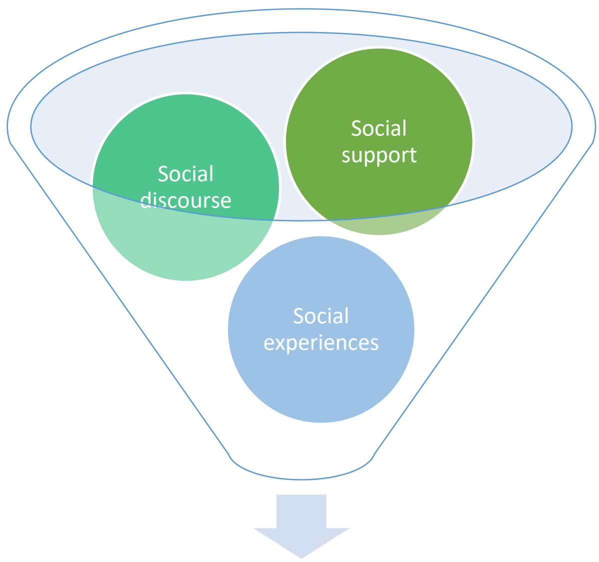



Diagram 1.1 illustrates how each study aims to traverse and arrive at a closer perspective on pregnant women's physical activity relationships and identities. This diagram was drafted between the researcher and the Principal Supervisor, who together discussed and agreed upon the advantages each qualitative lens afforded the thesis to move closer to pregnant women's physical activity relationships and identities. The different lenses essentially treat social support, social discourse and

social experience as vehicles to flexibly investigate social influence using a qualitative approach (see Diagram 1.2).

***Diagram 1.2: An illustration of how the methodological tenets of the three studies feature as ingredients of a qualitative evaluation of social influence***




Qualitative investigation of social influence on pregnant women's physical activity relationships and identiies

These qualitative methodologies altogether enable the researcher to prioritise pregnant women and their accounts, by illuminating, conceptualising and articulating their roles, their positions and their sense-making, while navigating their physical activity relationships and identities.

### 1.7 A Statement on Thesis Rationale and Intended Impact

The impact of this thesis is to implement three novel pieces of research, utilising different qualitative methodologies to illuminate, conceptualise and articulate the following (in order of study):

- The different individuals and social support types as positive and negative influences on pregnant women's physical activity, can be drawn upon to inform health and exercise professionals' understanding, not only of their own influential roles, but also those of the individuals in pregnant women's social networks, who may oppose or reinforce pro-antenatal physical activity interventions and messaging.

- The different ways in which pregnant women may account for their physical activity identities and relationships (i.e., position themselves) using language (drawing upon varying

discourses), can be used to guide health and exercise professionals on how to support pregnant women to explore different repertoires on physical activity. This is important to help pregnant women navigate the physical activity relationships and identities that are important and preferential to them and their wellbeing; thus, reinforcing their agency and autonomy at a time where they may feel overwhelmed by the extrinsic and intrinsic changes of pregnancy and motherhood.

- The intricate detail and context of pregnant women's social experiences and how they make sense of them in navigating their physical activity relationships and identities throughout pregnancy, reveals coping mechanisms and nuanced support needs specific to gestational stages and personas. Understanding these sense-making experiences further supports health and exercise professionals to support the agency and autonomy of pregnant women in navigating the physical activity relationships and identities that are, not only preferential to them and their stage of pregnancy, but that are meaningful to their sense of self.

**1.8 A Reflexive Piece (the epistemological and ontological considerations of the researcher)**

This thesis intends to offer a critical methodological approach to investigating social influence. Instead of evaluating social influence in action by deploying a quantitative methodology, this thesis indulges or makes an exposé of qualitative research methods to illuminate, conceptualise and articulate social influence in context (i.e., specific to a population and phenomenon). Deploying a critical approach is akin to my position as a researcher, and potentially, how I conceptualise and make sense of myself and my place in the world. In deploying this approach, I often recruit different philosophical perspectives and methodological approaches that enable an alternative view, or a different repertoire or conceptualisation of life, mortality and being.

My epistemological position is therefore a critical one. I conceive that, due to the limitations of my perspective at any one time, or the limitations of my ability to conceive outside my understanding, or the absence of objective apparatuses to inform an alternative view, I (or indeed one) cannot know truth – but can only know knowledge or a theorem of knowledge. The inquiry of knowledge is my epistemological failsafe for knowing that I cannot know truth, because my understanding of truth is contingent on my limited ability or available apparatuses, which are always constrained and determined by modernity (i.e., what we believe to be true in one era, can be proven to be false in another, due to advances in our ability and apparatuses for conceptualising and understanding). In this way, knowledge is the ostensible conduit for truth, so far as modernity allows – truth therefore is mutable to time and contingent on or relative to modernity.

My ontological position as a researcher is duplicitous, metaphysical and mutable to the subject matter, which betrays an interpretivist approach; yet I find myself (at times) leaning towards a critical realist one for grounding when individual interpretation becomes too unravelling. This is because, I accept the existence of a physical/objective world, that is indeed knowable and subject to my interpretation; yet such interpretation is socially conditioned or constrained by the vehicle of interactions – that being language – and thus social constructions of the one reality are causal markers of social conditioning. Here, critical realism interjects to illuminate the world that exists within the multiplicities that social conditioning mutably allows. Yet no one interpretation is more valid than the other; these interpretations are merely socially directed lenses or pivot points in which the knowable world exists. I therefore hold a belief that my sense-making, conceptualisation and existence in both instinctual/spiritual essence and cognitive processing, is constrained by the language device given to me through nurturing and socialisation. Veering on Wittgenstein, I cannot think, conceive, nor exist outside of the language and accompanying discourses that position me. I cannot think or exist outside the language game that frames my thoughts. I cannot think or exist outside the language that infects my mind and labels objects, subjects and states of affairs that have been qualified by and continue to mutably be qualified by my social world. It is with this inner conflict and tension between ontological positions (that accept reality as it is; yet cannot exist without social conditioning and yet personal interpretation), and critical, yet resolute epistemological position (that I know knowledge, but not truth) – that reveal the complexities in which I operate as a researcher, and how variability in deploying qualitative methodologies is an essentiality to my epistemological and ontological positions. This can be illustrated in the contrasting positions I inhabit and operate in the two primary studies (study two and study three).

The tension resides in the voids between researcher and participant, which (in my interpretation), are forged quite contrastingly between discursive analysis and interpretative phenomenology (study two and study three respectively). In contrast to study two, which requires a distance between the researcher and their subjects, by examining the discourse and subject-navigation of their participant in isolation; study three requires a synergy in sense-making and interpretation between the data elicited by participant and the researcher. Thus, in study three, the researcher's interpretation becomes the subject of analysis, and offers an interpretation to the social experiences that endeavour to submerge itself into the social worlds and experiences, which are both expressly and implicitly relayed in the data. Study two, in contrast, provides a skimming of the cream, so to speak, in data analysis terms. In my view (using positioning theory of course), it aims to treat the language as its own entity, that is utilised by participants to position themselves as subjects and others as objects without interpretative implication or sense-making from the researcher. In the discursive piece, the researcher is impervious to the interpretations or sense-making or experiences of the participant, but purely interested in how the use of language pragmatically manifests a range of subject positions and

discourses, that construct the speaker's position, and that determines their ability to navigate socially derived constructions of their identity and relationship with physical activity. The researcher is therefore not looking for inconsistencies, tensions or contrasts in participant coherence of sense-making and experience, as is illustrated in study three, where change across pregnancy in terms of sense-making of social experience is captured. Rather the researcher in study two, is impervious to assigning any one participant to a subject position or profile (again as in study three) and is more interested in identifying a range of discourses and subject-positions that conflict with one another, but do not convey a conflict on behalf of the participant. In study two, the researcher must report the manifestations of discourse in the data, how (at any one time) this is used to position the speaker, whose sole purpose within the dataset is to represent a repertoire of accounts that discursively construct and allow for the construction of subject positions and the navigation of such positions. Study three, in contrast, relies upon constructed profiles and personas of participants to facilitate sense-making of their social experiences, and indeed how participants have made sense of them.

While managing these separate and qualitatively distinct primary pieces of research, the researcher had to assume a different perspective and relationship with the data. In study two, the researcher could treat the dataset as almost a literary piece; a parchment of prose broken into grammatical structures, with grammar, semantics, syntax and pragmatics facilitating the identification of discourse and the construction of subject positions navigated through the evincing of such discourses. Indeed, the subject positions could not exist without the discourses that platformed them. In this way, the subject positions are the 'Lilly pads' that sit upon the 'pond'; a body of water with varying ripples and minor tidal variance on which the flowers can navigate such position. The discursive study and the attention to positioning theory therefore, enabled the researcher to distance themselves from the 'murky waters' of experience, and to float on the surface of the water to set a scene, or sterile context, in which language frames our identities and relationships with phenomena through the subject positions it manifests. As subjects of our own and others' discourse, we are therefore constructed, constrained, restrained and liberated into a state of being that cares not about authentic identity or subjective experience, but marches towards the social influences that define and construct our being in language.

Study three requires 'something completely different'. Deploying interpretative phenomenological analysis came with a greater sense of responsibility to report upon and interpret the sense-making of participants, but to do this in a manner that attended to the presuppositions of the researcher; thus, implicating the researcher as a human being in the interpreted research. This felt like a much more revealing and arduous experience for me as the researcher. Because with social discourse, I am limited and guided by the grammatical and linguistic constraints of language and the accompanying theorems of discourse analysis (in this case positioning theory and a synthetic approach); IPA

however, compelled me (as it is doing so here, conveniently compelling me to write in first person to convey my meaning), to involve myself in the data – to reveal myself as the interpreter, including my own limited experiences, my own frailties in sense-making and my clear vulnerabilities in handling the experiences and sense-making of others. This required an enhanced revisitation and revision of the data to ensure that the codes, themes and profiles/personas, which served as hermeneutic pivot points to make sense of participants, were justifiable and relatable – that called upon me as a human being, as opposed to a linguist, pragmatist researcher. Thus, my interpretation of experiential data could not be conveyed with a navigation model (as in study two), instead a rich tapestry of cloth-lined garments washed in experience had to be constructed. Proverbially, the 'murky waters' of experience functioned as a dipping reservoir for my myriad of 'garment' themes. After the garments porously absorbed the experiential data, they had to be then sensibly draped onto clothe lines that clustered into overarching 'laundry' themes, encapsulating participants' experiences in the only manner that was consistent with my own sense-making. I found this arduous, but rewarding; and I indeed grew as a researcher from distinguishing and discipling myself to stay true to these distinct qualitative methodological approaches to illuminate, conceptualise and articulate the data for both studies.

## Chapter 2: Study One Background and Method

**Study Title:** A systematic review and meta-synthesis exploring the role of social influence on pregnant women's physical activity.

### 2.1 Background

#### 2.1.a Social Influence

Social influence can be understood as a process whereby a person's attitudes and/or behaviour are changed by the real or implied presence or actions of other individuals (Hogg, 2007). Meaning that, if a person (the target) complies with the request or demands of an individual (the agent) this serves as an indication of social influence (Hogg, 2007; Nail, 1986; Nail, Macdonald, Levy, 2000). Although there are a variety of social responses available to the target in responding to social influence (Nail, 1986) (e.g., the target may be congruent as well as incongruent with the agent prior to exposure), 'compliance' is universally, and arguably unconsciously, regarded as concomitant with the very topic of influence. This is perhaps owing to the perception that during social influence the activation of (or at least the potential for) resistance is naturally assumed, (i.e., one assumes the target has changed their attitude/behaviour at the behest of the agent, without planning to do so initially). In theoretical terms, 'compliance' with the agent, which has been described as behavioural-congruence plus attitudinal-incongruence with the agent (Nail, 1986), can be conceptualised as a marker of the agent's 'power' or 'capacity to influence' (Hogg, 2017:06). Thus, between both the agent and the target, a power transaction occurs to transport and communicate influence; with the degree of influence being predicated on [i] the motivation of the agent, [ii] the message or property of their social transaction with the target, and finally [iii] the target's response. Social interactions are therefore complex conduits for power transactions that bring about influence. Yet understanding the properties of those interactions that activate or give effect to influence (i.e., the properties of an interaction that cause a target to be influenced by the agent) are difficult to conceptualise.

Classic approaches to understanding social influence, focus upon identifying and measuring the target's attitudinal and behavioural position both prior and post exposure to the agent stimulus. Research that aims to integrate theoretical constructs and models for social influence locate the complexities in addressing various combinations. For example, Nail et al., (1986, 2000) outlines nine different combinations of social responses, which describe a target's potential initial attitudinal and behavioural position on a subject-matter, followed by their final attitudinal and behavioural position after exposure to the agent stimulus. Evaluating the presence and effects of social influence has long been addressed through a quantitative methodology (Pratkanis, 2007:09), to examine social influence in action (i.e., by measuring the effect of social influence). By applying a qualitative methodology

however, this systematic review and meta-synthesis does not attempt to examine social influence on antenatal physical activity in action. It attempts to address a gap in descriptive and context-specific knowledge about the role of social influence concerning antenatal physical activity from the existing literature using a theoretical lens. The aim therefore is to illuminate the potential individuals of influence and to conceptualise the 'social support' types (as transactional commodities within interpersonal relations) that may have influence on pregnant women's physical activity.

#### 2.1.b Social Support

Social support has been broadly defined as 'the resources provided by other persons' (Cohen & Syme, 1985:04). Framed within this transactional definition, social support is considered an appropriate construct to use as a coding tool in exploring the role of social influence for various reasons:

- It is both a theoretically and empirically informed construct (Schwarzer, Knoll and Rieckmann, 2003).

- It is a pervasive, arguably ubiquitous feature of social interaction and engagement, as it 'refers to the function and quality of social relationships' (Schwarzer etal., 2003:02). Indeed, through conversation alone one can pledge/offer and allude to social support expressly or impliedly. For example, through showing care (emotional support), providing advice (informational support), offering transport (instrumental/tangible support) or even accompaniment along to an impending event (belonging support). Social support is thus pervasive in everyday interactions.

- It has also been identified as a construct of vying importance for antenatal physical activity, with studies highlighting its enabling role (Thornton et al., 2006; Omidvar et al., 2018; Whitaker et al., 2016; Harrison et al., 2018)

A caveat to conceptualising and locating social support as a construct, however, is the application of various definitions that can be found in the literature; some of which are heuristic or qualitatively prescribed by study participants. While a qualitatively prescribed definition provides an inductive, context- and/or population-specific representation of social support, which is helpful when designing social support-based interventions tailored for a population or setting (Williams, Barclay, Schmied, 2004). Various definitions of social support can also preclude concurrence and clarity amongst the literature. In a critical analysis and review, Williams et al., (2004) concluded that definitional confusion is well reported in social psychology research, after identifying 30 separate social support definitions. A starting point to defining social support is facilitated by having a clear conceptual measure. Social support can be conceptualised according to its quality and structure (House & Kahn, 1985; House,

1987), however it is often conceptualised by the 'function' or 'use' it provides to a recipient (House & Kahn, 1985; House, 1987; Uchino, 2004). The function of social support is located by [i] the type of support that is perceived to be available to the recipient, and/or [ii] by the support that the recipient actually receives (Uchino, 2004). According to Cohen & Wills (1985), the function of social support can be subdivided into four categories of social support type:

***Table 2.1: The four categories of social support as per Cohen & Wills (1985:313)***

| **Social support type** | **Social support function** |
|---|---|
| Emotional support | Comfort and care |
| Informational support | Guidance and advice |
| Instrumental/tangible support | Physical or material resource, such as a financial loan |
| Belonging support | Shared activity and social cohesion/collectiveness |

This conceptualisation of social support defined by its function has been deductively applied to research both relevant and comparative to the focus of this systematic review. For example, Laird et al., (2016), in their systematic review and meta-analysis evaluating the impact of social support on the physical activity behaviours of adolescent girls, applied a theoretical framework of social support comprising *'emotional (e.g., encouragement, praise), instrumental support (e.g., equipment, financial), or informational support (e.g., advice, instruction)'* to 14 studies (p.2). Additionally, this function-based definition of social support has also been inductively identified in a qualitative study exploring sources of social influence on pregnant women's physical activity behaviour, amongst a population of ten pregnant and postpartum women and their influencers (partners and family) (Thornton et al., 2006).

Similar to Laird et al., (2016), Thornton et al., (2006) identified three of the social support constructs defined by Cohen et al., (1985); that being emotional support, informational support and instrumental/tangible support. Both these studies provide pertinent methodological comparators for this study, which is also focused on a female population and physical activity behaviours relative to perceived developmental milestones (i.e., adolescent development and pregnancy respectively). However, neither of these studies identified or specifically explored the role of belonging support, despite this type of social support having been identified in other research exploring women's health behaviours. For example, belonging support featured as a predictor of women's positive health perceptions amongst a sample of 247 college students (Hale, Hannum, Espelage, 2010). Belonging support was also found to be associated with smoking behaviour in a cross-sectional study of 227 pregnant women (Masho, Do, Adekoya, 2014). Belonging support is a pertinent facet of perceived social support, as it is notably distinct from emotional support. Belonging support, or *'companionship support'* (Wills & Shinar, 2000, p.88), occurs where the recipient obtains a sense of communality and membership from their shared experience or activity with others; whereas emotional support pertains to recipients feeling understood, accepted and comforted by others who have proffered their care,

sympathy or understanding (Wills & Shinar, 2000). Considering the potential for a shared experience amongst pregnant women (e.g., antenatal groups), a sense of belonging support derived from peers or other pregnant women may be an important type of social support concerning physical activity behaviour. Indeed, connections with other pregnant women peers has been highlighted as an enabling or important factor for antenatal physical activity in some studies (Cioffi et al., 2010; Currie et al., 2016; Flannery et al., 2018; Whitaker et al., 2016). Despite novel qualitative research highlighting the role of social influences on antenatal physical activity (van Mulken & Lowe, 2016; Rockliffe et al., 2021; 2022), an exploration of social psychology-based constructs of social influence would provide a novel lens and discussion point for future intervention development based on social support.

## 2.2 Methods

### 2.2.a Aim and objectives

The systematic review aimed to broadly explore the role of social influence on pregnant women's physical activity through the lens of social support. The output of the review intended to develop a theoretically informed conceptualisation for social influence relative to the phenomenon of antenatal physical activity, which illuminated and articulated the individuals of potential influence and the social support they provide/make available. To articulate these social influence components (individuals, social support), qualitative data was explored to identify who, in pregnant women's social network, has potential influence on their physical activity, and what social support is provided or perceived to be made available to pregnant women. This required an exploration of data capturing pregnant women's social experiences concerning their physical activity during pregnancy, including anecdotal interactions and discussions with individuals, as well as participant's reflections on interpersonal relationships concerning their physical activity attitude (e.g., view, perspective, belief about physical activity) and behaviour (action or event/experience, i.e., physical activity that has physically occurred). In application of social support to code the extracted data, the definition applied in the review was based on the four categories outlined by Cohen and Wills (1985) of emotional support, informational support, instrumental support and belonging support. This definition was also based on the function of social support, including perceived availability of social support and actual support received (provided).[2]

[2] Both dimensions of the function of social support, that being perceived and received support, were included as it was considered it impossible to discern from the data whether the perceived support was actually received or made available.

### 2.2.b Research questions

From the qualitative data describing pregnant women's accounts of their social interactions concerning their physical activity three questions were devised.

| ***Table 2.2: Study one research questions*** |
|---|
| 1. Which individuals appear to be important or influential concerning pregnant women's physical activity?[3] |
| 2. What social support do these individuals appear to provide or make available to pregnant women concerning their physical activity?[4] |
| 3. What social support could/should these individuals provide or make available to pregnant women concerning their physical activity?[5] |

### 2.2.c Design

A systematic review design was considered appropriate as it serves to synthesize the existing literature and identify findings relative to a research question. For the meta-synthesis, this review deployed a 'best-fit' framework synthesis (Carroll et al., 2013), as this enabled a predominantly deductive approach to data analysis whereby theoretical definitions for social support were applied to the data. A 'best-fit' framework synthesis also allows for the inductive exploration of data, to capture data that resides outside the *a priori* framework, thereby augmenting the theoretical framework with context-specific findings relevant to the focus of the review. An inductive analysis was therefore conducted where appropriate (Booth and Carroll, 2015).

### 2.2.d Ethics

The sponsoring institution's ethics committee were notified of this protocol and of the systematic review. On the committee's advice this systematic review and protocol did not require ethical approval from the sponsoring institution. This is because human participants were not required for data collection and all data obtained from the articles included in the review are available in the public domain.

### 2.2.e Eligibility criteria

The following four categories describe the inclusion criteria for eligible papers included in the review: (1) pregnant and ≤12 months' postpartum women participants, (2) physical activity attitudes and/or behaviour, (3) peer reviewed articles with qualitative data, (4) described social discussions/interactions.[6]

---

[3] (i.e., by frequency, which individuals are considered or made reference to in relation to physical activity).
[4] (i.e., what social support coded in relation to these individuals is positive or negative towards physical activity).
[5] (i.e., what social support coded in relation to these individuals is referenced to as lacking or necessary for physical activity).
[6] These four categories were applied systematically in this order to all papers after the removal of duplicate papers.

### *2.2.e(i) Population*

The population comprised pregnant women or women who were ≤12 months' postpartum at the time of interview or participation in the research. Although this review was focused on the experience of physical activity during pregnancy, the views of early postpartum women were considered important for various reasons. First, it increases the number of search results, as some relevant studies do include both pregnant and early postpartum women. Second, it supports the answering of question three, as postpartum women may be more likely to offer reflective experiences, having had time to reflect on their experience during pregnancy. Postpartum women are defined as women who have given birth within the last 12 months at the time of participating in research. This postpartum time limit has been selected to reduce the risk of recall biases. Pregnant women with Gestational Diabetes Mellitus (GDM), macrosomia, obesity or weight-related issues or other complications, such as preeclampsia or peritonitis were included, as this generated a broad sample inclusive of pregnant women with various physical conditions.

### *2.2.e(ii) Physical activity*

To define physical activity, the British Nutrition Foundation (BNF) definition of leisure-time physical activity was drawn upon, this description is also in-keeping with USA guidelines (Miles, 2007), which describes leisure-time physical activity as *'bodily movement that is produced by the contraction of skeletal muscle and that substantially increases energy expenditure'* (US Department of Health and Human Services, 1996, as cited by Miles, 2007:318). The BNF physical activity classification of 'leisure-time activities' (Miles, 2007:318) defines the type of physical activity selected for the inclusion criteria of this review.

Pregnant women were reflecting on their current/recent physical activity attitude (views, beliefs) and/or behaviour, while women ≤12 months postpartum were reflecting on their retrospective physical activity attitudes and/or behaviours during pregnancy. Therefore, physical activity featured as a primary outcome. Studies were therefore required to focus specifically on or have substantial findings (e.g., results sections, themes) concerning the physical activity attitudes and/or behaviours of women during their pregnancies. This included studies that sought to understand the health behaviour or lifestyle choices of pregnant women, with physical activity featuring as a health behaviour or lifestyle choice.

In extracting data from the qualitative studies and in order to capture data relevant to social support function of actually received and perceived to be made available, descriptions of social interactions that related to pregnant women's physical activity assumed a broad interpretation of physical activity that encompassed 'attitudes' and 'behaviour'. These terms were selected for their ability to encapsulate both internal and external manifestations of physical activity, which are also in-keeping

with theoretical markers of social influence, described earlier in Nail's (1986) social compliance model that relate to attitudinal and behavioural markers of influence.

For data extraction terms, 'physical activity attitudes' describes broadly pregnant women's opinion on physical activity, which was categorised as positive, neutral or negative. This definition is in accordance with traditional conceptualisations of attitude as per Ajzen's (1985) Theory of Planned Behaviour model, *'attitude toward the behaviour refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question'* (Ajzen, 1991:188). This overarching opinion towards physical activity during pregnancy was constructed through pregnant women's views and beliefs. Relevant studies were only included if they focused on pregnant women's experiences, perceptions, including barriers and enablers to physical activity. 'Physical activity behaviour' was defined by pregnant women's participation or non-participation in physical activity during pregnancy.

#### *2.2.e(iii) Study methodology*

Only studies that utilised a qualitative methodology (i.e., interviews, focus groups, case studies, observation studies, ethnographic studies, action research studies and surveys, where qualitative data was discernible, such as open questions), were included in the review. This is because quantitative data were considered to be unable to answer the majority of the review questions, which depend upon rich, narrative data reflecting the beliefs, views and experiences of pregnant women. Adopting a qualitative methodology provides the relevant data to explore these questions, with 'what' and 'how' being answered by the type of social support which these influential people are perceived to provide or to make available to pregnant women concerning their physical activity attitudes and behaviour.

#### *2.2.e(iv) Social factors*

Studies included in the review were required to present empirical data concerning social factors relating to physical activity. Social factors broadly comprised pregnant women's anecdotal, retrospective, references made to interactions/discussions with other people, as well as their reflections on interactions with people specifically concerning their physical activity. Social factors data were extracted from selected articles 'findings' or 'results' sections (i.e., themes). Specifically social factor data were extracted to determine (1) references to people that pregnant women perceived to be influential or important concerning their physical activity attitudes and behaviours, (2) social support provided by or received from individuals of influence. In relation to social support, the data had to provide descriptions of social interactions or interpersonal relationships, from which data concerning social support could be extrapolated. For example, social support themes identified by the research, or descriptions of information pregnant women had received, or discussions pregnant

women had with individuals, which had influenced or seemed important concerning their attitude/view toward, or actual participation or non-participation in physical activity during pregnancy.

### 2.2.f Information sources

An information specialist was consulted to discuss suitable databases and search strategies. Six databases were identified as suitable information sources for searching, this included the Cochrane Library, APA PsycArticles, APA PsycInfo, PubMed, Scopus and Web of Science. A purposive search strategy was applied, in that the topic of the review narrowed the range of databases suitable for searches. To further enhance the search of relevant studies forward and backward searching was also undertaken.

### 2.2.g Search strategy

An iterative approach was undertaken when searching databases. Databases were searched using a structured set of search terms itemised below. All papers from the search results of each database were collated, recorded and imported to the citation management software EndNote (2022). Predefined search terms were applied and adapted to suit each database. In advance of the search, an information specialist was consulted to capitalise on their expertise of literature searches, such as the different wild-cards, truncation and other typology techniques that could be used to generate richer search results. The following mnemonic was used for the search strategy: ***SPIDER*** (Cooke, Smith, Booth, 2012):

***Table 2.3: SPIDER mnemonic***

| **SPIDER mnemonic** | **Content** |
|---|---|
| Sample | Pregnant women and ≥12 months postpartum women. |
| Phenomenon of interest | Physical activity attitudes (view, perspective, belief, opinion) and behaviour (action, event). |
| Design | Qualitative design, including interviews, focus groups, case studies, observational studies, action research, ethnographical research and surveys, with substantial and discernible qualitative data. |
| Evaluation | Social factors: all qualitative data describing individuals and social interactions, including explicit descriptions of social support. |
| Research type | Peer reviewed articles using a qualitative methodology. This also includes mixed methods studies, with substantial and discernible qualitative findings. The following is excluded: abstracts only, reviews, systematic reviews, meta-analyses, meta-syntheses, conference papers. |

### 2.2.h Search terms

The search terms were grouped into five bracketed categories, framing the remit of the search. All search terms were encompassed in the ***SPIDER*** mnemonic outlined for the search strategy (see 2.2.g

Search Strategy). The five bracketed categories were: sample (pregnant women and ≤12 months postpartum women), phenomenon of interest (physical activity attitudes) and (physical activity behaviour), study design and methodology. The category of Evaluation (social factors) was deliberately omitted from the search terms, as this allowed for social factors to be extrapolated from the search results using the theoretical definitions of social support (Cohen & Wills, 1985). The search terms in their five bracketed categories were applied as follows:

***Table 2.4: Search terms***

| Search term | Content |
|---|---|
| Sample | Pregnan* wom* or gestation* or matern* or antenatal* or prenatal* expect* |
| Phenomenon of interest (physical activity attitude indicator) | Attitud* or belie* or view* or determinant* or barrier* or facilitate* or enable* or perspective* or perception* or experience* or factor* or influenc* |
| Phenomenon of interest (physical activity behaviour indicator) | Physical* or activit* or active exercise* or train* or action* or gam* or leisure* or fit* or athlete* or recreation* or sport* or swim* or walk* or yoga* or cycl* |
| Design | Focus group* or interview* or action research or ethnograph* or casestud* or observation* stud* |
| Research | Qualitative* |

These search terms were combined by applying the Boolean operators (AND, OR). Search terms were clustered into the five categories demarcated by parentheses, which were separated from one another using the coordinating conjunction 'AND'. Within the five categories each search term was bridged using the coordinating conjunction 'OR'; this ensured that all search terms for each category were picked up in the search. Depending upon the search database, truncation and wildcards were used to maximise the search. For example, an asterisk symbol (*) was used to search multiple suffixes for a particular search term, such as the search item 'pregnan' was given an asterisk (pregnan*) in order to yield the search terms of 'pregnant', 'pregnancy' and 'pregnancies'.

### 2.3 Study Records

#### 2.3.a Data management

In 2019, the following six databases were searched: the Cochrane Library, APA PsycArticles, APA PsycInfo, PubMed, Scopus and Web of Science. All papers identified from the initial search were imported to and stored on the electronic citation management database EndNote (2022).

#### 2.3.b Selection process

The papers were iteratively screened and excluded in accordance with the eligibility criteria (see 2.2.e Eligibility criteria). Papers were filtered and separated into different categories according to the

inclusion/exclusion criteria (population/sample, physical activity criteria, methodology criteria, social factors criteria. An audit paper trail was also used to facilitate the management of this selection process.

### 2.3.c Quality appraisal

All selected papers were quality appraised using the 10-item quality appraisal tool Critical Appraisal Skills Programme (CASP), (Critical Appraisal Skills Programme, 2018), due to its suitability for assessing the quality of qualitative research (Cavers et al., 2017). The CASP tool assessed the quality of studies via ten questions (Table 2.5).

***Table 2.5: CASP Criteria***

| No. | CASP Criteria Questions |
|---|---|
| 1 | Was there a clear statement of the aims of the research? |
| 2 | Is a qualitative methodology appropriate? |
| 3 | Was the research design appropriate to address the aims of the research? |
| 4 | Was the recruitment strategy appropriate to the aims of the research? |
| 5 | Was the data collected in a way that addressed the research issue? |
| 6 | Has the relationship between researcher and participants been adequately chosen? |
| 7 | Have ethical issues been taken into consideration? |
| 8 | Was the data analysis sufficiently rigorous? |
| 9 | Is there a clear statement of findings? |
| 10 | How valuable is the research? |

## 2.4 Data Collection Process

### 2.4.a Data items

All extracted data were recorded in a data extraction form. For research questions one, two and three, in accordance with approaches undertaken by authors conducting a systematic review using a ‘Best-fit’ framework synthesis methodology, all data items consisted of ‘findings’ or ‘results’ provided by the author/(s) including study participants’ verbatim quotes (Carroll, Booth, Cooper, 2011), which described participants references to and/or interactions with individuals or information sources concerning their physical activity

### 2.4.b Data synthesis methods

#### *2.4.b(i) A ‘Best-fit’ framework synthesis*

For research questions one-to-three, data were analysed using a ‘best-fit’ framework synthesis approach (Carroll et al., 2013), which is a qualitative synthesis methodology derived from framework synthesis. Framework synthesis was developed to provide a clear and systematic approach to organising qualitative data into a framework, which could then be used to inform policy and health-

related research (Dixon-Woods, 2011). The 'best-fit' framework synthesis approach uses a combined deductive and inductive approach, whereby data is analysed by applying *a priori* hypothesis, framework, or model based on existing literature relative to the area of research, whilst also allowing for inductive thematic constructs to be identified and synthesized (Booth and Carroll, 2015). A 'best-fit' framework synthesis approach was selected due to its [i] suitability in applying an *a priori* theory to analyse data deductively, whilst [ii] being inherently flexible enough to construct new themes or findings and augment to a data-driven and theory-derived framework.

In conducting 'best-fit' framework synthesis, all extracted data from studies were entered verbatim into a spreadsheet (see Appendix A). Extracted data included all findings/results (i.e., participant and researcher narrated text that described social interactions and discussions, such as references to individuals and information sources regarding pregnant women's physical activity). The spreadsheet comprised two sections/sheets: a section for analysing individuals and another section for analysing social support types. Charting the data in this way, ensured that all data were coded and analysed iteratively relative to the questions of the review in a focused manner, by analysing the same data set with a different focus point (individuals, then social support type). This allowed for the systematic coding and analysis of individuals and social support types by category of influence on pregnant women's physical activity. When coding for category of influence, the Critical Incident Technique approach was applied (see Goodall, Newton, Larkin, 2019). This provided a structure where all individuals and social support types could be categorised depending on the connotations assigned to antenatal physical activity (see Table 2.6). The categories of influence comprised positive,[7] negative,[8] necessary[9] and lacking/insufficient.[10]

[7] Positive influence = references pregnant women/researcher findings made to individuals/support that either promoted/encouraging towards or preceded an engagement in antenatal physical activity.
[8] Negative influence = references pregnant women/researcher findings made to individuals/support that were either antithetical/discouraging towards or preceded a desistance in antenatal physical activity.
[9] Necessary influence = references pregnant women/researcher findings made to individuals/support that pregnant women would have wanted as a positive influence on antenatal physical activity.
[10] Lacking/insufficient influence = references pregnant women/researcher findings made to individuals/support that pregnant women considered was needed as a positive influence, yet unfortunately was lacking.

<table>
<tr><th colspan="2">Table 2.6: Examples of adjectives, nouns and noun-phrases inductively coded for categories of influence</th></tr>
<tr><th>Category of Influence</th><th>Adjectives, nouns and noun-phrases inductively coded</th></tr>
<tr><td>Positive<br>(social interaction that occurred)</td><td rowspan="2">encouraging, supportive, providing an intervention, providing information, source of reassurance, detailed, engaging, interactive, calm, trustworthy, effective, reinforcing, inspiring, influential, helpful, credible [sources of information/advice], delivering information and convening groups, dependency, lacking, a sense-checker for, sufficient, promoting, advising in favour of physical activity</td></tr>
<tr><td>Necessary<br>(social interaction or social support that would have been positive/useful)</td></tr>
<tr><td>Negative<br>(social interaction that occurred)</td><td>restrictive, suppressive, coercive, safety-conscious, barrier, obstacle, uncaring, disinterested, surveillance, unsupportive, indifferent, discouraging, non-credible, judgmental, restrictive, warning, reproachful, disinterested, impersonal, uncaring, disapproving, imperative instruction, didactic</td></tr>
<tr><td>Neutral<br>(social interaction that occurred)</td><td rowspan="2">Impartial, passive, vague, ineffective, unhelpful, indirect, no guidance, information or advice, limited, basic information, insufficient knowledge, hesitant, unclear, cautious about advising, reserved, no expression of opinion or advice, missing lacking knowledge, guidance or advice, confusing, absent, avoiding</td></tr>
<tr><td>Lacking/insufficient<br>(social support that was absent or missing)</td></tr>
</table>

### *2.4.b(ii) Question one*

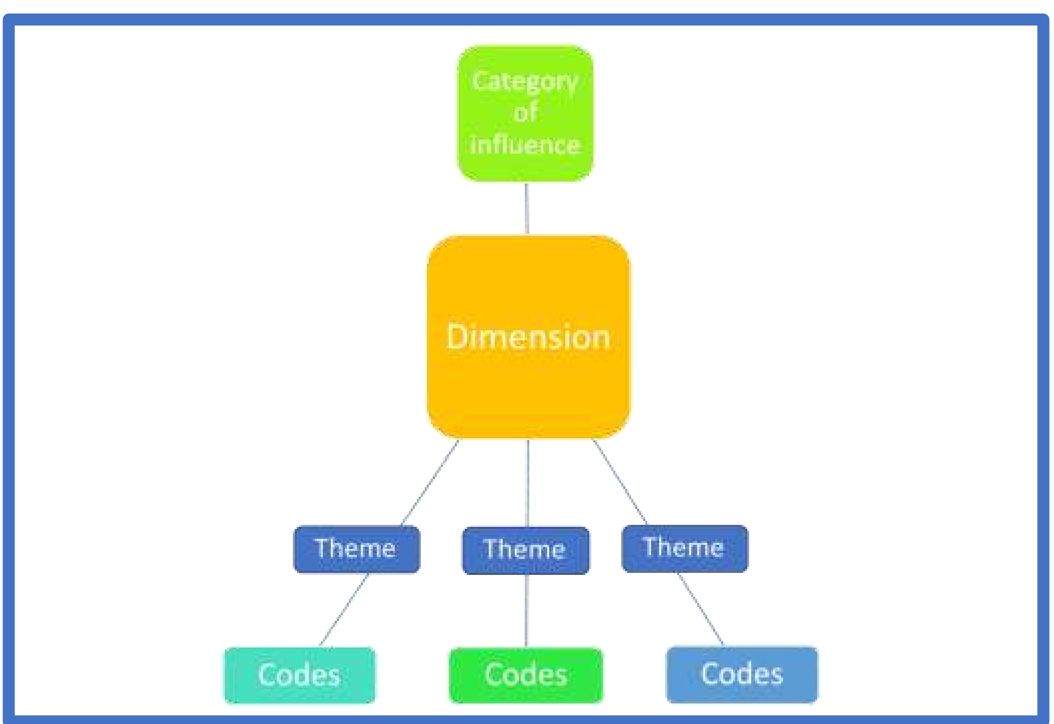
For question one, data were inductively coded for individuals, using the terms ascribed by participants/researcher in the verbatim data. Within each code, the individual of importance/potential influence was assigned a category of influence of either positive, negative, necessary or neutral, concerning their relation to pregnant women's physical activity (see Table 2.6). For example, if an individual or an interaction with this individual was described as discouraging or antithetical towards antenatal physical activity, this would be coded 'negative' (Appendix A). Once this process was completed for all the data collected, 'Individuals' were inductively coded and assigned to a 'category of influence' within the spread sheet were then deductively coded into groups terms, which related to common conceptions of individuals roles  This enabled the researcher to navigate the data by filtering individuals by group terms and by categories of influence to identify the frequency by which they were referenced to, which was used to denote importance or potential influence on antenatal physical activity.

### *2.4.b(iii) Questions two and three*

For social support coding (questions two and three), the same data in the spreadsheet (Appendix A) were revisited and were first deductively coded by applying the four social support types as per Cohen and Wills (1985) definitions (i.e., emotional, informational, belonging and

instrumental/tangible). Whilst coding for these social support types, they were also assigned a category of influence on antenatal physical activity (positive, negative, necessary, insufficient/lacking) (see Table 2.6). For example, descriptions of an individual providing advice on how physical activity is a safe practice in pregnancy, was coded as positive informational support, because it took the form of information that had been imparted and that promoted antenatal physical activity. Data that did not deductively fit the *a priori* social support definitions of Cohen and Wills (1985) were inductively coded relative to category of influence. After deductive and inductive coding of social support types relative to category of influence, codes for each social support type were assigned to themes, which were then clustered into dimensions. In applying this analytical structure (see Diagram 2.1), take for example, a social support type categorised as positive towards antenatal physical activity, the dimension describes the ways in which this support type represented a positive influence on physical activity. Where the dimension is intricately underpinned by contextual themes and codes, the dimension articulates, in detail, how and what components of a social support type mean and comprise specifically to antenatal physical activity.

***Diagram 2.1: The coding model applied to social support data: assemblage and hierarchy of codes, themes and dimensions via category of influence***




The use of 'Best-fit' framework synthesis to thematically explore the various dimensions of social support is a useful theoretical approach to conceptualising and articulating social support in a specific context. In a study conducted by Wang et al., (2017:02), they too expressed this rationale for

exploring and identifying the ‘nuanced dimensions’ of various social support types, by conceptualising and describing the ‘different facets’ of informational and emotional support on self-care used within an online HIV forum:

*‘the literature is yet to disaggregate informational and emotional support into nuanced dimensions. The qualitatively different dimensions, taken separately and simultaneously (i.e., the interaction with one another) could have differential impacts on a support seeker’s self-care behaviour. Thus, it’s important to conceptualise the fine-grained types of informational and emotional support’*.

# Chapter 3: Study One: Systematic Review Results

## 3.1 Study selection process

From the initial search of six databases, 21475 papers were identified (see Diagram 3.1). Papers were iteratively screened and excluded in accordance with the eligibility criteria (see 2.2.e Eligibility criteria). 7631 duplicates were removed. The eligibility criteria were then applied at screening, to exclude papers that did not meet the population/sample criteria of pregnant women or women up to 12 months postpartum. During screening, papers were screened by title and abstract and (where required) full-text. Full-text screening was required where it was impossible to discern where the population were up to 12 months postpartum or indeed were pregnant at time of data collection. From the initial screening 12,506 papers were excluded as they did not meet population/sample criteria. Full-text screening were used to assess other eligibility criteria: 1,254 did not meet physical activity criteria, six did not meet methodology criteria and 28 did not meet social factors criteria. This resulted in 50 studies eligible for review.

## 3.2 Study characteristics of selected studies (n=50)

Commonly, studies collected participant data from interviews (n=34), some of these included group interviews or paired interviews (n=3), with focus groups being utilised in 21 studies altogether. Some studies used questionnaires (n=3). Most studies used a content analysis approach (n=19), followed by thematic analysis (n=11), IPA (n=4) and grounded theory (n=3); with other studies using generally an 'inductive' approach to analysis (see Table 3.1).

The majority of studies included pregnant women only participants (n=39, 78%), five studies collected data from exclusively postpartum women and six studies included a mixture of pregnant and postpartum women participants. Most studies did not clearly specify the physical activity or exercise levels of their participants (n=33), although 30% of studies collected data from physically active or exercising participants (n=15) and 22% of studies collected data from sedentary, inactive or considered insufficiently active participants (n=11). Race and ethnicity were difficult to decipher amongst studies, but most studies collected data from reportedly 'White' or 'Caucasian' participants (n=20), followed by' African American' (n=13) and 'Latina' or 'Hispanic' participants (n=9). Studies were predominantly conducted in western countries, with 40% from North America (USA n=19, Canada n=1), 20% from the UK (n=10), 14% from Europe (n=7), 23% from Australasia (Australia n=5, New Zealand n=1), and a smaller number of studies conducted in South Africa (n=2), west and east Asia (n=2) and Brazil (n=1) (see Table 3.2)

*Diagram 3.1: PRISMA 2009 Flow Diagram*

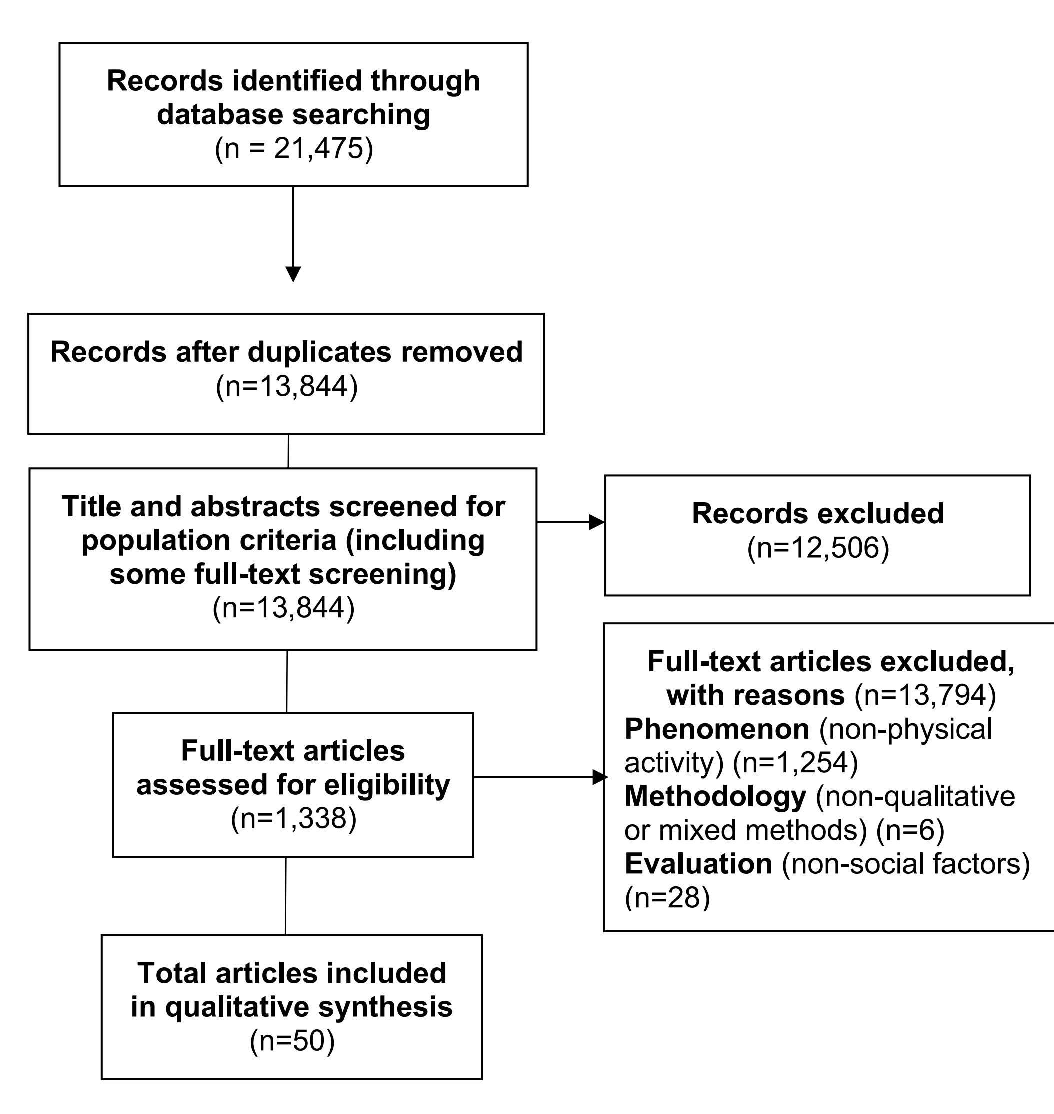


*Table 3.1 Study characteristics of the studies included in the review (n=50)*

| Author | Year | Country | Study Aim | Design | Method | Recruitment setting and/or strategy | Data collection | Data collection setting |
|---|---|---|---|---|---|---|---|---|
| Atkinson, L., Shaw, R. L., French, D. P. | 2016 | UK | To investigate whether women's experiences of pregnancy indicate that they would be receptive to behaviour change during this period | Qualitative | Interpretative Phenomenological Analysis (IPA) | Advertised at work places and social networks | 1:1 interviews | Mixed face to face at participants homes and online |
| Backhausen, M. G., Katballe, M., Hansson, H., Tabor, A., Damm, P., Hegaard, H. K. | 2014 | Denmark | To explore women's views and experiences of the acceptability and benefits of and possible barriers to the standardised individual unsupervised water exercise intervention | Qualitative | Content analysis | Participated intervention invited by email | Semi-structured 1:1 telephone interviews | Obstetrics hospital |
| Beckham, A. J., Urrutia, R. P., Sahadeo, L., Corbie-Smith, G., Nicholson, W | 2015 | USA | To describe the knowledge of underserved pregnant women related to diet, physical activity, and cardiovascular disease (CVD). | Qualitative | Constant comparative method | Clinics, pregnancy-related events in the community, referral from primary prenatal provider and poster adverts | Focus Groups and 1 interview | Prenatal clinics at hospital and community-based practices |

| Chang, M-W., Nitzke, S., Bulst, D., Cain, D., Horning, S., Eghtedary, K | Carolan, M., Gill, G. K., Steele, C. | Brown, A., Avery, A. | Black, T. L., Raine, K., Willows, N. D. |
|---|---|---|---|
| 2015 | 2012 | 2012 | 2008 |
| USA | Australia | UK | Canada |
| To identify factors that influenced stress, healthy eating and physical activity among low-income overweight or obese pregnant women | The aim of the study was to explore the factors that facilitated or inhibited gestational diabetes self-management among women in a socially deprived area. | The present study explores the information and advice given to pregnant women of different prepregnancy BMI classifications. | This qualitative study examined the determinants of excessive prenatal weight gain in First Nations women living on s reserve. |
| Qualitative | Qualitative | Mixed methods | Qualitative |
| Content analysis | Thematic analysis | Thematic content analysis | Ethnographic |
| Recruited via collaboration with Special supplemental nutrition program for women, infants and children (WIC) | Purposively selected from a pregnancy diabetes clinic | Recruited through the National Childbirth Trust from online NCT subscribers group and NCT antenatal classes | Staff at a prenatal clinic identified participants |
| 7 focus groups | 1:1 semi-structured interviews and 1 focus group | Questionnaire containing open question responses for qualitative data | 1:1 Semi structured interviews |
| Not specified | Focus group in room adjacent to the antenatal clinic room, interviews via telephone or face to face | Participants received questionnaire via email and completed it remotely | Rural prairie reserve that encompassed a single small-town site |

| Ekelin, M., Iversen, M. L., Backhausen, M. G., Hegaard, H. K. | Connolly, M,M., Brown, H., van der Pligt, P., Teychenne, M. | Cioffi, J., Schmeid, V., Dahleen, H., Mills, A., Thornton, C., Duff, M., Cummings, J., Kolt, G. S. | Chang, S-R., Kenney, N. J., Chao, Y-M. Y. |
|---|---|---|---|
| 2018 | 2015 | 2010 | 2010 |
| Sweden | Australia | Australia | Taiwan |
| To illustrate non-exercising pregnant women's views and experiences concerning exercise before and during pregnancy | To identify modifiable barriers to leisure-time physical activity among women who did not meet physical activity guidelines during pregnancy. | To describe women's perceptions and participant's physical activity during pregnancy and identifying factors influencing participation. | To examine the transformation of self during pregnancy by women living in urban Taiwan at a time when modern ideas of women's roles and health care practices co-exist with traditional cultural beliefs on the issues |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Content analysis | Thematic analysis | A qualitative descriptive analysis | IPA |
| 3 antenatal clinics. Recruited by midwife | Recruited from the Melbourne InFANT Extend Study | Poster/flyer adverts in maternity units | Recruited at medical centre in Taipei, Taiwan receiving prenatal examination |
| Face to face interviews | Survey with open-ended written responses | Group and 1:1 Face to face interviews | 1:1 open-ended interviews |
| Various locations at participants choosing | Completed survey | Maternity units | In private room at prenatal clinic |

| Fieril, K. P., Olsen, M. F., Glantz, A., Larsson, M. | Ferrari, R. M., Siega-Riz, A. M., Evenson, K. R., Moos, M-K., Carrier, K. S. | Fathnezhad-Kazemi, A., Haijan, S. | Evenson, K. R., Moos M-K., Carrier, K., Siega-Riz, M. |
|---|---|---|---|
| 2014 | 2013 | 2019 | 2009 |
| Sweden | USA | Iran | USA |
| To describe experiences of exercise during pregnancy aomng women who performed regular resistance training | To gather insights into pregnant women's experiences with provider advice about diet and physical activity | Aims at exploring the experiences of overweight pregnant women in terms of the factors influencing selection and adoption of health promoting behaviours during pregnancy | To examine barriers to physical activity in a large cohort of pregnant women and to explore these barriers in more depth with qualitative derived from a separate focus group study using a socioecologic framework |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Content analysis & thematic analysis | ATLAS/ti software | Content analysis | Content analysis<br>and socioecological framework |
| Recruited from an intervention study on the efficacy of resistance training during pregnancy – i.e., from antenatal clinics | Obtained from a larger study PIN Study | PW referred to healthcare centers and PW care clinics | Prenatal clinics, use of flyers and newspaper advertisements |
| Face to face interviews | Focus groups | 1:1 and group interviews | PIN Study [telephone interviews]<br>Separate study [focus groups] |
| Health care facilities | N/A | At pregnant women care centres or workplace of participants | Remote [telephone interviews) and in-person [focus groups] |

| Gross, H., Bee, P. E. | Goodrich, K.,Creggar, M., Wilcox, S., Liu, J | Fletcher, G., Teeters, L., Schlundt, D., Bonnet, K., Heerman, W. J., | Fireil, K. P., Olsen, M. F., Glantz, A., Premberg, A. A. |
|---|---|---|---|
| 2004 | 2013 | 2018 | 2017 |
| UK | USA | USA | Sweden |
| To examine women's responses to advice provided about changing their behaviour during pregnancy | To betters inform intervention messages by eliciting information on perceptions of appropriate weight gain, barriers to and enablers of exercise and healthy eating, and other influences on healthy weight gain during pregnancy in overweight or obese African American women. | To develop a model of how pregnant Latinas - who have higher risk of poor maternal and neonatal weight-related outcomes - conceptualize healthy gestational weight gain, providing guidance for future interventions | To describe obese women's experiences of participating in a lifestyle intervention and its experienced impact on health and lifestyle |
| Mixed methods | Qualitative | Qualitative | Qualitative |
| examining [data] for emergent themes | Not specified | Grounded theory | IPA |
| Hospital antenatal clinics | Recruited during initial obstetric appointment, routine clinic visit, or 6 week postpartum check-up at a hospital and two private women's health centres | Medical centre | Antenatal clinics via a midwife |
| Semi-structured questionnaire & interview schedule open-ended questions | Semi-structured in-depth 1:1 interviews | 10 Focus group sessions over 8 months | 1:1 interviews |
| Participant's homes | Prenatal clinics or participant's homes | Medical centre | Locations at participants choosing (telephone, home or healthcare facilities) |

| Heery, E., McConnon, A., Kelleher, C. C., Wall, P. G., McAuliffe, F. M. | Harrison, A. L.,Taylor, N. F., Frawley, H. C., Shields, N. | Hanghoj, S. | Groth, S. W., Morrison-Beedy, D. |
|---|---|---|---|
| 2013 | 2019 | 2013 | 2013 |
| Republic of Ireland | Australia | Denmark | USA |
| To explore views about weight gain and lifestyle practices during pregnancy among women with a history of macrosomia | What are the attitudes of women diagnosed with gestational diabetes mellitus (GDM) towards physical activity during pregnancy? What are the perceived barriers to and enablers of physical activity during pregnancy in women with GDM? | To explore healthy women's perceptions of risk associated with physical activity during pregnancy | To gain insight into how low-income pregnant African American women viewed physical activity and approached nutrition during pregnancy |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Thematic analysis | An inductive, thematic approach | Interpretative narrative approach | Content analysis |
| Recruited from theROLO study: at hospital during 6-month postpartum appointment | Antenatal clinics at two hospitals | University hospital | Special Supplemental Nutrition Program for Women, Infants and Children (WIC) services and prenatal clinics |
| 1:1 in-depth interviews | 1:1 Semi-structured interviews | 1:1 semi-structured in-depth interviews | 3 Focus Groups of 7-10 PW |
| Not specified | Interviews conducted face-to-face or by telephone | At a place of the participants' choosing | A convenient location |

| Jelsma et al., | Jacobson, L. T., Zackula, R., Redmond, M. L., Duong, J., Collins, T. C. | Heselhurst et al., | Heim, M. A., Miquelutti, M. A., Makuch, M. Y |
|---|---|---|---|
| 2016 | 2018 | 2017 | 2018 (IN PRESS) |
| 21<br>European countries | USA | UK | Brazil |
| We explored beliefs, perceived barriers and preferences regarding lifestyle changes among overweight European pregnant women to help inform the development of future lifestyle interventions in the prevention of gestational diabetes mellitus. | To gain in-depth information from underserved English- and Spanish-speaking pregnant and postpartum rural women on what they would value in a health promotion program | To understand the lived experiences and views of being referred to an antenatal dietetic service from the perspective of pregnant women with obesity | Identify experiences, needs and expectations of a group of pregnant women regarding antenatal education |
| Mixed Methods | Qualitative | Qualitative | Qualitative |
| Health Action Research Approach<br>Qualitative data: framework analysis<br>Quantitative data: content analysis descriptive statistics | Content analysis | Thematic content analysis | Thematic analysis |
| Obstetric appointments | Hospital during pre- or postnatal appointment | NHS Trust maternity and dietetic services | Maternity teaching hospital |
| Interviews and questionnaires | 3 focus group sessions and 1 structured interview | 1:1, face-to-face in-depth unstructured interviews | 1:1 semi-structured interviews |
| Various: research centre, telephone, post | Focus group convened and 1 interview at location of their session [at the hospitals] | Locations of participants choosing (at home, maternity unit or Sure Start Children's Centres in local communities) | Antenatal clinic |

| Krans, E. E., Chang, J. C. | Kinser, P., Masho, S. 2 | Kinser, P., & Mascho, S. | Fathnezhad-Kazemi, A., Haijan, S. |
|---|---|---|---|
| 2011 | 2015 | 2015 | 2018 |
| USA | USA | USA | Iran |
| To identify pregnant, low-income African American women's barriers and facilitators to exercise during pregnancy. | This study examines women's experiences participating in community-based prenatal yoga | To explore pregnant urban African American teenagers' experience of stress and depression and examine their perceptions of adjunctive non-pharmacologic management strategies, such as yoga | To explore the experiences of overweight pregnant women in relation to lifestyle changes during pregnancy to improve their health |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Grounded theory | Content analysis | Content analysis | Content analysis |
| 3 community health clinics in low SES, urban neighbourhoods | Flyers posted in women's health clinics, departments, local churches and community centres | Recruited through local health department's women's health and teen pregnancy programs | Pregnant women referred to health care centres |
| 6 focus groups | Focus groups | Focus groups | Individual interviews and group interviews |
| At the 3 community health clinics | Private room in university building | Not specified | Not specified |

| Lindqvist, M., Persson, M., Mogren, I. | Leiferman, J., Swibas, T., Kolness, K., Marshall, J. A., Dunn, A. L. | Lavender, T., Smith, D. M. | Krans, E. E., & Chang, J. C. |
|---|---|---|---|
| 2018 | 2011 | 2014 | 2012 |
| Sweden | USA | UK | USA |
| The aims to explore among pregnant women were their experiences of lifestyle counselling provided by a midwife in antenatal care, addressing health promotion with special focus on physical activity during pregnancy, and factors influencing the trustworthiness of counselling conducted by a midwife. | The present study examined multilevel barriers and facilitator related to physical activity engagement during pregnancy in women of low socioeconomic status | To gain insight into the experience of pregnant women with BMI equal to or greater than 30, when accessing maternity services and attending a community lifestyle programme | To describe in detail the unique beliefs and perspectives regarding exercise during pregnancy of African American women |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Content analysis | Inductive coding using Atlas/Ti software | Thematic analysis | Content analysis |
| Hospital-based maternal healthcare centre; routine ultrasound examination | Healthcare clinics and community organisations | PW recruited in an earlier study attending maternity services and a community lifestyle program | 3 community health clinics in low SES urban neighbourhoods |
| In-depth interviews | Individual and paired interviews | Focus groups [11]. Semi-structured interviews [9] | 6 Focus groups |
| Participants determined the venue for interview (at homes [9] and at hospital) | In a private conference room | Data collected at different sites | At the 3 community health clinics |

| O'Brien et al., | Muzigaba, M., Kolbe-Alexander, T. L., Wong, F. | Marquez, D. X., Bustamante, E. E., Bock B. C., Markenson, G., Tovar, A., Chasan-Taber, L. | Lindsay, A. C., Wallington, S. F., Greaney, M. L.., Tavares Machado, M. M., De Andrade, G. P. |
|---|---|---|---|
| 2017 | 2015 | 2009 | 2017 |
| UK<br>Ireland | South Africa | USA | USA |
| To qualitatively explore influences identified by overweight/obese pregnant women on food choices and physical activity (PA) behaviours; to determine the impact of pregnancy on these factors; and to inform development of future lifestyle interventions during pregnancy. | To generate information about pregnant women's views and experiences of PA during pregnancy, which will later be used to inform the development of a PA-based intervention targeting this group. | We conducted 3 focus groups among 20 pregnant Latina and non-Latina white women to identify barriers and facilitators to exercise in pregnancy to inform aGDM intervention study. | We explored nulliparous Latina women's perceptions about their experiences communicating with their primary healthcare provider about GWG and physical activity (PA) to identify possible intervention targets using in-depth, semi-structured interviews. |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Thematic analysis | Framework analysis | Content analysis | Thematic analysis |
| PW approached at 28-week antenatal appointment at a maternity hospital | PW recruited while attending antenatal services at Maternal and Obstetric Unit | Recruited in the waiting rooms at the time of prenatal care appointment | Community based and social programs, local agencies and churches serving predominantly Latino populations |
| Semi-structured interviews | 5 Focus groups | 3 Focus groups | Semi-structured interviews |
| A meeting room in the maternity hospital | Private room at MOU at Vanguard Community Hall Centre in Cape Town | Public Obstetrics and Gynaecology Clinic and Midwifery Practice of Baystate Medical Centre | At public locations (library, community agency, church) or at participant's home |

| Smith, D. M., Ward, C., Forbes, S., Reynolds, R. M., Denison, F. C. | Roberts, V., Glover, M., McCowan, L., Walker, N., Ussher, M., Heke, I., Maddison, R. | Padmanabhan, U., Summerbell, C. D., Heslehurst, N. | Ogle, J. P., Tyner, K. E., Schofield-Tomschin, S. |
|---|---|---|---|
| 2012 | 2017 | 2015 | 2011 |
| Scotland, UK | New Zealand | UK | USA |
| This study examined whether weight management guides, designed for women with a BMI $>30kg/m^2$ are accessible and appropriate for pregnant women with a BMI $\geq 40kg/m^2$ | This study explored attitudes towards an exercise programme to aid smoking cessation for Maori pregnant women | This study explored pregnant women's weight-related attitudes and beliefs during pregnancy | We explored the duty to be well within the contexts of pregnancy, first-time parenthood and marriage. |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Thematic analysis | General inductive approach | Content analysis | Foucault discourse analysis |
| PW recruited from metabolic antenatal clinic at the Edinburgh Royal Infirmary | Recruited via community organisations | Participants recruited via the BLOOM study from a maternity unit, South Tees NHS | Flyers posted in local obstetricians' offices and maternity wear shops and via snowball sampling |
| Semi-structured interviews [including 1 paired interview] | Focus groups with PW & key stakeholder interviews | Face-face interviews | In-depth interviews with 14 married couples. Wives and husbands were interviewed separately |
| Not specified | Semi-structured interviews [telephone, or face to face]. Focus groups – unclear | Location selected by participants (at homes, at work) | Not specified |

| Warren, L., Rance, J., Hunter, B. | van Mulken, M. R. H., McAllister, M. | Tucker, E. A., Fouts, H. N. | Trevorrow, P. |
|---|---|---|---|
| 2017 | 2016 | 2017 | 2016 |
| Wales. UK | Australia | USA | UK |
| To assess the feasibility and acceptability of the 'Eat Well Keep Active' intervention programme designed to promote healty eating and physical activity in pregnant women | We explored women's physical activity experiences throughout pregnancy and how these were formed, supported and /or opposed by their social environment. | The purpose of this grounded theory article was to identify potential connections between factors influencing women's decisions to engage in prenatal physical activity and breastfeeding among mothers in a medium-sized city in Tennessee. | To investigate how women perceive exercising during pregnancy and whether existing technologies could be used to support active behaviours. |
| Qualitative | Qualitative | Qualitative | Qualitative |
| Thematic analysis | Modern dialectics analysis using a feminist standpoint epistemology | Grounded theory | IPA |
| Recruited from a maternity unit when attending for routine scan [10-12 weeks] | Recruited at hospital, while attending antenatal clinic during trimester 1 | Recruitment flyers posted at local businesses and through Facebook and a local preschool email list | Not clear. Purposive sampling were used |
| One to one interviews | Telephone interviews | Semi-structured interviews | Semi-structured interviews |
| Interviews conducted approx. 6-8 weeks after delivery of the intervention | Interviews conducted over telephone at each trimester | Interviews were conducted at a location of participants' choosing | Participants' homes or in coffee shops |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Watson, E. D., Norris, S. A., Draper, C. E., Jones, R. A., van Poppel, M. N. M., Micklesfield, L. K. | 2016 | South Africa | To describe the beliefs regarding physical activity during pregnancy in an urban African population | Qualitative | Thematic analysis | Participants were recruited from a public antenatal hospital | Semi-structured interviews | Interviews conducted at the Chris Hani Baragwaneth Hospital |
| (1) Whitaker, K. M., Wilcox, S., Liu, J., Blair, S. N., Pate, R. R. 1 | 2016 | USA | To describe African American and White women's perceptions of weight gain, physical activity and nutrition during pregnancy and to explore differences in perceptions by race | Qualitative | Content analysis | Recruited using flyers posted in two obstetric pr gynaecology clinics and during a prenatal visit | Interviews | Interviews conducted at two obstetric or gynaecology clinics or at home |
| (2) Whitaker, K. M., Wilcox, S., Liu, J., Blair, S. N., Pate, R. R. | 2016 | USA | To investigate patient and provider perceptions of weight gain, physical activity and nutrition counselling during prenatal visits | Qualitative | Content analysis | Recruited from two obstetric or gynaecology clinics in South Carolina, USA | Individual interviews | Interviews conducted at two obstetric or gynaecology clinics or at home |

***Table 3.2 Study population characteristics of the studies included in the review (n=50)***

| Author | Sample size | Pregnant or postpartum women (PW/PPW) (weeks, months, trimester) | Non-PW or Non-PPW people included | Age | Race and/or ethnicity | Weight | Education | Socio-economic status (SES) | Other sample features | Physical activity (PA) status |
|---|---|---|---|---|---|---|---|---|---|---|

| Black, T. L., Raine, K., Willows, N. D. | Beckham, A. J., Urrutia, R. P., Sahadeo, L., Corbie-Smith, G., Nicholson, W | Backhausen, M. G., Katballe, M., Hansson, H., Tabor, A., Damm, P., Hegaard, H. K. | Atkinson, L., Shaw, R. L., French, D. P. |
| --- | --- | --- | --- |
| 13 | 50 | 11 | 7 |
| PPW <1 year | PW, 12 weeks gestation or more, at the time of focus groups | PW, 32-34 weeks | PW, 22-33 weeks |
| N/A | N/A | N/A | N/A |
| 18 or older | 18 years or older | Not specified | 28-42 |
| First nations women living on a reserve | African American (46), Caucasian (1) | Danish | White, British |
| 6 = recommended prenatal weight gain 7 = excessive prenatal weight gain | Pre-pregnancy BMI 25-29.9 (35%); BMI 30 or more (25%) | BMI >29 | BMI: 3 normal; 4 overweight |
| Grade 10= 2, Grade 10-12=7, College/Uni=4 | High school or higher 37 (79%) | Not specified | Not specified |
| Not specified | Household income <$10000 = 18(37.5%) $10000-50000 = 18(37.5%) >$50000 = 5(10%) Don't know = 7(15%) Uninsured in last 12 months 31(65%) | Not specified | Not specified |
| Prenatal weight status | Majority have at least one pre-pregnancy CVD risk factor | PW evaluating antenatal PA intervention | Some IVF participants |
| Not specified | Not specified | Not specified | Not specified |

| Chang, S-R., Kenney, N. J., Chao, Y-M. Y. | Chang, M-W., Nitzke, S., Bulst, D., Cain, D., Horning, S., Eghtedary, K | Carolan, M., Gill, G. K., Steele, C. | Brown, A., Avery, A. |
|---|---|---|---|
| 18 | 96 | 15 | 59 |
| PW (29-39 weeks) | PW (Trimester 1 32, 33.3%, Trimester 2 47, 49%, Trimester 3 17. 17%) | PW (not specified) | PW (Trimesters 2 and 3) |
| N/A | N/A | N/A | Members of the National Childbirth Trust |
| 20 years and over | Mean age 25.9 (5.18%) | 23-40 years age range | Mean age 32.7, 3.9% |
| Participants had to have lived in Taiwan for most of their lives and spoke either Taiwanese or Mandarin | African Americans (44), Non-Hispanic White (52) | Caucasian (5), Indian (4), Vietnamese (2), Arabic (1), Chinese (1), Cambodian (1), Filipino (1) | Not specified |
| Mean BMI at interview 26.2 | BMI overweight 35.4%, obese I 40.6%, obese II 13.5%, obese III 10.4% | Not specified | BMI Underweight (11.9%, 7), Normal (55.9%, 33) Overweight (25.4%, 15), Obese (6.8%, 4) |
| All participants completed high school. Most had received additional technical training (5) or university degree (11) | 8th grad/less 1, Some high school 20, High school 19, Some college 44, College/higher 12 | Educational level lower than national average, majority (73%) high school only | Not specified |
| Not specified | Full time 14, Part time 19, Unemployed 37, Homemaker 10, self-employed 2, student 9, other 5 | Not specified | Not specified |
| PW receiving prenatal examinations at clinics in Taipei, Taiwan | Low-income overweight and obese | GDM | Pre-pregnancy BMI |
| Not specified | Not specified | Not specified | Not specified |

| Evenson, K. R., Moos M-K., Carrier, K., Siega-Riz, M. | Ekelin, M., Iversen, M. L., Backhausen, M. G., Hegaard, H. K. | Connolly, M,M., Brown, H., van der Pligt, P., Teychenne, M. | Cioffi, J., Schmeid, V., Dahleen, H., Mills, A., Thornton, C., Duff, M., Cummings, J., Kolt, G. S. |
|---|---|---|---|
| PIN study [1535]; Separate Study [58] | 16 | 133 | 19 |
| PW PIN Study (27-30 weeks), Separate study (20-37 weeks) | PW (trimester 3) | PPW avg. 3 months postpartum | PW (1-19 weeks 4, 2%, 20-29 weeks 6, 32%) |
| N/A | N/A | N/A | N/A |
| PIN 18-24 [300] 25-29 [449]<br>30-35 [594] | 23-41 years | Mean age 31.9 years | Years 18-20 = 3, 16%, 21-30 = 3, 16%<br>31-40 = 13, 68% |
| Non-hispanic white [PIN: 1084, FG: 14] non-hispanic african american [PIN: 279, FG: 19], Hispanic [PIN: 73, FG: 25] | Not specified | Not specified | Not specified |
| BMI Underweight [PIN: 217, FG: 5], Normal [PIN: 773, 24], Overweight [PIN: 162, FG: 10] | Not specified | Not specified | Not specified |
| 8/less [PIN: 6, FG: 11], 9-11 [PIN: 78, FG: 8], High school [PIN: 203, FG: 9], Some college [PIN: 305, FG: 16], College graduate [PIN: 943, FG: 14] | High school = 6<br>Uni/college = 10 | No formal/up to 1 year = 7, 5%, Year-12/trade/cert/dip = 61, 46%, Uni degree/higher = 65, 49% | <High school = 1, 5%<br>Completed high school = 3, 16%<br>Trade cert = 4, 21%<br>College grad = 11, 58% |
| Employed [PIN: 1033, FG: 26], Not employed [PIN: 502, FG: 35], Never married [PIN: 300, FG: 17], Married/living together [PIN: 1181, FG: 36] | Working = 11<br>Mat leave = 3<br>Sick leave = 1<br>Unemployed = 1 | Weekly household income $1-599 = 40, 35%, $600-1499 = 23, 20%$1500-2000+ = 45, 39%, 0ther = 45, 39% | <$43,000 = 6, 26%, $43,000-64,000 = 2, 11%, >$64,000 = 9, 47%, Not answered = 3, 16% |
| Not specified | Not specified | N/A | N/A |
| Not specified | Not specified | Insufficiently active during pregnancy | Not specified |

| Fireil, K. P., Olsen, M. F., Glantz, A., Premberg, A. A. | Fieril, K. P., Olsen, M. F., Glantz, A., Larsson, M. | Ferrari, R. M., Siega-Riz, A. M., Evenson, K. R., Moos, M-K., Carrier, K. S. | Fathnezhad-Kazemi, A., Haijan, S. |
|---|---|---|---|
| 11 | 17 | 58 | 32 |
| PW (36-39 weeks) | PW (15-19 weeks: 2; 20-24 weeks: 3, 25-29 weeks: 10; 30-35 weeks: 2) | PW (not specified) | PW (10-14 weeks, 15-28 weeks, 29+ weeks) |
| N/A | N/A | N/A | N/A |
| 25-29 [4], 30-34 [4], 35+ [3] | 25-29 [4], 30-34 [7], 35+ [6] | 18-24yrs [26], 25-29yrs [12], 30-35yrs [19] | 18-24 [6, 18.8%], 25-34 [19, 59.3%], 35+ [7, 21.9%] |
| Swedish [8], Somali [2], Egypt [1] | Swedish [14], Finnish [1], French [1], Canadian [1] | African american [19], Caucasian [14], Latina [25] | Not specified |
| BMI pre-pregnancy: 30-32 [7], 33-35 [2], 36+ [2]. Weight gain during pregnancy Ibs 0-9 [3] | N/A | BMI Underweight [5], Normal [24], Overweight [10], Obese [17] | Mean pre-pregnancy BMI 27.54 |
| 9 years of primary school [2], High school/some higher education [6], College graduate [3] | Higher education [2], College graduate with diploma [15] | 8th grade/less [11], 9-11th grade [8], High school [9], Some college [16], College [14] | Elementary [2, 6.3%], Secondary [5, 15.6%], High school [9, 28.1%], University [16, 50%] |
| Employed [8]<br>Unemployed [1]<br>Student [2] | Not specified | Full time [13], Part time [9], Self-employed [4], Unemployed [12], Homemaker [18], Student [4], Disabled/unable to work [1] | Housewife [23, 71.9%]<br>Employed [7, 21.9%]<br>Student [2, 6.2%] |
| Obese: BMI 30 or more | PW who performed regular resistance training | Not specified | Overweight PW |
| Not specified | Pre-pregnancy: Resistance training, Running, Walking, Bicycling, During intervention: Walking, Bicycling, Swimming, Yoga, Running | Not specified | Not specified |

| Groth, S. W., Morrison-Beedy, D. | Gross, H., Bee, P. E. | Goodrich, K.,Creggar, M., Wilcox, S., Liu, J | Fletcher, G., Teeters, L., Schlundt, D., Bonnet, K.,Heerman, W. J., |
|---|---|---|---|
| 26 | 57 | 33 | 50 |
| PW (not specified) | PW (up to 6 weeks), PPW | PW (8-23 weeks]; 24-36 weeks)<br>PPW (6-12 weeks) | PW, Trimester 2 |
| N/A | N/A | N/A | N/A |
| 18-20 years [9, 35%], 21-29 years [13, 50%] | Under 25 [45%], 25-34yrs [50%] | 18-20 [3, 9.1%], 21-25 [15, 45.5%], 26-30 [8, 24.2%] | Median age 29 years |
| Race: Black [24, 92%], Multiracial [2, 8%]<br>Ethnicity: Hispanic [1, 4%], Non-Hispanic [23, 88%], Unknown [1, 8%] | Not specified | African American | Latina living in USA, spanish speaking<br>Place of birth: Mexico [64%], Central America [24%], U.S. [6%], Caribbean [4%], South America [2%] |
| Not specified | Not specified | Pre-pregnancy BMI Overweight [23, 69.7%], Obese [10, 30.3%] | Median BMI pre-pregnancy 27.5 |
| Grade 8 [1, 4%], Grade 9-11 [8, 31%], Grade 12 (12, 46%], Grade 12+ [1, 4%] GED [2, 7.5%], College [2, 7.5%] | 44% had been educated beyond the compulsory age of 16 | 12/less years [20, 60.6%]<br>12/more years [13, 39.4%] | Less than high school (64%), high school graduate (26%), some college/higher (10%) |
| Not specified | 46% married women in social classes I & II, 28% in class III (N), 12% in class III (M), 14% in social classes IV ~& V | Full time [17, 51.5%], Part time [2, 6.1%]<br>Self-employed [1, 3%], Student [2, 6.1%]<br>Out of work [8, 24.2%] | Not specified |
| Low-income, African American | Low-risk pregnancies | Overweight and obese African American PW & PPW | Latina at higher risk of poor maternal and neonatal weight-related outcomes |
| Not specified | Not specified | Assessed through self-report. Meets PA recommendations [15, 45.5%], Underactive [10, 30.3%], Sedentary [8, 24.2%] | Not specified |

| Heim, M. A., Miquelutti, M. A., Makuch, M. Y | Heery, E.,McConnon, A., Kelleher, C. C., Wall, P. G., McAuliffe, F. M. | Harrison, A. L.,Taylor, N. F., Frawley, H. C., Shields, N. | Hanghoj, S. |
|---|---|---|---|
| 22 | 21 (21 at interview 1, 18 at interview 2) | 27 | 5 |
| PW (trimester 2: 10; trimester 3: 12) | PPW (6-12 months postpartum) | PW (20-27 weeks) | PW (trimester 3) |
| N/A | N/A | N/A | N/A |
| 18-24 years [9], 25-29 years [9], 30-34 years [4] | 23-41 years, Mean age 32 years | Mean age 32, Range 26-38 | 26-36 years |
| Not specified | Caucasian 4 participants were born outside of Ireland [1 German, 1 Ukranian, 2 English] | Country of birth: Australia [9, 33%], Asia [17, 63%], Other [1, 4%] | Not specified |
| Not specified | Mean BMI at booking visit 26.3 [overweight], 9 were normal weight 8 were overweight | Mean pre-pregnancy BMI 26 Range 19-38 | Not specified |
| Years of schooling: 0-7 years [2], 8-10 years [9], 11 or more years [11] | 19 in paid employment | High school/less [6, 22%], Greater than high school [21, 78%] | Average or advanced education |
| Not specified | 8 had graduate degrees | Not specified | 3 married, 2 unmarried |
| Not specified | PPW whose first infant was macrosomic | PW experiencing an uncomplicated singleton pregnancy, diagnosed with GDM | Not specified |
| Not specified | Not specified | Pre-pregnancy PA levels: Active [16, 59%], Not very active [11, 41%] | Not specified |

| Fathnezhad-Kazemi, A., Haijan, S. | Jelsma et al., | Jacobson, L. T., Zackula, R., Redmond, M. L., Duong, J., Collins, T. C. | Heselhurst et al., |
|---|---|---|---|
| 32 | Interview participants [21] Questionnaire participants [71] | 35 recruited; data collected from 17 (demographic data reported on 35) | 15 |
| PW (not specified) | PW & PPW (not specified( | PW (trimester 1: 3; trimester 2: 6; trimester 3: 21); PPW (6 weeks postpartum) | PW (not specified) |
| N/A | N/A | N/A | Present at interview: husbands [2], young children [2], grandmother [1] |
| 25-34 years | <30 years [Interview [I] 8, 38%], [Questionnaire [Q] 23, 32%] | 18-25 years [13]m 26-35 years [16] 36-45 years [5] | Not specified |
| Ethnic group: Azerbaijanis [31], Persians [1] | Interviews: Netherlands [10], Belgium [6], UK [5], Questionnaires: Italy [20], Spain [10], Ireland [10], Poland [10], Austria [11], Denmark [10] | White, non Hispanic [16], Hispanic [11], White, Hispanic [6], Other [2] | White |
| Pre-pregnancy BMI [Mean] 27.54 | Pre-pregnancy BMI equal to or greater than 25 | Weight 3months pre-pregnancy Ibs: Median [35]. Current weight Ibs: Median [33] | Pre-pregnancy BMI between 30 and 51 |
| Elementary [2], Secondary [5], High School [9], University [16] | Graduate [I 38%, Q 30%], Hig education [I 38%] [Q 4%], High-school [I 10%], Q 37%], Vocational [I 10%] [ Q 16%], Primary school [I 5%] [Q 13%] | High school [10], High school [6], Some college [9], Associate's degree [3], Bachelor's degree [5], Advanced degree [2] | Not specified |
| Housewife [25], Employed [7], Spouse: Employee [5], Worker [7], Self-employed [20], Income: Sufficient level [10], Less than adequate [22] | Not specified | Employed [18] Yearly household income $9999/less [8], $10000-24999 [7], $25000-49999 [15], $50000-74999 [1], $75000/more [4] | Not specified |
| Overweight PW | European pregnant women overweight & obese | Received pre- and postnatal care from a hospital in the catchment area | BMI 30 or more at booking appointment in receipt of care at a dietetic service |
| Not specified | Not specified | Average daily moderate level of exercise: and average number of days 30min/more moderate level exercise recorded | Not specified |

| Krans, E. E., & Chang J. C. | Krans, E. E., Chang, J. C. | Kinser, P., Masho, S. 2 | Kinser, P., & Mascho, S. |
|---|---|---|---|
| 34 | 34 | 14 | 17 |
| PW (trimester 1, 2, 3) | PW (trimester 1, 2, 3) | PW (34-36 weeks); PPW (0-6 months) | PW, Teenagers, (not specified) |
| N/A | N/A | N/A | N/A |
| 18-30 years. Mean age 23 | 18-30 years, Mean age 23 | 18-36 years, Mean age 29.6 years | 14-17 years, Mean age 17.5 |
| African American | African American | White non-Hispanic 80%, Black 20% | African American |
| Pre-pregnancy BMI 22-46. Mean BMI 33 | Pre-pregnancy BMI 22-46, Mean BMI 33 | Not specified | Not specified |
| Education completed: High school/GED [67], Community college [29], College [4] | Education completed: High school/GED [67], Community college [29], College [4] | Majority had at least a college degree | Participants all enrolled at high school |
| Annual household income: <$10000 [52] $10000-19000 [31], $20000-29000 [7] $30000-39000 [3], >$40000 [7] | Annual household income: <$10000 [52], $10000-19000 [31], $20000-29000 [7] $30000-39000 [3], >$40000 [7] | Majority working full-time or part-time and either married or unmarried, but living with a partner | Part time job [9, 53%] |
| Low-income, African American pregnant women with low-risk pregnancies | Low-income, African American pregnant women with low-risk pregnancies | Women who had experience [within the past 6 months] with prenatal yoga classes | African American adolescents |
| Exercised before pregnancy [64] Exercised during pregnancy [55] | Exercised before pregnancy [64] Exercised during pregnancy [55] | Majority did prenatal yoga classes during, one woman used home-based yoga DVDs in addition to occasional group classes | Not specified |

| Lindsay, A. C., Wallington, S. F., Greaney, M. L.., Tavares Machado, M. M., De Andrade, G. P. | Lindqvist, M., Persson, M., Mogren, I. | Leiferman, J.,Swibas, T., Kolness, K., Marshall, J. A., Dunn, A. L. | Lavender, T., Smith, D. M. |
|---|---|---|---|
| 23 | 14 | 25 | 34 |
| PW (22-36 weeks) | PW (35-36 weeks) | PW (17-40 weeks) | PPW (4-6 weeks postpartum) |
| N/A | N/A | N/A | N/A |
| 22-35 years<br>Mean age 24 years | 23-38 years. Mean age 31.5 | 18-46 years | Mean age 26 |
| Latinas:<br>Multi-ethnic Hispanics [12, 47.8%]<br>Brazilians [11, 53.2%] | Country of origin:<br>Sweden [11, 78.6%]<br>Other countries [3, 21.4%] | White [9, 35%], African American [7, 28%], Other [8, 32%], Hispanic/Latina: Yes [10, 40%], No [15, 60%] | White British [25], Asian Pakistani [3], Black African [2], Asian British [2]<br>Asian Bangladeshi [1], White Black African [1] |
| BMI prepregnancy: Normal [12, 53.2%], Overweight [10, 43.6%], Obese [1. 4.4%] | BMI <25 [6], 25.0-29.9 [2], 30 [6] | Not specified | Mean BMI 39 |
| Less than high school [26.1%], High school degree [43.6%], General educational development [17.3%], Some college or more [13%] | Highest educational level: University [7, 50%], Highschool [7, 50%] | <12 y [4, 16%]<br>12 y [11, 44%]<br>>12 y [10, 40%] | Lower than school leaving age qualifications [1], School leaving age [18], Further education [11], Higher education [4] |
| Household annual income:<br>>$20k/year <$40,000 [19, 82.7%]<br><$20k/year [4, 17.3%] | Living alone [0]<br>Cohabiting [14, 100%] | Single (never married) [15, 60%]<br>Married [10, 40%} | Employed [20], Married [15], Single/single supported [9], Living with partner [3]<br>Engaged [5], Partner [2] |
| Latina PW | PW who received lifestyle counselling from midwife as part of antenatal care | PW of low SES | Postnatal women who had an antenatal BMI greater than/equal to 30 |
| Most PW reported being physically active before pregnancy | Not specified | Exercisers [15]<br>Nonexercisers [10] | Not specified |

| Ogle, J. P., Tyner, K. E., Schofield-Tomschin, S. | O'Brien et al., | Muzigaba, M., Kolbe-Alexander, T. L., Wong, F. | Marquez, D. X., Bustamante, E. E., Bock B. C., Markenson, G., Tovar, A., Chasan-Taber, L. |
|---|---|---|---|
| 14 married couples | 22 | 34 | 20 |
| PW (7-8 months) | PW (34 weeks) | PW (trimester 1, 2, 3) | PW (<28 weeks) |
| Husbands | N/A | N/A | N/A |
| Age range: 22-39 years [Wife], 23-40 years [Husband] | 18-45 years. Mean age 32.3 | 17-36 years. Mean age 25 years | Latina [Mean age: 25.1]m Non-Latina White [Mean age: 28.6] |
| One couple identified as "Asian" and two wives identified as "Hispanic". Other participants identified as "Caucasian". | Irish Caucasian [21, 95.5%] | Black [21, 61.7%], White [0, 0%] Mixed ancestry [13, 38.2%], Indian [0, 0%] | Latina [13], Non-Latina White [7] |
| Not specified | BMI $25kg/m^2$ - $39.9kg/m^2$. BMI Category: Overweight [19], Obese [3] | Not specified | BMI [Mean]: Latina [27.8], Non-Latina White [24.0] |
| All but 1 participant had post-secondary education. Majority had bachelor's degree. Several enrolled/completed graduate education. | ≥3rd level education [12, 54.5%] | Not specified | High school: [Latina: 69.2%], [Non-Latina: 14.3%], Some College: [Latina: 23.1%], [Non-Latina: 42.9%], College: [Latina: 7.7%], [Non-Latina: 42.9%] |
| Most shared a middle- or upper-middle class American lifestyle. Occupations ranged from professional and managerial to clerical and manual. | Not specified | All PW living in low SES communities in South Africa, Full-time employment [12, 35.2%], Part-time employment [2, 5.9%] Unemployed [20, 58.8%] | Marital status, Annual Household income reported |
| Married couples expecting their first child | PW with $BMI>25kg/m^2$ | PW living in low SES communities in South Africa | Latina and non-Latina white, sedentary/low-active PW |
| Not specified | Not specified | Physically active [19, 55.9%] Not physically active [15, 44%] Not reported [0, 0%] | Sedentary/low-active PW |

| Trevorrow, P. | Smith, D. M., Ward, C., Forbes, S., Reynolds, R. M., Denison, F. C. | Roberts, V., Glover, M., McCowan, L., Walker, N., Ussher, M., Heke, I., Maddison, R. | Padmanabhan, U., Summerbell, C. D., Heslehurst, N. |
| --- | --- | --- | --- |
| 5 | 14 | 26 | 19 |
| PW (not specified) | PW (trimester 1)<br>PPW (up to 3 months postpartum) | PW (not specified) | PW (trimester 3) |
| N/A | N/A | Key informants | N/A |
| 27-40 years | Not specified | 18 and over | 19-38 years |
| Not specified | Not specified | Maori | "The ethnicity all of except one woman was White" |
| Not specified | Not specified | Not specified | BMIs varied between: normal, overweight and obese |
| Not specified | Not specified | Not specified | Not specified |
| Not specified | Not specified | Not specified | Not specified |
| Not specified | PW with attending a high-risk antenatal clinic for women with a BMI ≥40 kg/m² | Maori pregnant women smokers | PW in third trimester recruited through the BLOOM study |
| Participants ranged from inactive during pregnancy to very active. All participants had reduced their PA throughout pregnancy | Not specified | Not specified | Not specified |

| Watson, E. D., Norris, S. A., Draper, C. E., Jones, R. A., van Poppel, M. N. M., Micklesfield, L. K. | Warren, L., Rance, J., Hunter, B. | van Mulken, M. R. H., McAllister, M. | Tucker, E. A., Fouts, H. N. |
|---|---|---|---|
| 13 | 20 | 30 | 19 |
| PW (29-33 weeks) | PW (22-24 weeks) | PW (13-19 weeks) | PPW (3-12 months postpartum) |
| N/A | N/A | N/A | N/A |
| 19-41 years, Mean age 28 years | 18-24 years [7], 25-29 years [3], 30-34 years [8] | <21 years [2, 7.6%], 21-25 years [8, 26.7%] | 24-38 years |
| Black, South African | All participants were Caucasian | Nationality: Australian [26, 86.7%], New Zealand [1, 3.3%], UK [2, 6.7%] Japanese [1, 3.3%] | 18 Caucasian<br>1 African American |
| Mean BMI 30, BMI range 19.6-39.0 | Healthy weight BMI [18.5-24.9] [14], Overweight BMI [25-29.9] [6] | Not specified | Not specified |
| Secondary school [59%]<br>Professional/technical training [8%]<br>University [33%] | Not specified | Highest completed education: Year 10 [3, 10%]m Year 12 [8, 26.7%] Diploma or certificate [14, 46.7%] Bachelor degree or higher [5, 16.7%] | Bachelor degree [5, 26.3%]<br>Graduate degree [14, 72.7%] |
| Skilled manual labour [25%], Unskilled manual labour [17%], Clerical/admin/student [33%], Unemployed [25%] | Professional [7, 35%], Clerical [5, 25%] Unskilled [6, 30%], Unemployed [2, 10%] | <$20,000 [1, 3.3%], $20,000-30,000 [5, 16.7%], $30,001-50,000 [6, 20%] $50,001-100,00 [1, 3.3%], Did not wish to mention [1, 3.3%] | Most upper-middle or middle class. Annual household income reported. Married [18], Divorced [1]. Work status: Dual income [13], Single income [6] |
| Participated in a study; attended DPHRU for non-clinical, research purposes every 4-6 weeks | PW taken part in midwife led intervention (motivational interviewing and goal setting for diet, PA over weeks 16-18) | PW | Location, breastfeeding 3-12 months and did PA x2 week during at least two trimesters of their pregnancy |
| Active [46%]<br>Inactive [54%] | Not specified | Not specified | PA twice weekly during pregnancy. Most walked. Common activities: jogging, swimming, yoga, toning exercises/calithenics, and weight training. |

| (1) Whitaker, K. M., Wilcox, S., Liu, J., Blair, S. N., Pate, R. R. 1 | 30 | PW (20-30 weeks) | N/A | 18-41 years. Mean age 26.6 years | African American [15]<br>White [15] | BMI, Normal [10], Overweight [10]<br>Obese [10] | <HS graduate [5], HS graduate or GED [10], Some college [10], College graduate [5] | Single [21], Married [9], Employed [14]<br>Unemployed [16], Annual household income reported | Not specified | Inactive [8], Minimally active [6]<br>Exceeding recommendations [19] |
|---|---|---|---|---|---|---|---|---|---|---|
| (2) Whitaker, K. M., Wilcox, S., Liu, J., Blair, S. N., Pate, R. R. | 30 | PW (20-30 weeks) | 11 Prenatal care providers [5 attending physicians, 5 residents, 1 Nurse] | 18-41 years. Mean age 26.6 years | African American [15]<br>White [15] | BMI Normal [10], Overweight [10]<br>Obese [10] | <HS graduate [5], HS graduate or GED [10], Some college [10]<br>College graduate [5] | Single [21], Married [9], Employed [14]<br>Unemployed [16], Annual household reported | Not specified | Inactive [8], Minimally active [6]<br>Exceeding recommendations [19] |

### 3.3 Quality appraisal of selected studies

Overall, the CASP analysis revealed a mixed quality amongst the selected studies, with most studies meeting the criteria, particularly questions eight-to-ten. However, there was some mixed quality amongst criteria one-to-seven, with some uncertainty over the rationale and choice of study design and methodology, as well as being unclear or offering sparse descriptions of ethical issues, which may have been due to word count limit. Following the quality appraisal, all 50 articles were included in the review (Table 3.3).

***Table 3.3: Quality appraisal using the CASP tool (n=50)***

| **Studies** | **CASP Criteria** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| Atkinson et al., 2016 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Baghari et al., 2014 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Beckham et al., 2015 | Yes | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
| Black et al., 2008 | Can't say | Yes | Can't say | Yes | Can't say | Yes | Yes | Yes | Can't say | Yes |
| Brown & Avery 2012 | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes | Yes |
| Carolan et al., 2012 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Chang et al., 2010 | Yes | Yes | Yes | Yes | Can't say | Can't say | Can't say | Yes | Yes | Yes |

| Chang et al., 2015 | Yes | Yes | Can't say | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
|---|---|---|---|---|---|---|---|---|---|---|
| Cioffi et al., 2010 | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes | Yes |
| Connolly et al., 2015 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ekelin et al., 2018 | Yes | Yes | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Evenson et al., 2009 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Fathnezhad-Kazemi & Haijan, 2018 | Yes | Yes | Can’t say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Fathnezhad-Kazemi & Haijan, 2019 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Ferrari et al., 2013 | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes | Yes |
| Fieril et al., 2014 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Fieril et al., 2017 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Fletcher, 2018 | Can't say | Yes | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Goodrich et al., 2013 | Can't say | Yes | Can't say | Yes | Yes | Can't say | Yes | Yes | Yes | Yes |
| Gross & Bee, 2004 | Can't say | Yes | Can't say | Yes | Yes | Can't say | Yes | Yes | Yes | No |
| Groth et al., 2013 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Hanghoj 2013 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Harrison et al., 2019 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Heery et al., 2013 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Heim et al., 2019 | Yes | Yes | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Heslehurst et al., 2017 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Jacobson et al., 2018 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Jelsma et al., 2016 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| (1)Kinser & Mascho, 2015 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| (2)Kinser & Mascho, 2015 | Yes | Yes | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Krans & Chang, 2011 | Yes | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
| Krans & Chang, 2012 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lavender & Smith, 2014 | Yes | Yes | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Leiferman et al., 2011 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lindqvist et al., 2018 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Lindsay et al., 2017 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Marquez et al., 2009 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Muzigaba et al., 2014 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| O'Brien et al., 2017 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

| Ogle et al., 2011 | Can't say | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
|---|---|---|---|---|---|---|---|---|---|---|
| Padmanabhan et al., 2015 | Yes | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Roberts et al., 2017 | Yes | Can't say | Can't say | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Smith et al., 2012 | Can't say | Yes | Can't say | Yes | Yes | Can't say | Yes | Can't say | Yes | Yes |
| Trevorrow, 2016 | Yes | Yes | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
| Tucker & Fouts, 2017 | Yes | Can't say | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
| van Mulken & Lowe 2016 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Warren et al., 2017 | Yes | Yes | Can't say | Yes | Can't say | Can't say | Yes | Yes | Yes | Yes |
| Watson et al., 2016 | Yes | Yes | Yes | Yes | Can't say | Yes | Yes | Yes | Yes | Yes |
| (1)Whitaker et al., 2016 | Can't say | Yes | Can't say | Yes | Yes | Yes | Can't say | Yes | Yes | Yes |
| (2)Whitaker et al., 2016 | Yes | Yes | Can't say | Yes | Yes | Yes | Can’t say | Yes | Yes | Yes |

## Chapter 4: Study One Systematic Review and Meta-Synthesis Results and Discussion: Individuals of Influence

### 4.1 Introduction

The individuals whom pregnant women perceived as important or influential, were defined as the people whom pregnant women considered or made reference to concerning their physical activity, such as engaging in discussions or receiving advice/information about physical activity, actively engaging in physical activity with someone and considering others in the course of their own physical activity.[11] These individuals were inductively coded by the terms reflected in the data, before being assigned (deductively) to recognised group terms for these individuals (see Appendix B, Table 1). The individuals were also characterised, in each reference, by assumed positions on physical activity: positive, negative, neutral, necessary (see Appendix C, Table 2). In terms of analysis, individuals who were mentioned most frequently were assigned a higher order of importance/influence as opposed to those mentioned less often.

#### 4.1.a Individuals

The individuals who were coded most often were pregnant women's 'Partners' and the 'Baby/foetus'. However, because the data often captured group terms (e.g., 'Family'), it was impossible to individuate group terms; therefore, individuals were eventually slotted into groups (Appendix C, Table 2). Initial codes of individuals were grouped together by synonymous nouns to construct groups of individuals (e.g., 'physician' and 'doctor' were treated as synonymous, as was 'husband', 'partner' or 'boyfriend'). 'Partner' was the most referenced individual in terms of pregnant women's physical activity, followed by 'Family', 'Health Professional', 'Baby' (unborn foetus), 'Midwife', other 'Children', 'Friends' and 'Doctor'.

In terms of variables in common, individuals who were notably, personally proximal to pregnant women (i.e., emotionally and/or physically close to pregnant women concerning their pregnancies), such as partner, family, friends and health professionals, were more frequently referenced. Indeed, individuals who were less personally proximal to or perhaps less involved in pregnant women's care, were referenced to less often (i.e., 'work colleagues', family-in-law, exercise professionals, and health specialists, such as 'Dietician' and 'Nutritionist'). This suggests that individuals who are either proximal or are regularly involved possess greater opportunity to be a source of influence on physical activity. However, as mentioned earlier, some of the data used generic or group terms for individuals,

[11] Any individual reference to in relation their physical activity behaviour or view/perspective were coded as a potential individual of influence.

which can mislead the relevance of the individual as an influencer. For example, the individual 'midwife' as well as the group term 'health professional' were frequently referenced, making it difficult to locate the individual role within 'health professional' references. For clarity, 'midwife' was eventually included in this group term of 'health professional'.

Three other external or non-proximal people/terms (compared to health professionals, partner, family and friends) were perceived as influential, such as 'People [General]', 'Information sources', 'Pregnant women exercisers'. The influence of 'People [General]', which was often an all-encompassing term used by pregnant to describe social opinion, suggests that social expectation is perceived as important. The other frequently reported non-proximal influence of 'Information sources', suggests that pregnant women consider objective information and also seek out this source of influence as a means of enabling physical activity. This notion of seeking enablers is also supported by the perceived importance of 'Pregnant women exercisers'; as these individuals were referenced to specifically for their exercising behaviour, they provide a specific purpose or social function, which pregnant women may seek out to facilitate their own physical activity.

**4.1.b Groups of Individuals**

After inductive coding of individuals, deductive coding assigned individuals to 13 groups of potential influence. Table 4.1. illustrates these groups in descending order of importance/influence.[12]

***Table 4.1: Groups of individuals by categories of influence (positive, negative, neutral, necessary)***

| **Individuals by group** | **Positive** | **Negative** | **Neutral** | **Necessary** | **Total** |
|---|---|---|---|---|---|
| Health Professionals | 39 | 19 | 41 | 29 | 128 |
| Dependents | 33 | 46 | 0 | 2 | 81 |
| Family | 25 | 37 | 0 | 10 | 72 |
| Partner | 20 | 20 | 0 | 12 | 52 |
| Exercise companion[13] | 19 | 2 | 1 | 19 | 41 |
| Information sources | 9 | 13 | 3 | 14 | 39 |
| People | 6 | 18 | 2 | 11 | 37 |
| Gym & Exercise Professionals | 7 | 12 | 2 | 9 | 30 |
| Friends | 9 | 14 | 1 | 6 | 30 |
| Pregnant women[14] | 8 | 3 | 0 | 4 | 15 |
| Work colleagues | 0 | 10 | 0 | 0 | 10 |
| Culture | 0 | 5 | 0 | 4 | 9 |
| Family-in-law | 1 | 4 | 0 | 0 | 5 |
| Total | 176 | 203 | 50 | 120 | 549 |

[12] Appendix C, Table 2 illustrates how these individuals were assigned to groups relative to categories of influence.
[13] Exercise companion includes 'pregnant women exercisers'.
[14] Pregnant women include 'pregnant women' and 'pregnant women same situation or circumstances'.

Overall, these findings revealed that: ‘Health Professionals’ were the most referenced group concerning social influences on physical activity, followed by ‘Dependents’, ‘Family’ and ‘Partner’. Other groups were also coded, however less often (‘Friends’, ‘Exercise companion’, ‘Pregnant women’, ‘People’, ‘Work Colleagues’, ‘Information sources’ and even ‘Family-in-law’). The groups: ‘Health professionals’, ‘Dependents’, ‘Family’ and ‘Partner’ were considered to share two characteristics that distinguished them from other groups: [1] frequent tangible and emotional *proximity* or closeness to pregnant women and [2] notable *investment* or *active involvement* in the pregnancy based on responsibility, from varying professional roles/liability to familial connection. These characteristics together can be understood as the ‘proximity principle’.

Thus, ‘Health Professionals’ as a diverse group of Midwives, Doctors, Nurses etc., appeared to be the most frequently reported individuals coded, indicating importance or influence on pregnant women’s physical activity. This suggests that ‘Health Professionals’ are either, as a group, most involved in discussions about or perceived as best positioned to advise on antenatal physical activity.

In consecutive order, ‘Dependents’ was the next group, comprising ‘Baby’ and current ‘Children’, which suggests that the relationship of dependency with offspring is both a conscious (Children) and unconscious (Baby) influence on pregnant women’s physical activity. This group was followed by ‘Family’ and then ‘Partner’, both of which have proximity to and investment in the pregnant woman and gestating foetus, as they have the potential for influence through enhanced monitoring and surveillance.

Despite the ‘Partner’ being identified as the most referenced individual term within a stand-alone group for ‘Partner’; the groups ‘Health Professionals’, ‘Dependents’ (baby/foetus and other children) and ‘Family’, formed a larger share of the coding by frequency of reference. However, considering that the ‘Partner’ group comprised one individual, this conveys a significant source of influence. This is not surprising, considering other studies identifying pregnant women’s Partner as the most consistent source of social support amongst pregnant and postpartum women (Baker & Yang, 2018); with pregnant women’s physical activity at 18- and 32-weeks’ gestation being associated with Partner physical activity (Liu et al., 2011). A similar argument can be proposed for the ‘baby’ and ‘children’ who comprise the ‘Dependents’ group, compared to the ‘Health Professionals’ and ‘Family’, which are much more diverse a group of individuals. This suggests, again, that *proximity* to the pregnant woman and perhaps a sense of *investment* or impact concerning the pregnancy renders individuals of greater importance or influence.

Interestingly, ‘Information sources’ and ‘Exercise companion’ held a mutual position in being the next source of importance/influence after ‘Partner’. ‘Information sources’ were defined as objective, indirect

or impersonal influencers (e.g., the internet, media, books/leaflets), all of which are tools to inform pregnant women's knowledge and indirectly shape her attitudes and behaviour. This is juxtaposed against an 'Exercise companion', that provides a direct source for shaping physical activity attitudes and engaging in physical activity behaviour. The equal importance for these groups suggests that key influencers on pregnant women's physical activity consist of both the indirect (information) and direct (companion) to learn about and engage in physical activity. By referencing these influencers above 'Gym & Exercise Professionals' and non-exercising 'Friends' and 'Pregnant women', all of whom are also positioned to inform and engage in physical activity. This also suggests that pregnant women have *a sense of agency* (whereby they seek out information), and *a sense of utility* (whereby they require the assistance of individuals who wish to engage in physical activity) to enable their own behaviour.

Interestingly, 'People' is positioned as a middle group in terms of importance/influence. 'People' is a broad group mostly comprising acquaintances, strangers and the general public, which suggests that societal opinion and expectation on pregnant women's physical activity is important/influential. Indeed, this group may determine a discourse on appropriate behaviour in pregnancy.

The similar position of 'Gym & Exercise Professionals' and 'Friends' is harder to explain, and perhaps again speaks to the importance of proximity and investment in the pregnancy as an influence. However, some of the individuals who were defined as 'Friends' were assigned to the group 'Exercise Companion', with friendship being formed through physical activity. This suggests pregnant women may position individuals by their relationship to and utility for physical activity, which further highlights the importance of agency and autonomy concerning pregnant women's navigation of social interactions.

Interestingly, 'pregnant women', 'work colleagues' and 'culture' also share a similar position, which suggests that non-physical activity related social comparison (pregnant women), peripheral relationships (work colleagues) as well as intangible customs (culture) are perhaps expressly perceived as less influential compared to other people. Yet, social support data positions pregnant women and culture as particularly important influencers, with these individuals comprising the second most referenced social support type (Belonging support). However, this may be due to all types of 'pregnant women' interactions underpinning this support type, as well as 'exercise companions', painting a picture of social comparison as a potentially important source of influence for determining safe physical activity behaviour. Furthermore, 'Work Colleagues' and 'Culture' may speak to societal expectations and determine a narrative on what kind of physical activity is considered socially appropriate amongst pregnant women populations in varying contexts.

Surprisingly, ‘Family-in-law’ were mentioned infrequently, which challenges the suggestion of proximity and investment in the pregnancy being an underlying prerequisite for influence. However, this may be due to pregnant women relating to their own family members more frequently or more impactfully than extra-marital family. Conversely, it could also be due to pregnant women perceiving both their own family and their partner’s family as one under the term ‘Family’, which was a frequently cited term in the data. Therefore, ‘Family’ whether immediate or related in-law, may safely be perceived as having relative influence on pregnant women’s physical activity.

**4.1.c Categories of Influence and Discussion**

By examining the predilection of these groups towards a positive, negative or neutral position on pregnant women’s physical activity is a useful indicator of society’s position on physical activity against the construct of a pregnant woman. Table 4.1 details the groups referenced to in terms of having a positive, negative or neutral position on physical activity in descending order.

Although ‘Health Professionals’ were cited more often as being positive towards physical activity as opposed to being negative; ‘Health Professionals’ were most often cited as assuming a neutral position on physical activity overall. Owing perhaps to their expert status and therefore professional liability, a position of neutrality may be perceived and therefore assumed as a safer or more appropriate position for ‘Health Professionals’. On a behavioural perspective, expert status and professional liability may translate to barriers around capability, such as competency. Professional liability has been highlighted as a barrier amongst midwives in offering physical activity advice to pregnant women with obesity (De Vivo & Mills, 2019; McParlin et al., 2017; Okafor & Goon, 2021) and thematically captured by pregnant women in their decision-making processes concerning antenatal physical activity, reporting ‘caution’ and ‘liability’ concerns from midwives (Findley et al., 2020). Indeed, theoretical domains underpinning hesitancy included low confidence relating to ability, competence and self-belief/esteem to relate physical activity guidelines to pregnant women with obesity.

The notion of neutrality due to professional liability is supported when contrasted with groups of individuals who do not share this expert status, such as ‘Dependents’, ‘Family’ and ‘Partner’, who were most often cited as being either negative or positive about physical activity and not neutral. Indeed, family and friends offering cautionary advice against physical activity in pregnancy has been identified in a recent study exploring decision-making on antenatal physical activity (Findley et al., 2020). It is theorised from these findings that being highly proximal too and invested/involved in the pregnancy, but without having professional liability, may influence the assumption of a binary position on physical activity of either positive or negative. Understanding these binary positions may have important implications on their physical activity behaviour/attitudes, as a number of studies identifying

pregnant women’s ‘Partner’ to be the most influential individual on pregnant women’s physical activity (Flannery et al., 2018; Thornton et al., 2006; Whitaker et al., 2016). Indeed, the literature supports unique roles of ‘Partner’ directly influencing pregnant women’s physical activity through modelling. For example, studies finding ‘Partner’ physical activity has found to be predictive of pregnant women’s physical activity (Choi and Fukuoka, 2018; Liu et al., 2011), which indicates both conscious and unconscious modelling behaviour. Similarly, qualitative literature suggests that pregnant women may examine health behaviours of ‘Family’, such as their parents to inform decisions of their own lifestyle choices. For example, in one study, data suggested a conscious decision amongst some participants, to exemplify physical activity behaviour for their children noting themselves as a potential role model, particularly where they lacked such parental role modelling in their upbringing (O’Brien et al., 2017). For female ‘Family’ members in particular, a lack of a neutral position may also be due to their expert-by-experience position, as opposed to expert-by-objective status, such as ‘Information sources’, or professional status (i.e., ‘Health professionals’); a position well-discussed under Informational support.

An association between a neutral position and professional liability is also strengthened by the fact that ‘Information sources’ and ‘Gym & Exercise Professionals’, although not presenting highly in terms of frequency, were nevertheless cited as assuming more of a neutral position than other groups; both of which carry an expert status. However, ‘Gym & Exercise Professionals’ alongside arguably an expert/professional status group ‘work colleagues’ were coded as negatively impacting antenatal physical activity. Professional liability amongst some groups could translate to negative influence, where caution and liability over pregnant women exercising or being physically active may extend to professional settings as well as individuals, such in the gym and the workplace respectively. Indeed, ‘liability’ concerns amongst exercise professionals offering antenatal physical activity advice has been identified from pregnant women’s experiences elsewhere (Findley et al., 2020).

In relation to exercise professionals, multifaceted caution and liability issues concerning advising pregnant women’s physical activity has been identified elsewhere. In a cross-sectional survey-based study amongst 192 Pilates practitioners, 84% of whom conducted formal screening for safety in pregnant women prior to class enrolment, there was variation in practice and low adherence to clinical practice guidelines, including ‘mixed opinion’ regarding the suitability of positions (Mazzarino, Kerr, Morris, 2018). Quite concerningly, this suggests that even amongst antenatally trained/focused exercise professionals, caution and liability may influence physical activity instructions, which could translate to neutral and even negative stances towards physical activity in pregnancy. However, the extent to which perceived disinterest in or disengagement with antenatal physical activity negatively influences pregnant women’s attitudes or behaviour requires further investigation as an indirect influence. Furthermore, coding for negative influences amongst the groups of individuals may also be indicative of self-consciousness amongst pregnant women exercising in gyms, where they are

exposed to the observations and opinions of other exercisers. Indeed, this was captured in the data and relates to general feelings around social stigma coded amongst other groups, including 'Work colleagues', 'People', as well as 'Family' and 'Friends'.

In relation to caution and liability in the workplace environment amongst 'work colleagues', these findings underpin reservations about pregnant women assuming physically demanding tasks at work related to perceptions of physical risk to maternal wellbeing. Indeed, cautionary advice from 'work colleagues' on pregnant women's physical behaviour at work has been reported elsewhere, such as lifting heavy objects (Findley et al., 2020). A systematic review exploring factors affecting pregnant women in the workplace within Western and European countries, concluded that despite working conditions presenting 'little hazard to infant health…pregnancy could significantly impact a mother's psychosocial well-being in the workplace' (Salihu, Myers, August, 2012:87), recommending the need for 'organizational culture to support women in pregnancy'. Indeed, perceptions of risk amongst 'work colleagues' may perpetuate stigma towards pregnant employees, as a body of research highlights the activation of stigma and prejudice amongst employers considering pregnant women for employment (Cheung et al., 2022; Fox and Quinn, 2015). One experimental study in particular, highlights how working pregnant women may transgress traditional roles considered more appropriate for pregnant women. This was manifested through a more benevolent reception for pregnant-women customers as opposed to pregnant-women workers amongst other employees (Hebel et al., 2007). Such studies that identify stigma and prejudice towards physically active pregnant women, also extend to the current review concerning the finding that 'People' were cited as assuming more often a negative than neutral position on physical activity, which also suggests that a lack of proximity to the pregnant woman or stake in her pregnancy could precipitate a seemingly negative or indeed neutral position, including exercising political etiquette to avoid commentary on the exercising body. While a negative position may be indicative of disinterest in antenatal physical activity as well as explicit judgement about the exercising body. Indeed, research articulates some pregnant womens' experiences of encountering negative commentary from others (Wagnild and Pollard, 2020; Bennett, 2017); a finding also highlighted in the review, which could reflect a predominantly stigmatised view of antenatal physical activity from society generally.

Interestingly, 'Friends' and 'Pregnant women' represented contralateral positions, with 'Friends' being frequently coded as negative and the latter as positive towards physical activity, which suggests that same-situational context is a shared experience that may positively influence pregnant women's physical activity. Indeed, an observational study exploring barriers and enablers to physical activity amongst women with obesity in an Afro-Caribbean population, found that women engaged more often in physical activity with other female friends, than with partners and male peers (Alvarado, Murphy, Guell, 2015).

‘Dependents’ were most often cited as being a negative influence towards physical activity; however as much of the data related to pregnant women’s unborn foetus, this therefore translated to an implicit influence of ‘Dependents’ (i.e., ‘Dependents’ were not reported/recalled as consciously assuming a position on physical activity). This suggests that ‘Dependents’ are more often perceived to be assuming a positive or negative position on physical activity unintentionally, rendering them a unique influencer, as their position is defined by the pregnant woman in her role as carer for dependents. Despite this, ‘Dependents’ played an overwhelming role in influencing pregnant women as they were referenced to frequently within the context of how the needs of the ‘Dependents’ influence pregnant women’s decision and capacity to undertake physical activity. The influential role of ‘Dependents’ is further illuminated when considering the people whom pregnant women explicitly perceived to be ‘Necessary’ for their physical activity, which is illustrated in Table 4.1 in descending order. The data concerning the individuals/groups of individuals whom pregnant women perceive to be necessary is interesting because, despite the frequency by which ‘Dependents’ are cited as representing a source of positive or negative influence on their physical activity, they are barely identified as a necessity (n=2). Indeed, only two references to ‘Dependents’ identified as ‘Necessary’ were found, which only focused on ‘Children’:

> *‘“If you could bring like your child with you”’* (Marquez et al., (2009).
>
> *‘The women felt that the house-based exercises in guide 1 were realistic as their children could join in’* (Smith et al., 2012).

Considering that the ‘Baby/foetus’ was frequently positioned, indirectly, as a positive or negative influence on physical activity, pregnant women may overlook this form of influence. In particular, pregnant women may either be unaware of the influence of their dependents on their physical activity or that they perceive their dependents as without responsibility in this domain, without liability; with the pregnant woman, in her role as mother, assuming responsibility or (unconsciously) assigning responsibility to adults to influence her physical activity. The influential role of ‘Dependents’ on pregnant women’s physical activity therefore could be overlooked by pregnant women themselves.

Pregnant women however were clear that ‘Health Professionals’, ‘Information sources’, ‘Exercise companion’ and ‘Partner’ were necessary influencers for their physical activity, which also mirrors the ‘Positive’ data captured (*see Table 4.1*). The necessity for ‘Information sources’ and ‘Exercise companions’ suggests that pregnant women may demonstrate a degree of agency, as both these social influences have high practical/tangible utility for engaging in physical activity. Positioning individuals as necessary therefore, highlights pregnant women’s assumed utility of social influencers on their physical activity. Thus, in terms of the people whom pregnant women perceive to be influential, a balance appears to be struck between the influence of professional or objective

information (‘Health Professionals’ and ‘Information sources’) and the individuals who can enable physical activity, both directly (‘Exercise Companion’, ‘Gym & Exercise Professionals’) and indirectly (‘Partner’, ‘Family’). In contrast, ‘Friends’ and ‘Pregnant women’ who are not characterised by possessing proximity or investment/active involvement in the pregnancy (such as ‘Family’ and ‘Partner’) are by comparison perceived as less of a necessity. Despite the necessity for proximity however, ‘People’ again appear to be just as important alongside ‘Family’, which could suggest that social expectations are perceived to be influential irrespective of whether they derive from ambivalent onlookers (‘People’) or proximal supporters (‘Family’).

## Chapter 5: Study One Systematic Review and Meta-Synthesis Results and Discussion: Social Support

### 5.1 Introduction

Amongst the qualitative data containing anecdotal discussions and references pregnant women made to individuals concerning their physical activity, the review explored the social support type these individuals appeared to provide or make available to pregnant women. These social support types were coded relative to four categories of influence (positive, negative, necessary, insufficient/lacking). This included coding the social support type relative to its perceived positive or negative influence on pregnant women's physical activity (question two). The review also coded the social support types that pregnant women described individuals could/should provide or make available, as necessary or insufficient/lacking social support types concerning their physical activity (question three). In the interest of brevity in the presentation of these complex and nuanced results, thematic data relating to the categories of 'necessary' and 'lacking/insufficient' have been 'appendicised' (Appendix D).

Using a 'best-fit' framework synthesis, six social support types were coded altogether. Informational, belonging, emotional and instrumental/tangible support (coded deductively). Role support and monitor/overseer support (coded inductively). Social support types were coded amongst the described social interactions in the qualitative data, articulating the type of social support transaction occurring between pregnant women and other individuals. By frequency, the following social support types were coded most often:

***Table 5.1: Social support types ordered by most-least frequently coded***

| **Social support type by most frequently coded** |
|---|
| Informational support |
| Belonging support |
| Emotional support |
| Role support |
| Tangible/instrumental support |
| Monitor/overseer support |

### 5.1.a Positive and Negative Categories

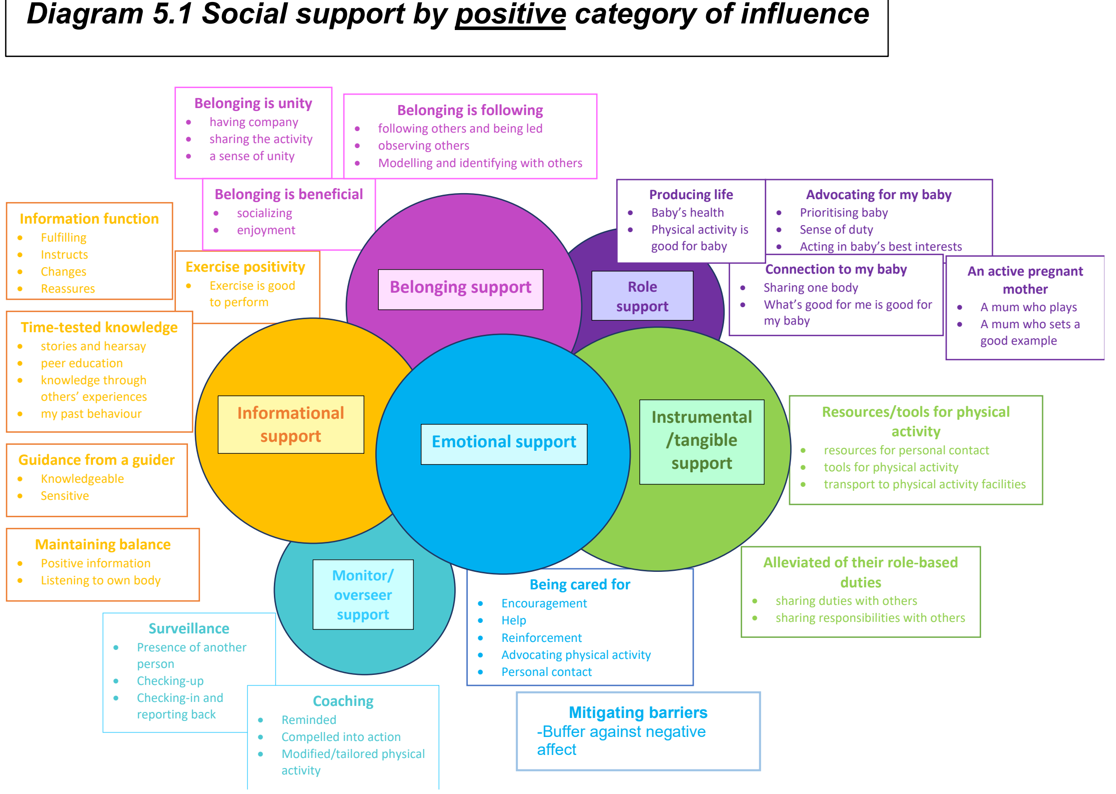
All social support types were coded as having the potential to operate as positive or negative influences towards antenatal physical activity. However, emotional support seemed to be the centralised social support type underpinning all other social support types in positively influencing physical activity, whereas Role support seemed to be the central social support type influencing negatively towards physical activity (*Diagrams 5.1 & 5.2*). These inferences were made based on the observation that emotional support and role support pervaded the other social support types on a

thematic level. For example, emotional support thematically underpinned the motivation for provisions of other social support types in favour of physical activity, as each social support type, when coded in favour of physical activity, traversed the key thematic constituent of emotional support: to provide encouragement through comfort and care. Similarly, role support featured as the predominant social support type carrying a negative influence, because each of the other social support types centred on notions of supporting the transition to a caregiver/motherhood role, which seemingly conflicted with antenatal physical activity.

**5.1.b Necessary and Lacking/Insufficient/ Categories**

Amongst social support types coded as lacking or necessary for antenatal physical activity, Informational support was the central support type for the 'necessary' category of influence, underpinning other support types; whereas emotional support was the key support type for 'lacking/insufficient', with a complete absence of Role support being coded within this category of influence (*Diagrams 5.3 & 5.4*). This suggests that informational support is perceived or perhaps considered to be a key area that equips pregnant women with the ability to engage in physical activity. Equally, while it makes sense that a pervasive thematic link between social support types, when considering insufficiency/lacking support, would intersect with comfort and care for physical activity (emotional support); the absence of role support suggests pregnant women may not perceive their baby and/or dependents as having an influence on uniting motherhood and caregiving roles through physical activity.

***Diagram 5.1 Social support by positive category of influence***



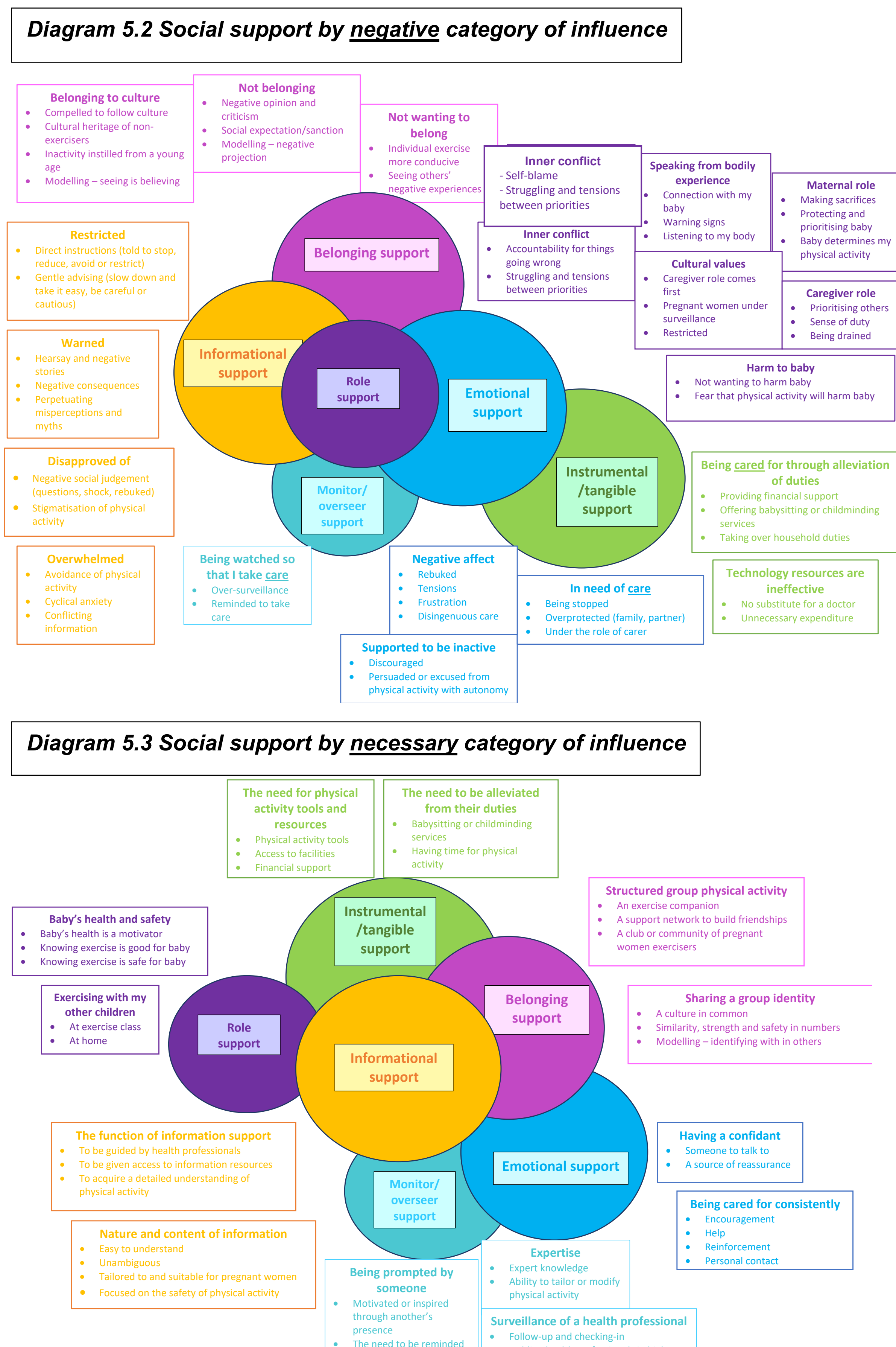
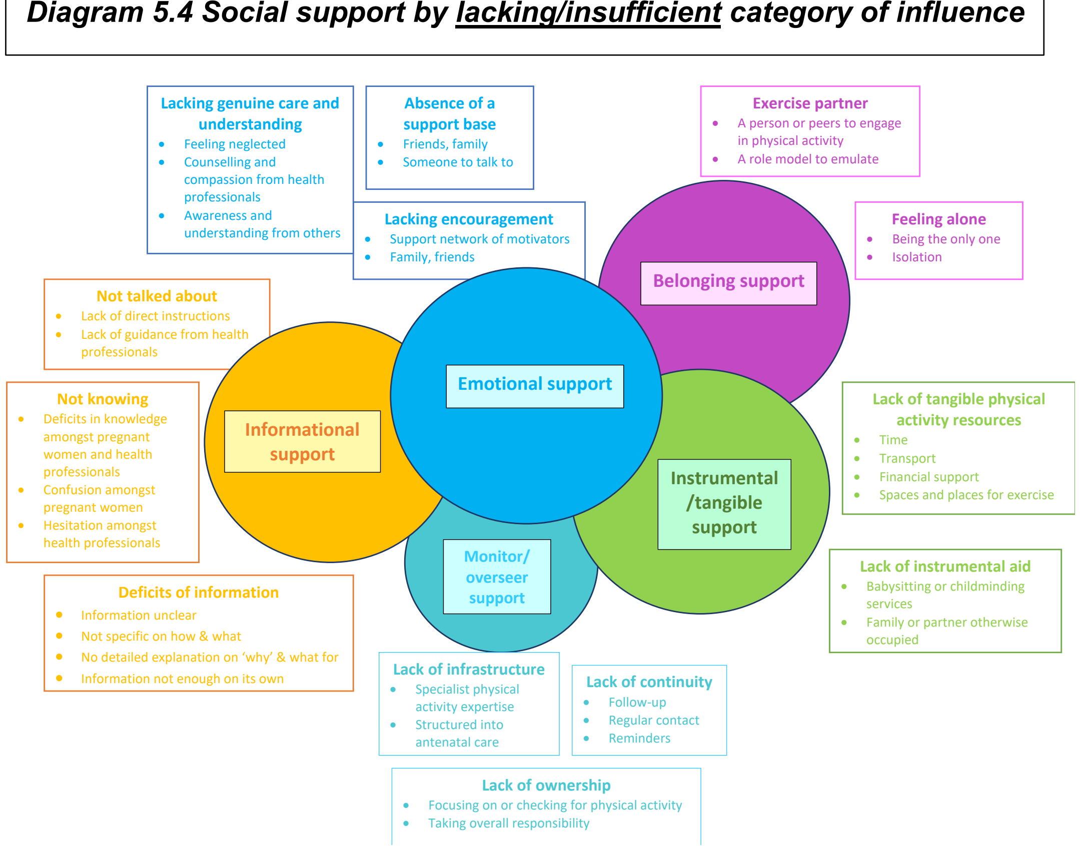


Diagram 5.2 Social support by negative category of influence
Belonging to culture
Compelled to follow culture
Cultural heritage of non-exercisers
Inactivity instilled from a young age
Modelling – seeing is believing
Not belonging
Negative opinion and criticism
Social expectation/sanction
Modelling – negative projection
Not wanting to belong
Individual exercise more conducive
Seeing others' negative experiences
Inner conflict
- Self-blame
- Struggling and tensions between priorities
Speaking from bodily experience
Connection with my baby
Warning signs
Listening to my body
Maternal role
Making sacrifices
Protecting and prioritising baby
Baby determines my physical activity
Restricted
Direct instructions (told to stop, reduce, avoid or restrict)
Gentle advising (slow down and take it easy, be careful or cautious)
Belonging support
Inner conflict
Accountability for things going wrong
Struggling and tensions between priorities
Cultural values
Caregiver role comes first
Pregnant women under surveillance
Restricted
Caregiver role
Prioritising others
Sense of duty
Being drained
Warned
Hearsay and negative stories
Negative consequences
Perpetuating misperceptions and myths
Informational support
Role support
Emotional support
Harm to baby
Not wanting to harm baby
Fear that physical activity will harm baby
Disapproved of
Negative social judgement (questions, shock, rebuked)
Stigmatisation of physical activity
Monitor/ overseer support
Instrumental /tangible support
Being cared for through alleviation of duties
Providing financial support
Offering babysitting or childminding services
Taking over household duties
Overwhelmed
Avoidance of physical activity
Cyclical anxiety
Conflicting information
Being watched so that I take care
Over-surveillance
Reminded to take care
Negative affect
Rebuked
Tensions
Frustration
Disingenuous care
In need of care
Being stopped
Overprotected (family, partner)
Under the role of carer
Technology resources are ineffective
No substitute for a doctor
Unnecessary expenditure
Supported to be inactive
Discouraged
Persuaded or excused from physical activity with autonomy
Diagram 5.3 Social support by necessary category of influence
The need for physical activity tools and resources
Physical activity tools
Access to facilities
Financial support
The need to be alleviated from their duties
Babysitting or childminding services
Having time for physical activity
Structured group physical activity
An exercise companion
A support network to build friendships
A club or community of pregnant women exercisers
Baby's health and safety
Baby's health is a motivator
Knowing exercise is good for baby
Knowing exercise is safe for baby
Instrumental /tangible support
Exercising with my other children
At exercise class
At home
Role support
Belonging support
Sharing a group identity
A culture in common
Similarity, strength and safety in numbers
Modelling – identifying with in others
Informational support
The function of information support
To be guided by health professionals
To be given access to information resources
To acquire a detailed understanding of physical activity
Emotional support
Having a confidant
Someone to talk to
A source of reassurance
Monitor/ overseer support
Being cared for consistently
Encouragement
Help
Reinforcement
Personal contact
Nature and content of information
Easy to understand
Unambiguous
Tailored to and suitable for pregnant women
Focused on the safety of physical activity
Expertise
Expert knowledge
Ability to tailor or modify physical activity
Being prompted by someone
Motivated or inspired through another's presence
The need to be reminded and updated honestly
Surveillance of a health professional
Follow-up and checking-in
Holding health professionals in high esteem
Make physical activity mandatory

***Diagram 5.4 Social support by lacking/insufficient category of influence***




### 5.1.c Navigating the social support results and discussion

The social support types presented below comprise numerous dimensions, intricately underpinned by nuanced themes, which altogether articulate the bespoke ways social support may serve as an influencing factor on pregnant women's physical activity. Identifying the dimensions of social support types relative to a specific research area has been highlighted as a deficiency in social support-related research generally (Wang et al., (2017). Doing so, adds contextual meaning, offering translatability of social support types relative to specific research areas. For example, in a study examining the effects of online-sourced emotional and informational social support on self-care behaviour, Wang et al., (2017:02) highlighted, that social support definitions are commonly broad, therefore exploring dimensions within social support aids translatability for self-care behaviour relative to online social support sources:

*'We argue that informational and emotional support could have important dimensions…the literature is yet to disaggregate informational and emotional support into nuanced dimensions. The qualitatively different dimensions, taken separately and simultaneously (i.e., the interaction with one another) could have differential impacts on a support seeker's self-care behaviour. Thus, it's important to conceptualise the fine-grained types of informational and emotional support'*.

The current review indeed offers *'fine-grained'* detail through a host of *'dimensions'* within social support types relative to categories of influence on antenatal physical activity.[15] To aid the conceptualisation of the nuanced, context- and population-specific results, the content of these social support types is described below alongside a discussion section for each social support type. These descriptions detail not only 'what' this social support entails, but also 'how' this social support type operates relative to each positive and negative category of influence to both illuminate and articulate social influence in its complexities specific to antenatal physical activity.

**5.2 Social Support Results and Discussion**

## 5.2.a Informational support

### 5.2.a(i) Results

According to Cohen and Wills (1985:313) *'Informational support is help in defining, understanding and coping with problematic events. It has also been called advice, appraisal support and cognitive guidance.'* Informational support was the most frequently coded social support type, identified in 46 studies. Informational support was predominantly coded in relation to health professionals, as pregnant women seemed to verbalise a general expectation, that health professionals are both required and best positioned to provide informational support.

**5.2.a(i)a Positive**

Informational support that was positive towards physical activity was themed into five dimensions.

***Table 5.2: Positive Informational support dimensions and themes***

| Dimension | Theme |
|---|---|
| (1) Exercise positivity | [i] Exercise is good to perform |
| (2) Guidance from a guide | [i] Knowledgeable, [ii] Sensitive |
| (3) Time-tested knowledge | [ii] Stories and hearsay, [ii] Peer education, [iii] Knowledge from others' experiences, [iv] Past behaviour |
| (4) Information function | [i] Fulfilling information, [ii] Instructs, [iii] Changes and [iv] Reassures you |
| (5) The need to maintain balance | [i] Positive information, [ii] Listening to own body |

**(1) Exercise positivity** comprised the single theme [i] *exercise is good to perform* for overall health and wellbeing. **(2) Guidance from a guide** dimension described *'advice'* being *'trusted',* when

[15] Please note, some of the discussion below may relate to dimensions and themes of social support types coded under categories of influence 'necessary' and 'insufficient/lacking'. Please refer to Diagrams 5.3 and 5.4 and Appendix D for clarification of dimensions and themes.

provided by a *guide*, usually health professional*,* with the interpersonal qualities of being [i] *knowledgeable* and [ii] *sensitive*, such as imparting *'detailed'* knowledge *'step by step'* in a *'sensitive-way'*.

**(3) Time-tested knowledge** was perceived as reliable, which took various forms. [i] Time-tested knowledge was commonly borne out of *stories* from family and friends: *'stories…[of]…other obese pregnant women…having similar experiences…[had] a positive impact on women's beliefs of what they could achieve'*. **Time-tested knowledge** was also generated through *hearsay*: *"they say if you're not active during pregnancy…you're going to have a hard labour"* and *"I heard that it is good for delivery. If you exercise it is easier for you"*. Some of this hearsay also included myths that were encouraging of physical activity: *"There's this myth that if you sleep a lot during the day the baby gets lazy"*. [iii] *Knowledge through others experience* included directives from pregnant women/mothers: *'Friends who have had babies say that it is good to exercise'*, which suggests the influence of [ii] *peer education*: *"One of my friends had a baby…she says I need to walk",* particularly in group physical activity settings: *'yoga class would be a good opportunity for discovering what to expect'*. **Time-tested knowledge** also included information concerning [iv] *past behaviour* (i.e., pregnant women's *habitual or past exercising behaviour* acting as a baseline measure for appropriate physical activity in pregnancy). Pregnant women received **time-tested knowledge** relating to *past behaviour* from other pregnant women referring to their own behaviour and from Health professionals, who commonly advised: *"if you did it before you could do it now".*

**(4) Information function** outlined how positive informational support ought to be [i] *fulfilling*, it [ii] *instructs* pregnant women, [iii] *changes* and [iv] *reassures you*. Meeting such **information function** provided *reassurance* that physical activity was safe and *"confirmation that everything is all right"*. As common providers of **information function** Health professionals were requested to offer a *fulfilling* factual check of information pregnant women had obtained independently: *'Participants could double-check information retrieved from websites by asking their midwives to confirm or reject the new information…some participants were satisfied with a simple confirmation from their midwife that they could trust their own perception'*.

**(5) The need to maintain balance** concerned the influence of [i] *positive information* whilst simultaneously [ii] *listening to own body*. This instruction was provided by Health professionals who advised pregnant women to *balance information that was positive towards engaging in physical activity* by remembering to *"listen to their body"*; thereby using their *"body [as] the thermometer"* to discern whether physical activity was suitable for them.

#### 5.2.a(i)b Negative

Informational support that was coded negatively towards physical activity was themed into four dimensions, which predominantly included anecdotal information from family and friends.

***Table 5.3: Negative informational support dimensions and themes***

| Dimension | Theme |
|---|---|
| (1) Information that restricted physical activity | [i] Direct instructions or [ii] Gentle advising against physical activity |
| (2) Warned | [i] Stories and hearsay, [ii] Negative consequences, [ii] Perpetuating misconceptions and myths |
| (3) Disapproved of | [i] Negative social judgement, [ii] Stigmatisation |
| (4) Overwhelmed | [i] Avoidance of physical activity, [ii] Cyclical anxiety, [iii] Conflicting information |

**(1) Information that restricted** physical activity comprised [i] *direct instructions* prohibiting physical activity, with pregnant women being *"told"* to stop, *'reduce'* or *"avoid"* conducting physical activity, alongside perceptions that they *"can't"* or are not *"allowed"* to: *'they had been advised by doctors to restrict physical activity'*. [i] G*entle advising* against physical activity included suggestions to *"slow down"*, *"take it easy"*, *"be careful"* and *"cautious"*. If pregnant women were to engage in physical activity, then they were advised to do so *"not too strenuously"* or *"fast"* and to *"avoid over exertion"*.

**(2) Warned** against physical activity by friends, family and some Health professionals, through [i] *stories and hearsay,* included information focused on [ii] *negative consequences.* Indeed, pregnant women were *warned* about or against physical activity through *'negative stories'* or *consequences*, such as having *"heard that exercise could cause miscarriages"*, difficulty giving birth or making it possible that the *"foetus could easily fall out"*. These informational *'warnings'* were also active in [iii] *perpetuating 'misperceptions' and* '*myths*', which deterred women from engaging in physical activity: *"this story made it easier for Melanie to accept not being physically active".* Common stories included *"not staying in the water too long"* when swimming and the umbilical cord becoming tangled around the foetus' neck if a pregnant woman engaged in *'lifting'* or *'stretching your arms'*.

**(3) Disapproved of** dimension was underpinned by [i] *negative social judgement*, manifested through *'uninvited comments and advice'* as well as questions, which indicated a [ii] *stigmatisation of physical activity* behaviour during pregnancy. Judgemental questions were posed by other pregnant women: *"Really, when you're pregnant?"*, exercisers and work colleagues: *"because my work is so physical, I had a lot of people comment on that: Should I still be at work? Should I still be doing what I'm doing?"* and (less frequently) by Health professionals: *'The guy who gave me my 12-week scan began the consultation by telling me off for riding a bicycle whilst pregnant"*.

**(4) Overwhelmed** dimension described pregnant women's response to and experience of receiving advice or informational support, which was linked to feeling too *'overwhelmed'* to engage in physical activity. This included: [i] an almost defiant *avoidance* of physical activity advice from health professionals and pregnant women: *'chose their own way, hearing advice but doing the opposite'*. [ii] Experiencing a *cyclical anxiety*, wherein pregnant women would double-check information concerning the risks of physical activity; such *'negative cycle of information seeking'* or *'extensive knowledge gathering'* resulted in pregnant women not exercising. [iii] Feeling too overwhelmed also included the *'challenge'* of navigating *conflicting information*, particularly when the *'advice provided by their close relatives was often opposite to advice provided by their midwives'.*

### 5.2.a(ii) Discussion

Overall, informational support findings articulated the way in which advice could be both a positive and negative influence on antenatal physical activity. Negative informational support was predominantly coded amongst family and friends, comprising directives, warnings and social judgement, some of which perpetuated stories and hearsay about adverse consequences to baby's wellbeing from engaging in physical activity (Krans and Chang, 2012). Negative informational support was also coded where pregnant women described navigating conflicting advice from information sources leading to feelings of uncertainty, which was thematically related to anxiety and cyclical information-seeking behaviour (Atkinson et al., 2016). Positive informational support predominantly derived from health professionals or those who could be a trusted or 'credible' source, offering guidance and clearly explaining the benefits and importance of antenatal physical activity; findings which have been highlighted in other research concerning health professionals (Evenson et al., 2009; Harrison et al., 2019; Thompson et al., 2017). Interestingly, although there was some overlap, the review highlighted that typically health professionals provided either positive or neutral informational support, with family and friends being predominantly positive or negative sources; a finding which compliments other research (Clarke & Gross, 2004).

Uniquely, the thematic dimensions identified in the review depict the influential features of informational support as somewhat dependent on the provider of advice. For example, 'health professionals' appear to be the key individuals whom pregnant women expressly wished to consult on their physical activity, as indeed health professionals have been identified as an important and influencing source of information amongst the literature (Cioffi et al., 2010; Harrison et al., 2019; Thornton et al., 2006; Whitaker et al., 2016. In the review, alongside a positive position, health professionals were also found to assume a 'neutral' position when advising pregnant women about physical activity. This neutrality thematically coincides with descriptions of conflicting advice, arising from 'unclear' information amongst some health professionals, which was identified as an indirect negative influence on pregnant women's physical activity in the review. Indeed, pregnant women's

experiences of insufficient, vague and conflicting information from health professionals is not an uncommon finding (Beckham et al., 2015; Ekelin et al., 2018; Evenson et al., 2009; Ferrari et al., 2013; Findley et al., 2020; Leiferman et al., 2011; Trevorrow, 2016; Watson et al., 2016). Interestingly, despite predominantly providing objective or factual-based informational support, taking either a positive or neutral position on antenatal physical activity, papers included in the review highlighted how health professionals could also be expressly negative by advising against antenatal physical activity (Connolly et al., 2015; Heslehurst et al., 2017) and or indirectly negative via proliferating myths (Cioffi et al., 2010); albeit less so than family and friends.

Equally, the review highlighted the influence of subjective or experiential information from pregnant women's partner, family and friends (O'Brien et al., 2017); with family seeing themselves as a source of advice for pregnant women (Greenhalgh et al., 2015) and therefore perhaps feeling compelled to offer experiential information. The data showed that the informational support provided by female family, friends and pregnant peers, frequently derived from anecdotes of experiential information, which was at times positive, but more often negative towards physical activity (see *Table 3.1*). In terms of influence, anecdotal and experiential information from persons of familiarity or experience of pregnancy may be a more palatable source of information for pregnant when evaluating their physical activity, as this transfer of information perhaps facilitates close bonds with a familiar source. Indeed, some research has shown how a sense of 'social connection' has been identified between patient participants sharing informational support about their experiences of health (Liu et al., 2022) and chronic pain (Forgeron et al., 2015), with appraisal and emotional support being linked to this transfer of information. Thus, if harnessed carefully, experiential advice may serve as a complimentary adjunct to the objective informational support expected from health professionals, particularly where emotional support naturally follows (i.e., family and friends providing positive experiential informational support). Indeed, this dual working of emotional and informational support is evident from this review, where pregnant women described wanting guidance from a trusted or 'credible' guide who also cares about their wellbeing.

A key contribution of study one findings attends to the diversity and variability in potential informational support forms and sources, by distinguishing objective from experiential support through thematic dimensions. Such compartmentalisation has been applied elsewhere, with a distinction between *'dimensions'* of (online-sourced) objective *'informational support based on facts',* and experiential informational support *'based on personal experiences',* having been identified as positively associated with self-care behaviour (Wang et al., 2017:02). The current review illuminates and articulates how the diversity in informational sources, such as experiential informational sources of stories/anecdotes, myths and hearsay carry strong influence, which can dissuade pregnant women from being active. For example, some stories or hearsay identified in the review drew a subjective link

between physical activity and premature delivery, as well as improved delivery through physical fitness. Although objective and impartial information provided by experts was expressly influential (albeit, if it was sufficiently detailed and covered the ‘what, how and why’ of antenatal physical activity), subjective or anecdotal information also seemed to be important. As mentioned earlier, the influence of this latter information form may also be compounded by the fact that it is provided by a particular source, including others who are either emotionally close to pregnant women or who are sharing their pregnancy experience; thereby engaging a degree of relatedness through a subjective form of informational support. In a paper aiming to *‘resolve mixed findings about which type of evidence is more persuasive – statistical or anecdotal information’* (Freling et al., 2020:51), emotionally-charged situations rendered anecdotal information more influential than objective or ‘statistical evidence’; a finding that translates well to pregnancy, being an embodied experience of change and transition, where emotions may naturally fluctuate (Warren and Brewis, 2004). Thus, influential informational support concerning antenatal physical activity may warrant a diverse array of informational sources and forms to influence attitudes and behaviour outside of objective information; particularly, experiential or anecdotal informational support capturing subjective experiences, as anecdotal informational support could be used as a positive and negative influence on antenatal physical activity. Indeed, research highlights the lure of anecdotal or experiential information types on appropriate behaviour in pregnancy. For example, subjective information encouraging antenatal physical activity has relayed other women’s experiences of remaining physically fit through exercise facilitating labour/delivery (Leiferman et al., 2011). Equally, as well as ‘time tested’ myths that are antithetical to and indeed warn against physical activity in pregnancy (i.e., “eating for two”, May et al., (2014) and pregnancy being a time for resting and relaxing (Clarke and Gross 2004; Okafor and Goon 2021) may also be influential. Unlike other social support types, it seems that the position or credibility of the individual providing informational support may determine the impact of this advice, with experts limited to objective information and female family, friends and peers able to provide anecdotal and experiential information, a unification of these information sources may be most impactful, especially if it is timed to changes in informational support needs throughout pregnancy (Clarke and Gross, 2004).

### 5.2.b Belonging support

#### 5.2.b(i) Results

Cohen and Wills (1985:313) define belonging support as *‘Social companionship [which] is spending time with others in leisure and recreational activities. This may reduce stress by fulfilling a need for affiliation and contact with others, by helping to distract persons from worrying about problems, or by facilitating positive affective moods. This dimension has also been referred to as diffuse support and belongingness.’* Belonging support was the second most coded form of social support, identified in 38 studies. Overall, belonging support was coded as a positive interpersonal factor for antenatal physical

activity, as pregnant women seemed to perceive both exercising with or having a potential exercise companion (such as partner, family, friends and particularly pregnant peers) as a key enabler.

**5.2.b(i)a Positive**

Belonging support that was positive towards antenatal physical activity was themed into three dimensions, defining the collective benefits and properties of belonging to a group that advocated antenatal physical activity.

***Table 5.4: Positive belonging support dimensions and themes***

| **Dimensions** | **Themes** |
|---|---|
| (1) Belonging means unity | [1] Having company, [ii] Sharing the activity, [iii] A sense of unity |
| (2) Belonging is beneficial | [i] Socialising, [ii] Enjoyment whilst engaging in physical activity |
| (3) Belonging is following | [i] Following others and being led, [ii] Observing others and modelling, [iii] Identifying with others |

**(1) Belonging means unity** included [i] *having company* to engage in physical activity from pregnant women's partners, family, friends and pregnant women who were often described as an exercising *'driving force'* or *'motivator'*. Having company also meant [ii] *sharing the activity* with others as a belonging support benefit. Indeed, belonging support that was positive towards physical activity enabled pregnant women *to share the experience* of exercising with someone in a "joint journey", such as *'sharing it with her husband'*, *'sharing physical activities when playing together'* with their children, and particularly, *"sharing the experiences of pregnancy"* with *"fellow pregnant women"* in group classes. Engaging in physical activity *'together'* with others meant that pregnant women felt they were *"not alone"*, thus generating [iii] *a sense of unity*, particularly with pregnant women: *"we're all in this together"*. Pregnant women physical activity groups were described most often as generating a *'sense of affinity'* or a *'sense of community*'. A visceral *sense of unity* amongst pregnant women exercisers was communicated, through physical activity providing a means of harnessing *'strength'* in numbers and establishing a group identity: *"you also had the strength of all the other women around you at the same time"*. Indeed, a *sense of unity* was unique to pregnant women exercisers, who could identify in one another as *"all in the same situation"*: *"I could recognise myself in the other women's stories…you realise that it isn't just you, you're not the only one"*. Interestingly, *a sense of unity* was also generated by family in instances where a physical activity culture was nurtured: *'my husband and both my brothers, they all work out together, and me and my cousin work out, so everybody around me works out, so that kind of helped me"*.

**(2) Belonging is beneficial** was coded where pregnant women experienced [i] *socializing* and found [ii] *enjoyment* while engaging in physical activity. *Socializing* was described as a *'social benefit'* mainly

obtained from *'exercising together with other pregnant women'*; as group exercise classes provided an opportunity for pregnant women to *'socialise and engage'*. In this way, group exercise was described as a setting for *'developing friendships with other women'*. Enhanced socialising was also experienced when exercising with family, friends and partner, with some women finding *'deeper connections with her partner'* during yoga at home.

**(3) Belonging by following** described pregnant women [i] *following others or being led* by a motivational person, such as an exercise companion: *"I've got this aunt that loves to walk and she's like a power walker…When she comes, she'll make me walk with her"*. Exercising with a person who motivated them to exercise included exercise instructors and pregnant women's children and partner: "He likes running, so he'll ask me to go with him and I'll go". A sense of belonging support also derived from [ii] *observing others and modelling*, particularly within a group setting. Pregnant women who *observed* other pregnant women exercising, such as those *"who practice Pilates and others that swim"* could perceive physical activity as a safe practice with *'benefits …during pregnancy'*. This in turn could also influence pregnant women to model the physical activity behaviour they saw other pregnant women conduct: *"this one woman was doing a yoga class and one of the instructions was where they put their arms over their head and bring their arms – I mean I guess it would be okay…if you seen them doing it"*. Indeed, various references were made to individuals who were perceived to be potential *modellers* for pregnant women's own physical activity behaviour, such as midwife and parents. However other pregnant women were more lucidly described as sources of modelling for emulating physical activity, both in group activity or in written material (i.e., leaflet/manual), which suggests that [iii] *identifying with others* in the *'same'* or *'similar'* situation establishes a sense of belonging support: *"seeing the pictures there is a woman and she's quite big and she's quite happy doing exercise and you feel if she can do it then anyone can"*.

**5.2.b(i)b Negative**

Belonging support that was coded as negative towards physical activity was themed into three dimensions.

***Table 5.5: Negative belonging support dimensions and themes***

| Dimensions | Themes |
|---|---|
| (1) Belonging to culture | [i] Compelled to follow others, [ii] Cultural heritage of non-exercisers, [iii] Inactivity instilled from a young age and modelling – seeing is believing |
| (2) Not belonging | [i] Negative opinion and criticism, [ii] Social expectation/sanction and modelling – negative projection |
| (3) Not wanting to belong | [i] Individual exercise more conducive, [ii] Seeing other's negative |

**(1) Belonging to culture** that opposed antenatal physical activity. Pregnant women felt [i] *compelled to follow* cultural beliefs which opposed the active pregnancy: *"We just have to be careful and follow our customs…You just have to follow your family"*. These cultural beliefs or values, which often positioned pregnancy as an *"excuse"* to be *"spoiled"* by family and *"not to"* exercise, were described as *'perpetuated by family members*, as well as from their partner (*"I like to go to the gym, but my husband is not happy with that. He says he doesn't like it"*), and even friends (*'my friends are not physically active. If I even mention walking, they're like, "Why would you?"'*). Some pregnant women expressly ascribed negative beliefs towards physical activity to culture: *"I don't know if it's a South African thing, but most people just want to get in the car"*, and *"It's not promoted enough in…African Americans"*. Despite some pregnant women's *'need'* for physical activity or even their disbelief in the traditions themselves, they would follow such customs regardless, highlighting the influence of cultural values: "*they have their own reasons…my mom used to tell me not to do this, from like a long time ago, but she never told me way. But I do it, every time"*. Following cultural beliefs of partner, family and friends related to preserving [ii] *cultural heritage* during pregnancy through modelling familial others. Indeed, antenatal physical activity seemed less likely *"If you didn't come from a family that exercised"* (e.g., *"I haven't seen pregnant women do anything at all but just be at home and eat so I never really thought about it"*). This is perhaps due to the deep-rooted nature of cultural beliefs that are reportedly [iii] *"instilled"* from a young age, rendering it difficult introduce physical activity into pregnancy: *"we have a lot of indigenous knowledge on pregnancy…as African people, you're taught that at a very young age"*.

**(2) Not belonging** to a group that advocated antenatal physical activity meant pregnant women were receptive to [i] *negative opinion and criticism*, as well as [ii] *social expectation/sanction and modelling* – [which was linked to] *negative projection*. [i] *Negative opinion* was often perpetuated by *'other people'* and included receiving *criticism* for continuing to work in a *'physical'* role whilst pregnant and conducting leisurely exercise in public spaces: *'One woman had received criticism when she had been out running'*. The need to conform to *'social expectation to reduce physical activity'* was attributed to the existence of *"community or social conditioning"* or *'social sanction'* concerning antenatal physical activity. [ii] *Negative social responses or expectations* were also linked to pregnant women's inactivity, where they felt unable to *'fit in'* or belong to an exercising group or identity: *'there was absolutely no question of going to the training centre: Just going to the gym where people are relatively well trained and dressed in neat clothes…makes you feel that, no, I don't fit in there*'. Indeed, the negative social stigma of antenatal physical activity appeared to be entrenched in some pregnant women's cognition: *"If I would see pregnant women jogging…I would think oh my gosh what is she doing!" It's a bit of community or social conditioning. It's like when you see a pregnant woman smoking, you think my god, what she's doing is wrong"*. Such *social expectation/sanction* was linked with *modelling* and *negative projection*. In one study, a pregnant woman desisted from playing a Wii

Fit exercise programme game because the virtual character that depicted her was classed as overweight instead of pregnant. This made the pregnant women feel *"too fat"* to continue playing and exercising. This suggests that *modelling* is an important feature of negative belonging support, in that if a pregnant woman visualises a *negative projection* of herself then she is unable to model or emulate physical activity: *"the Wii Fit made me sad every time I went on it; it was soul-destroying as it told me I was overweight"*.

**(3) Not wanting to belong** to a group that advocated antenatal physical activity was also coded, including experiencing [i] *individual exercise* [as] *more conducive* than engaging in physical activity with others: *"I push myself harder if I exercise alone, so I have chosen to exercise mostly on my own"*; and [ii] *seeing other's negative experiences* of physical activity during pregnancy (e.g., over-exertion):*"I saw a couple of people…just pushing too hard too late in pregnancy and they started getting contractions way too early and…it had that effect so I'm sure that has led me to not want to push myself"*.

### 5.2.b(ii) Discussion

Belonging support, in all categories, was coded relative to three important points, which derived from engaging in physical activity either with an exercise partner or a group of exercisers. These points included (1) obtaining strength, unity and enjoyment from engaging in physical activity with others, which served to (2) abate barriers to physical activity, such as the feeling of loneliness and/or awkwardness that may arise from exercising alone. Belonging support was also contingent on (3) the motivation to either emulate or to be emulated by others for their physical activity behaviour.

(1) The strength and unity obtained from group membership is a key feature of belonging support, which has been intimated elsewhere within the context of belonging. In a longitudinal study conducted by Young et al., (2004) investigating 9445 women's sense of belonging to a neighbourhood, they outlined a range of behaviours that characterised this sense of belonging. This included: neighbourhood cohesion, collective efficacy through group membership, a psychological sense of community derived from a feeling of significance to one another, and community competence, which stemmed from the group's ability to problem solve collectively. These factors are certainly captured in the current review, where pregnant women describe the positive influence and necessity for a group identity and strength in numbers that specifically relates to pregnant women exercisers. This sense of cohesion also ties into point (2), as deriving strength from numbers can naturally abate or remove negative feelings (Cohen and Wills, 1985); potentially those of loneliness and awkwardness associated with engaging in a behaviour alone. Indeed 'a sense of strength' and 'social inclusiveness' amongst pregnant women derived from engaging in group physical activity, was qualitatively identified in a Malmstrom, Lydell and Carlsson's (2022) study exploring the perspective of pregnant women,

midwives and cultural doulas taking part in a “dancing for birth” intervention. Thus, the social benefits of belonging support are important, as numerous studies, some of which are included in the review, highlight the importance of having the accompaniment of others in order for pregnant women to engage in physical activity (Whitaker et al., 2016). In particular, the prospect of socializing with other pregnant women exercisers has been identified as a key motivator (Cioffi et al., 2016; Currie et al., 2016; Flannery et al., 2018), as well as the need for pregnancy-specific exercise companionship (Thompson et al., 2017).

In relation to point (3) the role of modelling and emulation, although this is not exclusively assigned to belonging support, it is a natural feature of inducing collective cohesion in group behaviour. For example, belonging to a group of physical activity exercisers is contingent on the emulation of group behaviour, which is role-modelled by members of that group, including the group convener. In a systematic review conducted by Laird et al., (2016) concerning the social support variables associated with motivating physical activity amongst female adolescent teenagers. In this study, amongst other support types, modelling support was identified as a motivator for physical activity behaviour. Furthermore, research regarding interventions and barriers/enablers to women and girls considering careers in science, technology and engineering and mathematics (STEM), highlight the influence of role modelling as an enabling factor (Gonzalez-Perez, de Cabo, Sainz, 2020). Furthermore, having exposure to a role model who represents access to STEM careers is positively associated with a degree of belonging to such academic channels (Shin, Levy, London, 2016). Thus, emulating an accessible role model could promote and translate into a form of belonging support, by inspiring a need/impulse to belong to an emulated identity or behaviour. In another study exploring the impact of role models on undergraduate women, Rosenthal et al., (2013) found positive associations between exposure to female physician role models and a sense of belonging to a medical career, as well as increased perceived identity compatibility. Again, this supports a nexus between role modelling/emulation and establishing a sense of belonging.

Although it is clear from this review, that pregnant women exercisers and exercise professionals are key for perpetuating and convening a setting for belonging support within the context of physical activity. Group membership amongst individuals or groups that oppose antenatal activity is also important to consider in terms of competing influences. For example, culture and familial harmony being a key influence on belonging support. Indeed, the positive and negative influence of modelling and emulation as components of belonging support coded here, are particularly prevalent within the context of cultural influences. Indeed, the premise that belonging support can promote or support physical activity and other health behaviours amongst pregnant women has been identified elsewhere. For example, Wittels, Kay and Mansfield (2022:07) identified how *‘families with a culture of physical activity’* or having a *’family with a culture of exercise’* were identified as supporting factors

for the exercising behaviour of mothers with low socio-economic status. In terms of role modelling and emulation within the context of cultural influences, in the current review ethnicity and heritage were implicated in belonging support; a finding that has mixed support. Indeed, in a cross-sectional study examining the association between social support types and smoking behaviour during pregnancy, Mascho et al., (2014) found that belonging support was associated with smoking behaviour amongst Caucasian pregnant women, with family and friends having a strong influence. Interestingly, this finding was not identified amongst African American pregnant women, whose smoking behaviour was associated with tangible and appraisal support. This suggests that modelling and emulation as forms of influence may promote a group membership and identity, which culture and ethnicity having varying roles in terms of influence. It makes sense therefore, to capture cultural forms of influence within the domain of belonging support, which is based on the sense of cohesion and collectiveness one obtains from sharing views and activities with others.

### 5.2.c Emotional support

#### 5.2.c(i) Results

Emotional support is commonly described as the provision of comfort and care, which serves to support wellbeing and self-esteem (Uchino, 2004). In this way, emotional support is linked to esteem support, as Cohen and Wills (1985:313) described emotional support:

*'…information that a person is esteemed and accepted (e.g., Cobb, 1976; Wills, 1985). Self-esteem is enhanced by communicating to persons that they are valued for their own worth and experiences and are accepted despite any difficulties or personal faults. This type of support has also been referred to as emotional support, expressive support, self-esteem support, ventilation and close support.'*

Emotional support was the third most coded support type, identified in 37 studies. Emotional support was linked to partner, children, family and friends. However, it was also coded amongst health professionals. Pregnant women perceived that the provision of counselling and care from health professionals complimented or strengthened the impact of the informational support they provided. The predominant positive form of emotional support consisted of encouragement; with discouragement towards physical activity being the inverted negative form.

**5.2.c(i)a Positive**

Emotional support that was positive towards physical activity was themed into two dimensions.

| ***Table 5.6: Positive emotional support dimensions and themes*** | |
|---|---|
| **Dimensions** | **Themes** |
| (1) Being cared for | [i] Encouragement, [ii] Help, [iii] Reinforcement, [iv] Advocating physical activity |
| (2) Mitigating barriers | [i] Buffer against negative affect,<br>[ii] A sense of empowerment |

Emotional support places pregnant women in a position of **(1) Being cared for** to support their physical activity. This occurred through others providing [i] *encouragement*, [ii] *help*, [iii] *reinforcement*, and [iv] *advocating physical activity;* as well as providing [v] *personal contact*, which included empathy and stable relationships, particularly from health professionals.

[i] In terms of physical activity, positive emotional support was often described as *'psychological support'* or being linked to *'psychological benefit'*, *'emotional benefits'* and *'psychological health'*, which occurred when pregnant women were positioned as someone who is **Being cared for**. This was commonly demonstrated through the *encouragement* of pregnant women to engage in physical activity (*'many women increased their physical activity or their personal desire to be active because of others' encouragement'*). *Encouragement* was frequently cited and identified as a means of prompting pregnant women to engage in physical activity through the motivation of care, provided by pregnant women's partner, family, friends, and, to a lesser extent, children, group exercisers and health professionals. Varying techniques were used to encourage pregnant women to engage in physical activity via emotional support, such as direct questioning: *"Well my friends, my momma too, she'll call, 'You in that bed? You need to get up and outside and do some walking or something?"*, or through motivational phrases: *"You can do it!"*.

[ii] Pregnant women were further **Being cared for** through the offer of *'help'*. In some instances, data reflected pregnant women being approached by others who were perceived to be *'helpful'* or were intangibly *'helping'* them engage in physical activity through the provision of care and concern: *"And I wasn't embarrassed…I was actually quite glad that somebody was helping"*.

[iii] *Reinforcement* was provided when pregnant women were met with opposition for engaging in physical activity: *'her husband supported her behaviour in spite of opposition from other family members: "My parents-in-law said the water wasn't clean, but my husband said it was ok"'*.
Reinforcement was also coded when pregnant women described others simply showing *"understanding"* of their physical activity relationship: *"I average about nine miles a day walking, and I still do my kickboxing, and you know, the doctor has been very good about understanding, that you*

*know your body more than I do”*. Pregnant women’s partner, family and health professionals were commonly cited as providing *reinforcement*. Particularly partners and family who appeared to be proximally and therefore best positioned to *reinforce* their physical activity ‘*goals’: ‘the partners identified the goals were important for the women to achieve … [pregnant women] highly valued the support they had from their partners to achieve and maintain their goals’*.

Pregnant women were emotionally supported in physical activity when it was somewhat *[iv] advocated* by others, including friends, health professionals and *‘Family members [who] also believed that exercise was beneficial during pregnancy’*. Some studies remarked on how advocation by health professionals was received positively when delivered in an emotionally supportive manner, especially non-didactic: *‘women complained that in the past, they had been “preached” to by health professionals, whereas in the lifestyle programme, they did not feel the health professionals were treating them this way’*. Indeed, health professionals *‘positive attitude’* towards physical activity is more advocatory when it is provided with **care**: *‘the counselling session…enabled participants to change their perception of exercise from being received as a negative health behaviour during pregnancy to being a desirable behaviour’*.

[v] *Personal contact* was frequently mentioned as an *‘important’* form of emotional support: *‘the women who participated in the brush-up session felt that the personal contact was important’*. *Personal contact* with health professionals was highly valued, particularly midwives: *‘women were grateful for the time that the research midwife spent with them’*. This *personal contact* with a midwife was not only a source of reassurance and information, but it also satisfied their primary emotional need just to connect with someone who cares: *“It was a good feeling to be able to talk to someone in person rather than writing emails”*. Indeed, *personal contact* with a midwife helped pregnant women feel supported in their physical activity as they could reliably conceive that they were **Being cared for:** *“some days are good and some not so good, so speaking to someone then makes you think. Oh get back on it. Or come on start again tomorrow”*. Pregnant women esteemed *‘personality traits’* specifically of a midwife who is *“calming”*, *“friendly”*, *‘empathetic’*, *“really sensitive”* and *“inspires such confidence”*. *Personal contact* was also facilitated through an *‘informal style’ or an ‘individual approach’* and allowed for *‘sufficient time to really discuss the matter’* in a *‘non-judgemental collaborative environment’*.

Physical activity was emotionally supported through others **(2) Mitigating barriers** pregnant women encountered, barriers which had the potential to elicit an emotional response. Indeed, emotional support acted as a [i] *buffer against negative affect* and endowed pregnant women with [ii] *a sense of empowerment* to engage in physical activity. Emotional support acted as a [i] *buffer against negative affect*, which left pregnant women feeling *‘isolated’*, *‘uncomfortable’*, having *‘doubts’* and experiencing

*'anxiety'* around physical activity: *"If you had a stressful day, it is nice to say, come on let's go for a walk, and have a talk when you're out walking…physical activity makes you feel a lot happier and better about yourself"*. Some *negative affect* arose from *'stigma'* or social judgement: *'The feeling of being in the way [of other swimmers] was experienced as less significant if the training was done along with other participants'*. In terms of the *buffer* effect, receiving emotional support from health professionals in a manner that enabled women to counteract negative affect by reframing it: *'incorporating MI [motivational interviewing] assisted them to re-assess their eating and physical activity behaviour and several talked about this session making them think differently'.* Interestingly, the *buffer effect* was also assigned to pregnant women exercisers or exercise companions, which suggest that belonging support may act as a gateway for accessing and tapping into emotional support through shared experience and companionship: *'yoga provided a psychological benefit…through community building'*. Indeed, the group dynamic of some physical activity was suggested to enable pregnant women to attend to *negative affect* by reframing it: *'many of the women suggested these depressive or "blue" feelings stimulated their interest in seeking out group activities…where they could safely experience symptoms without feelings of stigma or isolation'*.

Emotional support also **mitigated barriers** by instilling [ii] *a sense of empowerment* amongst pregnant women to take ownership of their physical activity. For example, health professionals supporting pregnant women to have autonomy in their physical activity goals: *'During the goal setting participants were encouraged to be the decision-maker'* and '*to make individual informed choices'*. In this way providing pregnant women with emotional support enabled them to feel empowered enough to take on physical activities and implement them with autonomy: *'their sense of autonomy was supported…"[the goals] were what I wanted to do anyway. You didn't come in here and crack a whip! 'You've got to do this. You've got to do that'"*.

#### 5.2.c(i)b Negative

Emotional support that was negative towards physical activity was themed into three dimensions, all of which encouraged rest, relaxation and caution around physical activity.

***Table 5.7: Negative emotional support dimensions and themes***

| Dimensions | Themes |
|---|---|
| (1) Supported to be inactive | [i] Discouraged, [ii] Persuaded, [iii] Excused from physical activity |
| (2) In need of care | [i] Being stopped, [ii] Overprotective, [iii] Under the role of carer |
| (3) Negative affect | [i] Rebuked, [ii] Tensions, [iii] Frustrations, [iv] Disingenuous care |

**(1) Supported to be inactive** dimension included being [i] *discouraged* from engaging in physical activity in favour of rest and relaxation, by partners, friends, *'family members [who] encouraged them to be inactive or rest or to avoid heavy activity'* and *'they were even discouraged from physical activity by people at work, the gym…and acquaintances'*. Pregnant women were discouraged from physical activity through caring phrases such as *"take it easy"* or *"slow down"*, provided by partner, family and friends: *'girlfriends endorsed her decrease in physical activity'*.

Participants were [ii] *persuaded* against physical activity, such as being *'pressured…to quit sports'* or receiving *'prompting'* to reduce physical activity. Pregnant women were also gently *persuaded* by others who emotionally attended to pregnant women's sense of autonomy to decide for themselves, such as presenting this suggestion as an *"idea"* that pregnant women could take on as their own: *'Deborah's girlfriend suggested: "Wouldn't it be a good idea to slow down for a while and continue later"'*. [iii] A sense of autonomy was also supported by others defining pregnancy as time where pregnant women could '*excuse*' themselves from physical activity, particularly through the social norm of pregnancy being a time for rest and relaxation: *'for themselves and people around them, the pregnancy itself provided an easy excuse for not exercising: "After all I'm pregnant"'*.

Emotional support that discouraged physical activity also positioned pregnant women as inherently vulnerable and therefore being **(2) In need of care**. This was demonstrated through three interconnected themes of [i] *being stopped* from engaging in physical activity, often by those who were [ii] *overprotective* or operating [ii] *under the role of carer*.

[i] Pregnant women described *'being stopped'* from exercising by their partners: *"I'm not allowed to do things…My partner stops me so I try to rest more"'*; this was achieved by pregnant women assuming a subordinate position wherein their partner's *'opinion was decisive'*: *'Melanie did not like continuing to exercise without her boyfriend's support, so his opinion was decisive for her'*. This subordinate position was at times strengthened by [ii] *'overly protective family members'*, who expressed negative emotions towards physical activity, such as being *'worried'* and *'sceptical'*: *'Melanie's mother worried…When Melanie expressed a wish to participate in a 5 kilometres run with her colleagues in early pregnancy, her mother was very sceptical. She said: "You're not going to run are you?"'*. Husbands also assumed this *overprotective* stance by increasing surveillance over their pregnant partners who were keen to undertake physical activity: *'[Husbands] became more careful with, supportive of and watchful over their wives'*.

*Overprotective* individuals often operated [iii] *under the role of carer*, as pregnant women perceived directives from others to reduce/stop their physical activity as demonstrations of care: *'Women often regarded other people's concerns as merely signs of caring'*. This *role of carer* was assumed by

partners, family, family-in law and even other exercisers: *"Those people who cared so much about me included my husband, my parents-in-law and other swimmers. They were just afraid that I might slip on the floor"*, who naturally positioned pregnant women as **in need of care**, prompting a reduction/cessation of physical activity: *"When I went swimming, people around me kept reminding me to be careful, I became very careful but also very nervous, so I decided not to go swimming any more"*.

In some cases, the inverted provision of positive emotional support (encouragement) through its negative form (discouragement) precipitated **(3) Negative affect.** This occurred where pregnant women felt [i] *rebuked* for engaging in physical activity, experienced [ii] *tensions*, and [iii] *frustration,* as well as perceiving health professionals as delivering [iv] *disingenuous care* (i.e., no empathy and genuine interest).

[i] In efforts to provide emotional support, which sought to discourage pregnant women from engaging in physical activity, some pregnant women were rebuked by others, such as receiving a *"telling…off for riding a bicycle went pregnant"* by a health professional, as well as *'social reproach'* and *"astonished looks"*: *"There have been many astonished looks…my midwife thought that I exercised a bit too much for a while, especially when I did resistance training, which she considered a great strain on the body"*. Pregnant women were also rebuked by friends expressly through comments: *"nuts to continue [exercising]"*, as well as passively through social withdrawal: *"My friends don't think I should be going out, so they don't bother phoning me"*.

Pregnant women described [i] *tensions* concerning their physical activity in the form of *'barriers'*, *'problems'* and *'negative influences',* including *'disapproval'* from *'the community'*, their partners and family. Negative emotional support caused some pregnant women to experience [ii] *frustration* when prevented from exercising by others (e.g., their partner): *"I get very frustrated. I know when to stop by the won't believe me. It's so boring just sitting"*. Indeed, emotional support discouraging physical activity through care and comfort caused *frustration*: *'Although women often regarded other people's concerns as merely signs of caring, some women expressed frustration against any admonition in relation to physical activity and the resulting special treatment. A typical statement was "I'm not an invalid. I'm just pregnant"'*. *Frustration* also compounded further **negative affect:** *'restrictions that others had placed upon them had caused feelings of boredom and social isolation'*.

[iv] Conversely, some pregnant women actively rejected positive emotional support towards physical, when they regarded it as *disingenuous care*. Indeed, *'disingenuous'* care or concern was attributed to health professionals, who were *"just talking, talking"* without engaging or listening to pregnant women, causing them to *'experience counselling as restrained, untrustworthy and unsupportive'*. Where

pregnant women described feeling *'invisible'* to seemingly disinterested health professionals, this nullified any positive emotional support: *'participants could also perceive a patronising attitude from their midwife. Such experiences could turn into unresponsiveness and lack of motivation to change targeted lifestyle habits'*

### 5.2.c(ii) Discussion

Numerous studies, some of which are included in the review, highlight how pregnant women's physical activity can be influenced by the encouragement of partners (Cioffi et al., 2010; Flannery et al., 2018; Thornton et al., 2010; Whitaker et al., 2016), family (Chang et al., 2015; Hausenblas et al., 2011), friends (Flannery et al., 2018) and health professionals (Hausenblas et al., 2011). In particular, Family members have been found to engage in discouragement of physical activity through the encouragement of rest and relaxation (Clarke and Gross, 2004). The review also revealed that emotional support can both mitigate and yet compound experiences of negative affect concerning pregnant women's social experiences of physical activity; depending on whether pregnant women accepted or resisted other people's views.

In terms of positive and necessary emotional support, encouragement was important. Encouragement has been identified as a key factor of emotional support in research (see Laird et al., 2016). In a study conducted by Sarafian (2011) that appraised (using a social support framework) the process of a peer-education program for hotel-sex workers, both encouragement and agreement, as well as sympathy were identified as components of emotional support. These components translate well to those identified in the review under the dimension of **Being cared for,** including: [i] *encouragement*, [iii] *reinforcement* and a precursor to [ii] *help* (respectively).

Personal contact has also been found to be an important part of emotional support in some research. For example, in a cross-sectional study conducted by Shensa at al., (2020) exploring depression risk amongst young adult, emotional support that derived from face-to-face interactions, revealed a slightly lower risk of depression, compared with emotional support derived from social media interactions, which revealed a slightly increased risk of depression score. This suggests that personal contact not only enhances emotional support, but that such emotional support properties of comfort, self-esteem and reassurance, may be better provided or received when experienced in person; a suggestion that is also support by the findings of this review.

The provision of emotional support in the context of **being cared for**, was coded frequently amongst 'Partner' and 'Family', highlighting the importance of these assumed roles relative to physical activity. Pertinently, 'Partner' and 'Family' have been found to have multiple positive effects on pregnant women's wellbeing outside of physical activity, such as smoking behaviour (Koshy et al., 2010) and

emotional distress (Glazier et al., 2004) during pregnancy. In Koshy et al., (2010), the importance of partner, family, friends as social influences have been highlighted (qualitatively) on pregnant women's smoking behaviour; with praise and encouragement from such individuals described as a key factor for smoking cessation. Similarly, in Glazier et al., (2014) pregnant women's partners were identified as key providers of support to alleviate emotional distress amongst pregnant women; with social support from partners being found to provide a mediating effect on stress and symptoms of emotional distress, compared with pregnant women with reduced social support from their partners.

The importance of Health professionals providing emotional support was reflected in the review, particularly in terms of lacking/insufficient forms of emotional support, thus highlighting this necessity. In a study conducted by Fakhraei and Terrion (2017) into the labour and birth experiences and support needs of primiparas women, emotional support from health professionals was described as important. This encompassed interpersonal quality of care and confidence in caregiver competence (p.195), as well as health professionals embodying the qualities of '*friendliness, approachableness, cooperativeness and respectfulness'* (p.197). In particular, the importance of receiving emotional support from nurses was highlighted, which included a deficit in *'compassionate care'* and feeling *'neglected'* (p.197). This finding was also reflected in the review, with the dimension of **Lacking genuine care and understanding** concerning pregnant women's physical activity from health professionals and other people in pregnant women's social networks. In the same study, trust was also identified as a necessary or desired component for *'optimal'* emotional support, which was achievable through stable health professional relationships with pregnant women:

*'participants' perspectives of their relationship with health-care providers in terms of trust and support and a comfort level with the ongoing nature of this relationship…In order for patients to receive optimal levels of emotional support, they must feel comfortable with the designated health-care provider. Continuously changing staff members can decrease the likelihood of building a trust relationship between the patient and health-care provider and thus achieving optimal emotional support levels' (p.198).*

In the review, the importance of trust was coded under the dimension of pregnant women **Having a confidant**[16] concerning their physical activity, with the provision of having someone to talk to and for someone to provide reassurance. In Sarafin's study (2011) (above), emotional support also included reassurance.

In terms of negative emotional support dimensions highlighted in the review, some of these experiences derived from exchanges with people who displayed irritation or judgement about antenatal physical activity; a finding that has been reported elsewhere in research concerning

[16] Pertains to the 'necessary' category of influence for emotional support (see Appendix D).

pregnant women's physical activity (Bennett, 2017; van Mulken et al., 2016). In the review however, negative affect was also experienced where health professionals either harshly or tactlessly discouraged physical activity, or where they failed to provide care and concern when advising pregnant women during antenatal visits. Comparative behaviours such as empathy and politeness (as opposed to being *'rude and uncooperative'*) amongst health professionals providing care to pregnant women during labour, has been identified as forms of emotional support (Fakhraei et al., 2017:197). In this review, as a consequence of deficient or negative emotional support, pregnant women reported experiencing a range of *negative affect*, such as being *rebuked*, experiencing *tensions*, *frustration* and *disingenuous care*.

### 5.2.d Role support

#### 5.2.d(i) Results

Role support was the fourth most coded social support type, identified in 37 studies. Role support was coded inductively and describes how stable, reciprocal dyadic relationships between pregnant women and their dependents (i.e., pregnant women's children, including the gestating foetus) reinforce the social role of caregiver or mother.

Role support shares similarities with Relational support, which is defined by the 'support derived from relationships', which is 'connected to specific individuals, or specific roles' (van Aken et al., 1999) and is dependent upon 'relationship specific influences and reciprocity' (Branje et al., 2002). Relational support can derive from horizontal as well as vertical dyadic relationships (van Aken et al., 1999), with horizontal being a dependent relationship (e.g., parent-child) and a vertical relationship being on a similar level of dependency (e.g., between peers/friends).

Given the potential for vertical dependent relationships, both theoretically (in terms of Relational support) and thematically identified in the review, Role support also indirectly shares ground with instrumental/tangible support and informational support, as the tangible support (e.g., childminding facilities) and advice (e.g., safety of exercise) from others to enable/prevent pregnant women from engage in physical activity, reinforces and determines whether this behaviour is compatible with a maternal/caregiver role.

**5.2.d(i)a Positive**

Role support that was positive towards physical activity was themed into four dimensions. These described how pregnant women obtained role support from their dependents.

| *Table 5.8: Positive role support dimensions and themes* | |
|---|---|
| **Dimensions** | **Themes** |
| (1) Producing life | [i] Baby's health, [ii] Physical activity is good for my baby's health |
| (2) Advocating for my baby | [i] Prioritising baby, [ii] A sense of duty, [iii] Acting in baby's interests |
| (3) Connection to with baby | [i] A sense of connection with their baby, [ii] Sharing one body, [iii] What's good for mum, is also good for baby |
| (4) An active pregnant mother | [i] A mum who plays, [ii] A mum who sets a good example |

**(1) Producing life** described how pregnant women's maternal role was reinforced by the [i] *baby's health* and by believing that [ii] *physical activity is good for my baby's health*. [i] Pregnant women described that within their role of **producing life**, the *baby's 'health'* or *'well-being'* was their top *'interest'* and the *'driving force'* for engaging in physical activity: *'positive foetal health effects were other positive factors for performance of physical activity during pregnancy'*. [ii] Perceiving that physical activity *"does help the baby"* enabled pregnant women to exercise comfortably whilst knowing that they are fulfilling their role-dependent objective of **producing life***: "I want the best start for this baby…I'm growing a little body, so that's a big motivator"*.

**(2) Advocating for my baby** described pregnant women engaging in physical activity on behalf of their baby. [i] Pregnant women were positive towards physical activity by positioning the *baby as of the highest priority*: *"It was the baby that's the most motivating for me to be more active"*, including *prioritising their baby's health* over their own needs: *"I just think about the baby and try and work it out"*; as being pregnant meant that *"now, I have someone else to think of, and for that reason I intend to take better care of myself too, and training is a part of that"*. Thus, pregnant women had [ii] a *sense of duty* to be physically active for the baby, which included phrases of obligation: *"you have to do the right thing by the baby…more exercise definitely than before"* and women who *'strived to do as much as they could physically manage'* when they perceived physical activity to be *'healthy for the baby'*. *A sense of duty* was also linked to a sense of accountability, with physical activity being a way to rectify perceived 'fault' and 'guilt' responses: *'guilt that it might be their "fault" that they developed GDM and that it might affect the health of the baby'*. Furthermore, remaining physical activity was described as [iii] *acting in baby's best interests*, reinforcing an advocatory role particularly in legal language. Pregnant women engaged in physical activity *'to act in the baby's best interests'* and *'out of consideration for the foetus'* with the view that: *'exercising, I think it's like the best thing for the baby…while you're pregnant"*.

Establishing a **(3) Connection to my baby,** through physical activity included [i] a sense of *connection* and [ii] *sharing one body,* which was notably coded in relation to pregnancy yoga,

swimming and aerobics. During physical activity, pregnant women were able to *connect with their baby*, with physical activity enabling a sense of role support: *"I just liked that you were there, you were doing your own thing, you were connected with your baby"*. Having *a sense of connection* through *sharing one body* helped some pregnant women perceive physical activity as safe when it was modified to accommodate their baby: *"I definitely felt more responsible to exercise in some way during my pregnant…I guess it's just about modifying your behaviour, 'cause of the baby…'cause you're connected to her"*. Indeed, *sharing one body* also enabled pregnant women to perceive their bodies as robust vessels designed to protect their babies, thereby embodying the caregiver role: *"I used to think, if you are stamping and bounding you think oh my God there is something there, you have to protect it…But no, it's protected anyway"*.

Pregnant women also established a **connection with their babies** through physical activity by concluding [iii] if "*it's good for me it's good for the baby"* through mutual benefit: *"the baby benefits just as much as the mother"*. This was expressed as a matter of pleasant surprise: *"the child actually benefits from me exercising. It isn't just for my sake",* as well as fact: *"I think it's just good for general health and of course it's good for baby"*, which mandated physical activity as integral to the caregiver role: *"I think it's important for my health and the baby's health"*. Indeed, with mother and baby being **connected,** physical activity was considered the best way to jointly *'prepare'* for bodily challenges and manage health conditions (e.g., GDM): *'The most popular perceived benefits reported by participants included the belief that physical activity would help to prepare the body for labour, reduce labour time, and that the baby would also be prepared'*.

**(4) An active pregnant mother** dimension defined physical activity as part of a mother's role to *be active* and to *set a good example*. [i] Indeed, *a mum who plays* with her children through physical activity features as part of their caregiver role: *'the children's needs promoted shared physical activities when playing together for example when cycling or walking in the forest'*. In this way, pregnant women *'described how their children served to motivate them to be more active'* or *'their children facilitated their exercise behaviour'*: *"My little one is helping me to be active because we play a lot and walk around"*. By meeting the physical activity needs of their children, pregnant women were *supported in their role as active mothers.*

[ii] Within their caregiver role pregnant women also described engaging in physical activity *to set a good example for their children*, to inspire them to be active: *"I really value exercise and I value doing it in front of my kids and doing it with them…So just to set a good example for them"* [509]. By acknowledging themselves to be role models, this also warranted a support need amongst pregnant women to fulfil the idyllic construction of motherhood under the role of *an active pregnant mother*: *'They regarded themselves as role models for their children and were eager to instil healthy lifestyle*

*habits in their offspring…"I never want her to be battling with her weight. And the only way I can do that is by sorting myself out and that she'll only ever see me as being active and fit and healthy…I wanted her to know that it wasn't good enough to be getting heavy and to be suffering with her health problems"'*.

**5.2.d(i)b Negative**

Role support that was negative towards physical activity was themed into seven dimensions, which concerned pregnant women's moderation of physical activity in response to beliefs and experiences about their baby and/or other children. Altogether this encapsulated the self-relational influence of role support and ultimately depicted motherhood or the caregiver role as one which avoids risky behaviour, such as physical activity.

***Table 5.9: Negative role support dimensions and themes***

| **Dimensions** | **Themes** |
|---|---|
| (1) Harm to baby | [i] Not wanting to harm baby, [ii] Fear that physical activity will hurt baby |
| (2) Risk averseness | [i] Being extra cautious, [ii] Perceptions of risk, [iii] Paranoia, [iv[ Anxiety |
| (3) Inner conflict | [i] Self-blame, [ii] Struggling and tensions between priorities |
| (4) Speaking from bodily experience | [i] Connection with baby, [ii] Warning signs, [iii] Listening to body |
| (5) Maternal role | [i] Making sacrifices, [ii] Protecting and prioritising baby, [ii] Baby determines my physical activity |
| (6) Cultural values | [i] Caregiver role comes first, [ii] Pregnant women under surveillance, [iii] Restricted |
| (7) Caregiver role | [i] Prioritising others, [ii] A sense of duty, [iii] Being drained |

The dimension **(1) Harm to baby** by engaging in physical activity was linked with the maternal role of [i] *not wanting to harm the baby,* which naturally caused pregnant women to assess their behaviour frequently: *"Everything you do, you think is this going to hurt the baby, is this going to cause me to lose it?"*. Pregnant women worried they may *"harm my baby"* by exercising to exhaustion, such as by being *'too active'* where they *'overdo it'* or performing *'the wrong exercise [which] could harm one's baby'*, including *"swimming…squatting…maybe it's hurting the baby"*. It was therefore frequently reported that pregnant women were *'concerned that being physically active could be "harmful to the baby" as the main reasons for their limited physical activity'*. In fact, the words *'concerned'*, *'worried'*, *'scared'*, *'afraid'* and *'fear'* often framed this belief that physical activity could *'jeopardize the health of their unborn baby'*.

[ii] Pregnant women also described a pervasive *fear of hurting their baby* through exercise: *"absolutely terrifying. Because you're on tenterhooks the whole time"*, with a predominant *fear* of miscarriage. Physical activity being considered *"dangerous"* included *fear* of reducing the baby's

oxygen: *“when I start breathing so hard…Does the child really get enough oxygen like this?”*, effecting the baby’s heart rate: *‘She was afraid of…harming the baby to the extent that it could die if her heart rate elevated’*, and causing *‘premature delivery’* through early labour. This latter *fear* was concept reinforced by others: *“I think exercise causes pain and bleeding…I have also been told that the baby will come early if you exercise during pregnancy”*.

**(2) Risk averseness** to physical activity to preserve role support was themed by various negative affect related themes. [i] Pregnant women stressed the importance of *being extra cautious* concerning their physical activity: *“one should be careful about the body so that nothing goes wrong”* or *'taking care not to harm oneself or the foetus'*. *Being extra cautious* also meant *‘pregnant women often reduce their physical activity behaviour and expressed safety concerns as a reason for this change’*. Reduction in physical activity was therefore conducted in the name of caution, with caution being integral to fulfilling their caregiving role: *“I was very cautious…you don’t really want to hurt the baby”*.

[ii] *Perceptions of risk* depicted physical activity as inducing undesirable physiological effects: *“I don’t like to have a high pulse and sweat on my forehead. I perceive this level of fitness to be a risk similar to tobacco and alcohol”*. *Perceptions of* risk included myths and *‘misperceptions related to physical activity and its safety’*, which were supported by hearsay projected by others, suggesting that others appear to play a role in the construction of *risk perceptions*. However, some pregnant women’s perceptions of risk descended from personal experiences, such as *‘fertility treatment and miscarriage’*, which suggests that pregnant women may draw upon a variety of both social and personal experiences to discern the compatibility of physical activity with the caregiver role.

**Risk averseness** was also found to precipitate or be associated with experiences of [iii] *paranoia* and [iv] *anxiety* over causing harm to their baby through physical activity. This negative affect in turn caused pregnant women to limit their physical activity in preservation of their maternal role. For example, *paranoia* was linked to previous experiences of miscarriage: *“And obviously having lost a couple in early pregnancy before, I was even more kind of paranoid about making sure that I didn’t do anything that could possibly put it at risk”*. Indeed, *paranoia* could render pregnant women resistant to health professional advice: *“I’ve had friends who had miscarriages and stuff, so it didn’t really matter what the doctor said, I was too paranoid”*. *Anxiety* however, seemed to originate from general worry and concern: *‘It was apparent that these women had anxiety that exercise during pregnancy may be harmful or risky to them or their growing baby’*, or from more visceral experiences of negative physical symptoms: *‘she was out on a bike with her boyfriend…which made her anxious about the health of the foetus…After this experience she had an overwhelming aversion to physical activity’*.

**(3) Inner conflict** signified pregnant women opting for inactivity to meet their maternal/caregiver role despite recognising the benefits of being physically active. [i] The *Self-blame* theme captured pregnant women establishing a cause-and-effect nexus with physical activity and miscarriage in previous pregnancies: *'Deborah had two miscarriages after her first child, she decided to refrain from physical activity: "After having two miscarriages, I started to lose faith. I thought 'perhaps it is because I forge ahead', and I could be increasing my risk of miscarrying by overly strenuous exercise"'*. Establishing such cause-and-effect connections triggered *self-blame* and feelings of *"guilt": "When I found out that the foetus was dead, I felt guilty because I believed that I might have caused it by jogging three times a week"*.

Pregnant women experienced [ii] *struggle and tensions between their priorities* of performing their caregiver role while retaining their sense of self: *'women's accounts of their behaviour and decision-making during pregnancy is the struggle between the desire to protect and nurture the unborn baby and the desire to continue with their lives and retain their identity while pregnant'*. Indeed, deprioritising physical activity in favour of the maternal role was a relational requirement of role support: *'regardless of urges to act differently…they were fulfilling their maternal responsibility as the sole protector and life-giver to their unborn child'*. Some women experienced *struggles and tensions* due to *'conflicting points of view on whether the mother's physical activity was connected to the baby's health'*, which caused pregnant women to consider whose health they prioritised the most: *"I worry more about having a healthy baby than about my own physical activity"*. This sense of *struggle* or being *'very torn between reason and feelings'* was described amongst pregnant women debating whether physical activity should be curtailed or stopped for their baby: *'When she thought about it rationally, she was convinced that physical activity during pregnancy was healthy and good for her body. But when she listened to her body, she was overwhelmed by her feels and became unsure of whether physical activity was healthy for her'*.

In addition, the *priority* of managing body weight or a sense of identity added to the *struggle and tension* to prioritise the health of both mother and baby: *"I knew I wanted to be active for these benefits, but the only thing that concerned me was…that I might put on too much extra weight in that first trimester…if I wasn't active enough, but then on the other hand I thought if I'm too active, I maybe can have a miscarriage or whatever some people say it can cause it"*. Managing this **inner conflict** was also related to *a sense of tension* derived from social expectations for pregnant women to rest and abstain from physical activity; with physical activity being coined as antithetical to motherhood: *'women expressed frustration toward any admonition to physical activity and the resulting special treatment "I'm not an invalid, I'm just pregnant!" These women felt frustrated because they felt stigmatised and even regarded as an irresponsible mother engaging in risk-taking behaviour by being active or continuing work'*.

**(4) Speaking from bodily experience** described pregnant women's ability to draw upon role support through a physical symbiosis with their baby, such as [i] *connection with baby*, by paying attention to [ii] *warning signs* and [iii] *listening to body*. Altogether, in preservation of a caregiver role, [i] a *connection with baby* through bodily experience meant *"modifying your behaviour"*; often in response to *listening to their bodies* for *warning signs* or physical manifestations of pain/discomfort*: 'listening to the signs of her own body is more important than listening to external advice. Such expressions were common and demonstrate the presence of an intimate connection with their baby's health'*. [ii] *Warning signs* included Braxton Hicks contractions', *"abdominal pains"*, being *'exhausted'* or *"crampy"* from physical activity, which prompted pregnant women to [iii] "*listen to [their] bodies*" and reduce or stop physical activity for the sake of the baby *"cause you're connected to her"*. Thus, as pregnant women shared their bodies with their baby, they depended on their bodies as a "*listening*" device for *warning signs*: *"When I ran, I would start getting abdominal pains…Then I thought that I had to protect myself and the baby and stop running. I haven't run since"*.

**(5) Maternal role** required [i] *making sacrifices*, [ii] *protecting and prioritising baby*, so that [iii] *baby determines my physical activity*, and in turn, determines role support. [i] *Making sacrifices* included modifying behaviour to meet the baby's needs: *'a willingness and ability to almost entirely put their own needs and desires aside during pregnancy. They used the term 'sacrifice' often'* [6]. [ii] *Sacrifices* were thus made in *'prioritizing the baby's needs'*; *'deliberately tailoring their activity to place the perceived needs of the foetus above their own'*. Such concessions enabled a realisation of the maternal role of *protecting the baby*: *"I don't rush around so much or carry heavy things or go dancing. It's my choice, something growing in me needs as much help as it can get"*. [iii] For some, the physicality of the baby rendered it difficult for pregnant women to exercise: *"this person is heavy, that you're carrying…you get very tired. And being tired makes you sit down more…you can't do much"*. Thus, the *baby [physically] determines my physical activity*, by positioning the baby's existence as a causative factor in the attenuation of physical activity: *'the unborn baby [itself] was described as determining the amount of physical activity done'*. This suggests that the **maternal role** of *making sacrifices, protecting and prioritising baby* over physical activity starts in utero.

**(6) Cultural values** pertained to social norms, often derived from pregnant women's family and partners, which defined the role requirements of motherhood. This included: [i] *caregiver role comes first*, [ii] *pregnant women under surveillance* and being [iii] *restricted*. [i] *The caregiver role comes first* before pregnant women's physical activity needs, meant that, culturally, physical activity is not something which pregnant women typically practice: *"Exercise is necessary for our health, but we are not used to it, we do not take it serious"*. [ii] *Pregnant women under surveillance* from others was perceived to be normal, even though it presented a *'socio-economic barrier'* to physical activity: *"The husband has an important role. I have many problems with my husband. He is an isolated man. He*

*doesn't like relationship with the relatives. Also he always wants me besides him (laughs). And do not let me be in touch with family. These irritate me"*. [iii] Pregnant women were also *restricted* by **cultural values** that were negative towards physical activity; values were perpetuated by friends, who believed pregnant women should *"sit and wait"* for their baby to be born: *"My friends don't think I should be going out, so they don't bother phoning me. I haven't seen anyone for ages. I feel like I've given everything up, my job, my life. There's nothing I can do except sit and wait"*.

**(7) Caregiver role** dimension determined role support as something that is accessible when pregnant women are [i] *prioritising others*, maintaining a [ii] *sense of duty*, and [iii] *being drained* sufficiently in their caregiver role, rendering them unable to engage in physical activity. [i] Within the caregiver role, pregnant women explained how they *prioritised* the needs of their dependents above their own (i.e., their children and partner): *'The reasons for not attending all sessions were described as…prioritising other things…"when I have a small child and a husband who is also active with sports and social life"'*. Pregnant women also described how their **caregiver role** meant that they *"don't have enough time"* for themselves; thus *'exercise was not seen as a priority'*.

[ii] Pregnant women operated in this way under a *sense of duty* to uphold *'caregiving duties'*, which implied a lack of choice or flexibility to engage in physical activity: *"I would get up early and run…I don't feel like that's an option now"*. Within the **caregiver** role, a lack of choice was often linked to feeling obligated to meet the needs of others: *"I would have to wait until she [child] was in bed"*, *"I have to do the housework and pay attention to my child and husband"* and *"there is no other choice but to look after them"*.

[iii] *Being drained* by performing *"exhausting…chores"* or caregiver duties was expressed by some pregnant women who upheld the **caregiver role** for their dependents: *"I think I'm more physically tired this time, maybe because I have a two-year old too. When he lays down for his nap, I'm right with him"*. The sense of *being drained* through caring for dependents left some pregnant women depleted of all energy to invest in physical activity: *"I don't have as much energy because I have two kids already…they would just drain all my energy and now being pregnant that's taking even more. It's like I don't have enough energy to do everything I have to do because I go to school and take care of them"*.

#### 5.2.d(ii) Discussion

Role support is nuanced and specific to the role of mother or caregiver; it concerns the relational support mothers obtain from their dependents (i.e., children, baby), which they need in order to perform their maternal or caregiver role. Role support is theoretically similar to Relational support, yet it offers an additional salient feature in being focused on the reinforcement of a social role through

interpersonal relationships, rather than on the quality of the social relation itself promoting multiplicative 'wellbeing' (Feeney & Collins, 2015). It is on this principle of 'quality' that Role support offers something additional. Role support not only derives a sense of wellbeing from stable, reciprocated relationships, it pertains to how the relationship reinforces the occupation of a social role. For example, the existence of the mother/caregiver role requires a relationship with dependents (i.e., the recipients of that mother/caregiver role). It is the cooperation and reciprocity within that social dyadic relationship that serves to define, reinforce and thus socially support that role. In the context of antenatal physical activity, this behaviour must be compatible with fulfilling a maternal/caregiver role (i.e., it must not compromise the stable, reciprocated relationship between pregnant women and their dependents).

Role support is a unique and novel finding concerning antenatal physical activity and indeed the maternal/caregiver role. Extraneous to this specific context, role-type support has been mildly explored and remains an 'under-recognised form of support' (Norman et al., 2022:584). A few studies have examined 'role-related support' (Xu and Song, 2013) or 'role-specific support' (Norman et al., 2022:584) within the context of professional support needs in occupational and educational settings. Similar to the current review, these studies define 'Role' type support as contingent on the reciprocity or cooperation of others. For example, in Norman et al's (2022) study exploring the role support needs of STEM[17] students, they define 'role-specific support' as featuring an eclectic array of social interactions and resources that enable students *'to fulfil academic roles'*:

> *'Within this definition, role-specific support from faculty could be emotion-focused (e.g., celebrating a student's poster acceptance) or problem-focused (e.g., working through data collection obstacles), but its defining feature is that it facilitates students ability to fulfil academic roles'* (2022:584).

In similarity, the current review posits that Role support is based on the operation of stable, reciprocal dyadic relationships between pregnant women and individuals who reinforce their caregiver role (notably dependents, but also others). Indeed, the review findings show that Role support is primarily structured around the vertical relationship pregnant women have with the gestating foetus. This seems to be contingent on pregnant women balancing the objective of growing a baby alongside fulfilling personal physical activity goals, which they relate to their holistic wellbeing. Role support that was coded positive towards physical activity, was facilitated by beliefs concerning its benefits to the baby's wellbeing and motherhood, whereas negative role support, focused on the risks of physical activity to pregnancy. At the centre of these attitudes/beliefs stood pregnant women's perceived

[17] Science, Technology, Engineering and Mathematics (STEM).

physical impact on foetal wellbeing through a bodily connection. This bodily connection is not only a shared conduit for interpersonal relation between pregnant women and foetus, but a vessel in which the maternal/caregiver role is enacted and is constantly developing. This notion of a maternal role forged through a bodily connection between pregnant woman and foetus has been alluded to elsewhere in Hodgkinson et al's (2014:08) systematic review and meta-synthesis concerning women's perceptions of their body image during pregnancy and postpartum. The findings highlighted women's contentions between their self and their transition to motherhood pertaining to bodily control. The findings described women experiencing a 'loss of control over the body, having to share it with the foetus', as well as 'perceiving their foetus as invasive'. This notion of 'sharing' and 'invasion' of the pregnant body, highlights a relationship between pregnant women and their gestating baby through a physical dimension or bodily connection. Furthermore, another finding from Hodgkinson et al's., (2014) review, highlights the embodied experience of transitioning to motherhood, including experiences of conflict between the roles of woman and mother. This finding reinforces this concept of role support, in terms of their being a multiplicity of ('incompatible') roles women navigate, which are integral to a sense of self:

> *'pregnancy caused women to become more aware of the different roles and facets of their self…The transition into the mothering role marked by pregnancy-related changes was noted to be perceived by women as incompatible with their other roles, such as their core self, being a wife or sexually attractive woman, or being a working woman' (p.8).*

Under this theme, Hodgkinson et al., (2014) also highlighted how women's partners were instrumental in reinforcing some of these 'incompatible' roles. Such a finding also compliments a key dimension of role support, that being the reinforcement and compatibility of roles being contingent on stable, reciprocal relationships with others, as well as self-relational interactions with the gestating baby. Both interactions may reinforce the maternal/caregiver role alongside physical activity, rendering it a safe activity compatible with the maternal/caregiver role. Indeed, the vertical relationship between pregnant women and their dependents directly informs Role support, yet other horizontal relationships with (i.e., partner, family and experts) may indirectly reinforce Role support. In a study by Smith (1999:294), comprising case studies of pregnant women's accounts of their self-relational and social engagement experiences during their first pregnancies; the findings highlighted how pregnant women's interactions with family members, who assumed an informative role, were operative in pregnant women's *'discovery of her role as mother'*:

> *'we usually find the woman closely involved with significant others, for example, partner, family, close friends. Thus, generally, focus shifts from the public world of work to the more intimate world of family. This contact can inform the way the woman sees herself, this being reflected in a convergence of perception of self and important others. The involvement with key others may facilitate the woman's discovery of her role as a mother'.*

Similar to Relational support, Role support may also be contingent on horizontal relationships between pregnant women and partner and family, who provide other types of support to reinforce the preservation of the caregiver role. For example, demonstrations of stable, reciprocal horizontal relationships that reinforce the pregnant woman's caregiver role, whilst enabling her to maintain her physical activity, might be through the provision of tangible support (e.g., childminding services) or information/advice about safe physical activity. Indeed, in conceptualising and defining 'role-related' support empirically, other social support types have been located. In a study that developed and evaluated the validity and reliability of work-family-school role conflicts and role-related social support scales, (Xu and Song, 2013) combined instrumental and emotional support in relation to inter-role conflict. Thus highlighting, how conceptually, 'Role' support is not only dependent on interpersonal relations; but is perhaps also contingent on discrete and nuanced social support transactions of other support types.

Role support within the context of antenatal physical activity is a novel finding, yet encouragingly, how the compatibility between the maternal/caregiver role and physical activity is being increasingly alluded to amongst prenatal behaviour and motherhood-related research (Hodgkinson et al., 2014; Rockliffe et al., 2021; Wittels et al., 2022). For example, in a study exploring the health behaviour experiences of mothers living in a low socio-economic status area, Wittels et al., (2022:07) allude to the relevance and importance of framing health behaviour, including physical activity, as compatible with an integral part of maintaining or indeed fulfilling the maternal/caregiver role:

> *'They were committed to exercising, but this was not something they did for themselves…their view was that mothers need to exercise to ensure that they were sufficiently healthy to look after their family. Exercise was not something they did for themselves but rather something they did as part of their mothering role'.*

In addition, this notion of stable, reciprocated relationships between pregnant women and their dependents determining the compatibility of physical activity behaviour with a caregiver role, has also been indirectly recognised. In a recent systematic review and meta-synthesis exploring the factors influencing pregnant women's health behaviour change (e.g., physical activity), Rockliffe et al., (2021) thematically touch on aspects of Role support through a superordinate theme of *'Adopting the good mother role'*. Indeed, the determining factor of these reciprocated relationships with the dependent foetus (and potentially others) on the compatibility of antenatal physical activity with the caregiver role, can be inferred from sub-themes including 'driven by the health of the baby', 'driven by roles and expectations' (p.5). Furthermore, in the current review, thematic Role support dimensions with *'positive', 'negative'* and *'necessary'* implications on antenatal physical activity, relate to the notion of being 'driven by the health of the baby', such as '*Producing life', 'Advocating for my baby'* (positive), 'Harm to baby' and *'Risk averseness'* (negative) and *'Baby's health and safety'* (necessary). Findings

in the current review also unpack (in great detail) the 'roles and expectations' influencing pregnant women's physical activity, including roles of being *'An active pregnant woman'* (positive), versus *'Maternal role', 'Cultural Values', 'Caregiver role'* (negative), thus highlighting a social expectation that entrenches the maternal/caregiver role within the parameters of reduced physical activity behaviour. Predominantly, Role support thematically operated as a negative influence on antenatal physical activity. Thus, illustrating that perceptions of the caregiver role are explicitly and implicitly considered by pregnant women to naturally conflict with preserving physical activity in utero. Support for these findings can be located elsewhere. For example, in Wittels et al's (2022) study referenced to previously, one of the key themes exploring health behaviour in motherhood included: 'mothering comes before exercise'; thus, highlighting how the caregiver role should not only be prioritised above the mother's wellbeing needs, but that there is perhaps an incompatibility between the caregiver role and a physical activity relationships/identity. Furthermore, in a review of the antenatal physical activity literature concerning social factors, Gaston and Cramp (2011) surmise that simply having other dependents and thus caring responsibilities is associated with a reduced likelihood for pregnant women to engage in physical activity. However, thematic dimensions of Role support that were positive towards or necessary for antenatal physical activity in the current review, highlighted pregnant women's sensitivity towards ensuring their children were included in their physical activity. Furthermore, the fact that some pregnant women intimated that they felt more inclined to engage in physical activity where their children were also able to take part, suggests that some pregnant women benefit from or are more likely to engage in physical activity, where it can be structured as part of a positive engagement with their children, which in turn reinforces their maternal/caregiver role. Indeed, in a cross-sectional study conducted by Hnatiuk et al., (2017:01) exploring the association between maternal and child physical activity, they recommended the introduction of joint child and mother walking and cycling to promote physical activity, after noting a co-participatory dependency in child and mother physical activity levels. Thus, tangible support provisions to enable antenatal physical activity with dependents may reinforce Role support. Furthermore, compatibility between physical activity and the caregiver role can be established through reframing pregnant women's perceptions, enabling them to consider their body as a vessel in which they can connect with and learn about their baby. Indeed, Hodgkinson et al., (2014:08) identified that body positivity and the maternal role were embraced when the two were interconnected: *'Women were seen to adopt their mothering role through acknowledging the newfound functionality in their bodies. They seemed to consider their expanding stomach as a proxy for their baby's health and growth'.*

### 5.2.e Instrumental/tangible support

#### 5.2.e(i) Results

Cohen and Wills (1985:313) define *'Instrumental support [as] the provision of financial aid, material resources, and needed services. Instrumental aid may help reduce stress by direct resolution of instrumental problems or by providing the recipient with increased time for activities such as relaxation or entertainment. Instrumental support is also called aid, material support, and tangible support.'* Instrumental/tangible support was the fifth most coded social support type, identified in 27 studies.[18]

**5.2.e(i)a Positive**

Instrumental/tangible support that was positive towards physical activity was themed into two dimensions.

| ***Table 5.10: Positive instrumental/tangible support dimensions and themes*** | |
|---|---|
| **Dimensions** | **Themes** |
| (1) Being provided with resources or tools for physical activity | [i] Resources for contact, [ii] Tools for conducting physical activity, [iii] Means of transport to physical activity facilities |
| (2) Alleviated of their duties | [i] Sharing duties, [ii] Responsibilities |

**(1) Being provided with resources or tools for physical activity**, such as [i] *resources for contact* with health professionals and other pregnant women exercisers. Indeed, using email as a resource of contact with health professionals made pregnant women feel emotionally supported: *'the women found the emails to be motivating and expressed that the emails were nice to receive and that they felt supported in a positive way'*. Social media as a resource for contact with other pregnant women interested or engaged in exercise, enabled access to belonging support: *'social media played a key role amongst all participants'*. Another positive form of tangible support was the provision of [ii] *tools for conducting physical activity.* Some *tools* were provided by partner and family, particularly to enable group exercise: *'her husband helps her to be more physically active: "He likes running a lot, so he'll ask me to go with him and I'll go. He even bought my boy a bike so that he can come with us"'*. *Tools* were also provided by exercise and health professionals, including a Wii Fit game and an app for reporting physical activity, also written resources on exercises to conduct at home. In addition, having a [iii] *means of transport to physical activity facilities* was also mentioned as positive instrumental/tangible support: *"He always gives me a ride and encourages me to go swimming"*.

[18] It is important to note, that the findings of this review do not illustrate the types of, for example, instrumental/tangible support which are important to pregnant women, as there is not enough data from pregnant women's discussions and interactions alone to assess that. However, it shows the types of tangible social support which seemed important to pregnant women in their interactions with other people.

**(2) Alleviated of their duties** rendered pregnant women free to engage in physical activity. This occurred through [i] *sharing duties* (e.g., household duties) and (dependent) [ii] *responsibilities with others*, particularly their partners: *'family support as important factors which would determine their control over being physically active in pregnancy…"About time management and other responsibilities at home, I can share these with my husband"'*.

#### 5.2.e(i)b Negative

Instrumental/tangible support that was negative towards physical activity was themed into two dimensions.

***Table 5.11: Negative instrumental/tangible support dimensions and themes***

| Dimensions | Themes |
|---|---|
| (1) Being cared for through alleviation of duties | [i] Providing financial support, [ii] Offering babysitting/childminding services, [iii] Taking over household duties |
| (2) Technology resources are ineffective | [i] No substitute for a doctor, [ii] Unnecessary expenditure |

In the inverse to positive tangible/instrumental support, pregnant women described **(1) Being cared for through alleviation of duties** in favour of resting and relaxing. Partner and family were instrumental in: [i] *Providing financial support*: *"I could just sleep all day I have a good mom, good sisters, because they take care of me, pay the bills, I don't have to walk anywhere, I drive anywhere I go"*. [ii] *Offering babysitting/childminding services*: *"My mom be taking care of the kids…I have a good mom, so I'm just lying back right now"*. [iii] *Taking over household duties: "I'm doing a lot less housework now, I haven't got a choice. My family are trying to look after me. My partner does most of it he says he wants to so I can rest"*. An **alleviation of duties/responsibilities** suggested pregnant women were vulnerable and therefore in need of **being care for**: *'To help their wives realise the aim of being more careful, husbands sometimes assumed the roles of "support staff" by taking on house-keeping activities perceived to be too strenuous and/or toxic for their wives'*.

Believing **(2) Technology resources are ineffective** negatively influenced physical activity. This occurred where technology apps, suggested by health professionals or other information sources, were not conducive to physical activity; with technology being [i] *no substitute for a doctor* or an [ii] *unnecessary expenditure*: *"I don't know that I would pay for an app that is a pregnancy app when I've got a doctor who is supposed to be telling me this"*. Indeed, as resources were not freely abundant, pregnant women considered paying for such an application would be an *unnecessary expenditure*.

### 5.2.e(ii) Discussion

In the current review, instrumental/tangible support in the forms of childminding services and enabling pregnant women to find time for exercise, appear to be dependent on the tangible support from partner and family. For example, in a qualitative study exploring the social support needs of pregnant and postpartum women concerning their physical activity, instrumental/tangible support was expressly highlighted as an enabler in the form of the provision of babysitting/childminding services, which was commonly provided by family, friends and partners (Thornton et al., 2006). These types of tangible support needs have been identified elsewhere, as tangible support features in studies where maternal or motherhood roles and obligations require external support, particularly from family and partner to provide childminding services (Wittels et al., 2022). In a study by Hirschman and Bourjolly (2005) exploring the types of tangible support that impact women's roles whilst navigating 'her new role as a breast cancer patient' (p.17), support from family and partner was identified as an enabler of fulfilling a 'secondary role [of] caring for others'. For example, assuming 'responsibilities as a caretaker' for their children and 'the duties and responsibilities around the house' (pp.25-27).

Findings also suggest that, while familial or personal support networks external to experts (health and exercise professionals) are considered most appropriate to provide tangible support, (e.g., babysitting and assuming household duties); experts were nevertheless, in terms of 'necessary' tangible support, considered suitable and even obligated to provide an infrastructure wherein physical activity could be performed. Indeed, there is a body of research exploring physical activity interventions through community and clinical-based models recognising it as 'a public health priority', including provision of infrastructure and resource which attends to the varying socio-ecological status of communities (Koorts et al., 2018). It is therefore not surprising, that pregnant women, being in contact with antenatal health services, consider health professionals as best positioned to not only convening settings for physical activity, but to signpost pregnant women to suitable exercise professionals.

The current review suggests that attending to tangible support needs may require a collaboration of individuals in pregnant women's social networks, as well as wider societal support providing infrastructure and enabling resources. Tangible support needs therefore seem indicative of socioeconomic status, including geographical access and perhaps local authority or community funding; an inference evidenced elsewhere. In a study exploring the beliefs about exercise amongst pregnant women in rural communities (Tinius et al., 2020), common barriers centred on access to resources and time, to which familial-based support systems were key enablers shared amongst pregnant women in settings with comparatively reduced access to physical activity resources than in urban settings.

### 5.2.f Monitor/overseer support

#### 5.2.f(i) Results

Monitor/overseer support was the sixth most coded support type, inductively coded in 26 studies. Monitor/overseer support occurs where the target (pregnant woman) is monitored by an agent (usually health or exercise professional) with expertise, who oversees the target's progress towards a goal or objective. The agent thus deploys surveillance over and assumes responsibility for the target's progress.

Monitor/overseer support shares similarities with both affirmational support (in terms of the approval of the agent who is supervising the target's behaviour), and appraisal support (in terms of progressing towards a goal). This is clear as affirmational support is described as: *'expressions that affirm the appropriateness of acts or statements made by another'* (Langford et al., 1997); whereas appraisal support is defined as: *'communication of information which is relevant for self-evaluation'* (Langford et al., 1997), or *'sharing goals, progress and strategies and resources for physical activity initiation and maintenance'* (Fleury, Keller, Perez, 2009).

Monitor/overseer support also indirectly draws upon informational support and emotional support, as the person who provides monitor/overseer support has expert 'knowledge' and provides 'care' through assuming a degree of responsibility over the target's progress.

**5.2.f(i)a Positive**

Monitor/overseer support that was positive towards physical activity was themed into two dimensions.

***Table 5.12: Positive monitor/overseer support dimensions and themes***

| Dimensions | Themes |
|---|---|
| (1) Surveillance | [i] Presence of another person, [ii] Someone checking-up |
| (2) Coaching | [i] Being reminded, [ii] Compelled into action, [iii] Modified/tailored physical activity |

**(1) Surveillance** encompassed the [i] *presence of another person*, [ii] someone *checking-up* on pregnant women's progress and [iii] pregnant women *checking-in by reporting back* to someone who is monitoring their physical activity and health. The *presence of another person* who oversaw pregnant women's behaviour was perceived to be *'motivating'* and was commonly ascribed to *'the presence of the research midwives and the coaches connected to the project'*. The perceived expert status of this overseeing person could also influence others in pregnant women's social networks, with partner and family extending **surveillance** over pregnant women's progress: *'the goals were*

*given credence by the women's partners because they were devised with the assistance and support of a health professional'*.

[ii] *Checking-up* on pregnant women's physical activity was predominantly conducted by health professionals who were *"keeping an eye on you"*. Pregnant women welcomed this *checking-up* behaviour even through remote contact such as telephone and email: *"There is somebody keeping an eye on you a little, which makes you pull yourself together to exercise"*. Being *checked-up* on by health professionals translated into a demonstration of care: *"it was nice to know you were thinking like: 'I'd better ring her and see how she's doing', it was nice"*. Pregnant women were also *'checked-up'* on by their partners: *"He was like: 'How are you getting on with your targets for the midwife?'*. These acts of **surveillance** at home were received as an extension of emotional support and demonstrations of care/concern: *"He…watches me a little more closely than he did before"* and encouragement: *"he would sort of keep me motivated as well which was nice"*.

Pregnant women facilitated others' **surveillance** by [iii] *checking-in with or reporting back* to a person monitoring/overseeing their physical activity: *"I ask my doctor step by step what I'm allowed to do this month"*. Pregnant women appeared to *'appreciate this opportunity'* of being able to *'value' report back* on their progress to a health professional overseeing their physical activity goals.

**(2) Coaching** from exercise and health professionals included [i] *being reminded* to engage in physical activity such as by partner: *'valued the support they had from their partners to achieve and maintain their goals: "I think to have someone…to have someone to remind you that it's still important and that it does help the baby"'*. This had the effect of feeling [ii] *compelled into action* (e.g., being prompted by a partner or health professionals). The provision of [iii] *modified/tailored physical activity* by exercise and health professionals was also experienced positively, particularly when *'instructors modified movements according to stage of pregnancy'*.

**5.2.f(i)b Negative**

Monitor/overseer support that was negative towards physical activity comprised one dimension.

| ***Table 5.13: Negative monitor/overseer support dimensions and themes*** | |
|---|---|
| **Dimensions** | **Themes** |
| (1) Being watched so that I take care | [i] Over-surveillance,<br>[ii] Reminded to take care |

**(1) Being watched so that I take care.** This occurred through experiences of [i] *over-surveillance* from *'families…being overly protective'* and *'paranoid'* husbands: *"constantly watching me"*. Pregnant women were also [ii] *reminded to take care* when conducting physical activity by people generally:

*"When I went swimming, people around me kept reminding me to be careful, I became very careful but also very nervous, so I decided not to go swimming anymore"*.

### 5.2.f(ii) Discussion

Interestingly, in terms of the inductive coding of monitor/overseer support, it indirectly engages informational and emotional support. For example, monitor/overseer support includes oversight or surveillance from someone who is taking knowledgeable (indirect informational support) and who is assuming a degree of responsibility for the progress of another person (indirect emotional support). This notion of monitor/overseer support indirectly engaging informational support can be theoretically supported elsewhere. For example, appraisal support, which shares similar properties with monitor/overseer support, has been described as operating in tandem with informational support to assist pregnant women's physical activity:

*'The multi-faceted layers of social support may impact women attempting to engage in physical activity during pregnancy…Informational and appraisal support are required to inform women of the benefits of physical activity during pregnancy and how it can impact maternal and child health (House, 1982).'* (Thompson et al., 2017)

Monitor/overseer support also sits underneath emotional support, as both depend upon a degree of encouragement in favour of someone's progress towards attaining a goal or maintaining their wellbeing. This can be theoretically supported when compared to the finding of appraisal support amongst first time mothers' experiences of postnatal social support from health professionals (McLeish et al., 2021). Indeed, appraisal support in McLeish et al's (2021) study, identified 'praise' as a defining feature of this support type in practice. In both monitor/overseer and emotional support in the current study, these support types intersect on this notion of 'praise', through reinforcement of a physical activity goal (monitor/overseer support) and through showing comfort and care in favour of physical activity through warm encouragement (emotional support).

Furthermore, the definitional overlap between emotional support and esteem support also serves to evidence how monitor/overseer support is thematically associated with the depiction of emotional support in the review. This is because esteem support speaks to the provision of 'encouragement' in order to support a person's achievement of a competence or skill. In Gross et al's (2015) systematic review examining the use of social support to facilitate physical activity participation amongst people with schizophrenia, esteem support included the provision of *'individualised encouragement and reinforcement'* (p.26) to bolster a person's *'sense of self-esteem and competence…ability or skills to perform a task'* (p.2). In addition to this however, monitor/overseer support adds something different to the properties of emotional and esteem support, the former is concerned with the provision of comfort/care for wellbeing and the latter in the provision of belief in a person's competency for

performing a task. Monitor/overseer support, however, is contingent on the target's belief in the agent's expertise, as well as their surveillance and assumed responsibility over the target's progress and behaviour. Essentially, it introduces an invasive feature to the agent's conduct, which adds to the components of encouragement and reinforcement that underpin emotional and esteem support.

Essentially, monitor/overseer support seeks to steer a person towards a goal/objective through surveillance and overseeing behaviour. This support type, in this specific form, has not been reported elsewhere and conflicts with aspects of appraisal support and affirmational support, which are perhaps its closest associates. This is because all support types can be deployed to steering behaviour through affirming and appraising a target's competency towards goal progression. For example, monitor/overseer support may describe the types of behaviour that could underpin appraisal support. This can be illustrated through studies such as Williams, Thakore and McGee (2017), who conducted a longitudinal study exploring underrepresented racial and ethnic minority PhD students' experiences of a novel career coaching intervention comprising appraisal support. Williams et al., (2017:02) described appraisal support as: *'the provision of constructive and honest feedback, as a means of self-assessment and social comparison (House, 1981) and the validation of one's experience and perspectives (Stewart, 1989)'.* These certainly could be features of the interactions pregnant women would have with a health or exercise professional who is, for example, monitoring/overseeing their physical activity. The same study also highlighted how participants described benefits from *'having access to an "outside voice"'* (p.8). Indeed, having an outside voice appraising and validating a target's behaviour and progress is certainly a feature of monitor/overseer support. The latter differs however from appraisal support specifically, as monitor/overseer support does not need to foster a degree of social comparison for the target to obtain validation external to that directly provided by the agent. In the thematic context of monitor/overseer support reflected above, this is a one-to-one interaction in a vertical relationship, whereby the agent has surveillance over and responsibility for the target. In addition to 'someone with expertise' actively monitoring and appraising a pregnant woman's progress however, the review identified how other individuals could assist with and assume these behaviours, as was identified in the review. Elsewhere amongst the relevant literature, partners have also been identified as integral to supporting pregnant women with setting and achieving health behaviour goals (Greenhill and Vollmer, 2019).

In conclusion, unlike other social support types that reinforce the achievement of a task or goal, it is arguable that the stringency of monitor/overseer support that renders it different or particular. This feature may indicate a form of support unique to behaviour that carries connotations of risk or uncertainty, such as antenatal physical activity, due to the inherent safety concerns that are considered by pregnant women and other people within their social network. Indeed, these concerns over safety may be so burdensome, that some pregnant women require the expertise and oversight of

someone in order to facilitate their objective to engage in physical activity safely. As although autonomy support, (a relaxed approach to appraisal support where the autonomy of the target is esteemed alongside goal progression), between elite-athletes and their coaches has been found to improve physical activity and training motivation (Sheldon & Watson, 2011, as cited); this population are arguably striving towards different goals/objectives from those shared by pregnant women engaging in physical activity with a different appraisal of risks and barriers. For example, pregnant women must consider the safety of the gestating baby, as well as the opinions of others also concerned over the risks of antenatal physical activity. In managing such risk and social judgement, pregnant women may seek monitor/overseer support from someone with expertise, who in turn assumes responsibility for pregnant women's goal progression.

## Chapter 5: Study One: Systematic Review and Meta-Synthesis Discussion Summary

### 6.1 Study One Limitations

Firstly, the review focused on qualitative papers; it could be argued that omitting quantitative papers, may reduce the review's opportunity to explore individuals of potential influence, as well as social support types considered important for antenatal physical activity. However, this review was concerned with the semantic illumination of social support as a theoretical construct, with the view of articulating definitions of social support relative to the context of antenatal physical activity. Quantitative research is concerned with measuring effects and differences in social support for example, physical activity related outcomes would therefore not have provided sufficient data to enable the deductive and inductive coding required for the questions of this review.

Secondly, papers eligible for review were eliminated based on the pregnant and postpartum status of participants, which will have resulted in the omission of papers containing relevant qualitative data. The rationale for this inclusion criteria however, stems from the motivation of the review, which was to capture data concerning social experiences. The authenticity and recall of such experiences are arguably subject to temporality, therefore it was considered that restricting participants temporal distance from their experience and recall to up to 12 months was a generous time-period.

Thirdly, although no restriction was placed on the country and/or ethnicity of participants included in the review, it is unlikely that papers are evenly representative of some countries and ethnicities. We are however confident that a diversity of such variables has been reflected, which can be seen in the support dimensions pertaining to cultural influences. Further research, noting the importance of cultural influence under belonging support could look to recruit participants from various cultural background in order to explore this support type further.

Fourthly, awhile steps have been taken to ensure that researcher biases concerning data coding have been considered and implemented, such as double coding and deductive coding relative to theoretical definitions; there is always the potential for variability in interpretation and indeed overlap between different social support types. This has been highlighted as a known limitation with social support research amongst both qualitative and quantitative literature (Williams et al., 2004). It is proposed that the depth of analysis and formality achieved through the 'best-fit' framework synthesis approach deployed in this review, is transparent and lucid enough to provide a candid presentation of the coding and analytical process utilised.

Finally, the review presents individuals and social support types in order of the most frequently coded, which can imply one as more important than another. For example, based on this reasoning, informational support could be considered more important than instrumental/tangible support. It is therefore imperative to clarify here that, this would be a misinterpretation of the data. In fact, the frequency of coding merely indicates the individuals or social support types that were referenced to relative to a theoretical framework (for deductive coding), and to a thematic mapping (for inductive coding). The findings, illustrate the thematic discussions of individuals and social support types that pregnant women described in studies; studies which had various focuses. For example, most studies were not specifically focused on the role of social influence or social support. This review highlights and richly describes the individuals and types of social support, which could be obtained from papers containing qualitative data including pregnant women's interactions with other people specifically.

### 6.2 Study One Conclusion[19]

The findings of this review illuminate and help conceptualise the role of social influence on pregnant women's physical activity garnered from the existing qualitative literature. The identified individuals and types of social support, which pregnant women explicitly and implicitly identified as having potential influence, paints a collage of anecdotal interactions and social support transactions, which have the potential to influence pregnant women's physical activity. The findings articulate:

- Individuals in pregnant women's social networks who appear to have influence on their physical activity. Key individuals included 'Health professionals', 'Dependents', 'Family' and 'Partner', all of whom implied a proximity principle based on closeness, including an investment/involvement in pregnancy centred on responsibility.

- The dual importance of 'information sources' and 'exercise companions' as impersonal and personal social influences sources respectively, suggests a degree of agency and autonomy is exercised amongst pregnant women in seeking out high-utility sources for planning and/or conducting their physical activity. This also suggests that examining how pregnant navigate their agency when selecting information sources and indeed the array of social experiences available may be interesting areas to explore. (These notions of self-navigation and agency concerning pregnant women's physical activity identity and relationships are further explored through social discourse in study two of this thesis, chapters 7-9, and self-navigation of social experience through sense-making is explored in study three, chapters 10-15).

[19] All study reflections and recommendations are in Chapter 16: Thesis Discussion.

- Furthermore, societal expectations derived from various individuals, including ‘People’, ‘Work colleagues’, ‘Friends’ for example, are important influences in determining a peripheral discourse on appropriate health behaviour during pregnancy, which may lend itself to the perpetuation of stigma concerning antenatal physical activity.

- In addition to the potential individuals of influence, six social support types were coded amongst the data as underpinning a social support transaction influencing pregnant women’s physical activity. In order of most frequently coded, this included: Informational, Belonging, Emotional, Role, Instrumental/tangible and Monitor/overseer support.

- In examination of these social support types, this systematic review and meta-synthesis uniquely articulates in great thematic detail, the nuanced content of these social support types and how they operate within a specific category of influence on antenatal physical activity. This enables one to explore and conceptualise: [i] what a particular social support type looks like for antenatal physical activity and [ii] the ways in which such social support types can serve as a positive, negative or necessary influential factor for antenatal physical activity. This provides a richer context for the types of social support that have been identified previously (Informational, Emotional, Belonging and Instrumental/tangible).

- The review also identifies and conceptualises two novel social support types unconsidered by the literature on antenatal physical activity. That being the influence of predominantly dependents/children through Role support (i.e., ensuring the preservation of vertical dependent relationships that reinforce the caregiver role), and Monitor/overseer support, which highlighted a measured and appropriate application of surveillance features through the support of exercise and health professionals.

- Taken altogether these six types of social support, which appear to be influential on physical activity, conceptualise the utility and potential functions of varying players of influence in pregnant women’s social networks. It may therefore be helpful to consider these social support types and the nuanced dimensions available amongst individuals of potential influence, when incorporating interpersonal factors into antenatal physical activity intervention design.

## Chapter 7: Study Two: Social Discourse Background and Methods

**Study Title:** A discursive examination of how pregnant women navigate and account for their position on physical activity.

### 7.1 Background

Despite a growing body of research suggesting that pregnant women's social environment has the potential to influence their physical activity, the nature of this social influence remains an under-researched area (van Mulken, McAllister & Lowe, 2016). The findings from the systematic review and meta-synthesis of this thesis (chapters 2-6), exploring elicitations of social influence amongst the qualitative literature through social support, illuminate the potential frequency and form that social support-based interactions afford pregnant women concerning their physical activity, and importantly, identify and locate these individuals of potential influence in pregnant women's social networks and interactions. The review highlighted that pregnant women's physical activity is both explicitly and implicitly influenced by their social environment,[20] telling a story of influence without a focus on pregnant women's navigation of such social experience and indeed social expectation. While understanding both 'who' and 'what' form of influence these individuals possess in relation to pregnant women's physical activity within the transactional lens of social support, is important for a contextual backdrop of the existing literature, the navigation of agency, autonomy and sense-making of these social interactions is an equally important territory to explore. This thesis offers a divergent or two-pronged approach to this next stage of agency, autonomy and sense-making exploration: that being implicit self-navigation through discourse, followed by more explicit self-navigation through sense-making via phenomenology. Beginning with discourse, this second study advances from the findings of the review to discover how pregnant women navigate and account for their physical activity identities and relationships within their social environment, in a voyage towards the emerging importance of agency and autonomy in both self-navigation and sense-making. Indeed, within the review findings, pregnant women's reference to 'exercise companions' and 'information sources' to inform their physical activity, inferred a degree of agency and autonomy in navigating their physical activity attitudes/beliefs and/or behaviour. Exploring how pregnant women navigate their social experiences/expectations and negotiate a physical activity identity/relationship, also enables a focus on pregnant women's execution of agency and autonomy.

[20] Studies included in the review did not always expressly aim to identify barriers and enablers to antenatal physical activity, thus explicit and implicit influence must be inferred.

Discourse provides a unique, invaluable window into self-navigation and identity construction. This is due to its ontological position that all knowledge or indeed our construction or understanding of the world, is constructed by and through our social environment and the language we generate together to arrive at a mutualised understanding. Therefore, social phenomena, including social experience, expectation, stigma, can be considered constructs of society and language, understood relative to the time and place in which they are situated (i.e., taking a social constructivist approach). Owing to its focus on 'social action' through language (Wetherell, 2004), discourse analysis is a suitable lens to explore how pregnant women navigate their physical activity identities and relationships amongst their social environments through language, as discourse analysis posits *'language is constructive. It is social life. Discourse builds, worlds, minds and social relations. It doesn't just reflect them'* (Wetherell, 2004:16). Indeed, a small number of studies have utilised a discourse analysis approach when examining societal expectations on antenatal physical activity. A study Bennett (2017), using a pluralist discursive approach, explored pregnant women's experiences of and social responses to their cycle-commuting activities during different gestational stages. Amongst the findings of this study, it was highlighted that pregnant women's experiences and particularly their perceptions of the risks of cycling were 'shaped by medical advice', which suggests that expert medical opinion may be influential. The study also identified pregnant women's experiences of implicitly receiving encouragement from partners, as well as negative responses from vehicle drivers, who were explicitly judgemental or discouraging of a pregnant cyclist. These findings highlight not only that a range of individuals from pregnant women's social environment may impact their physical activity, but also the importance of language in shaping these experiences.

In another discursive study, van Mulken et al., (2016) explored 30 pregnant women's experiences of physical activity and how these were 'formed, supported and/or opposed by their social environment' (2016:922). Using a feminist standpoint epistemology, this study identified three 'tensions' between societal discourses and pregnant women's physical activity, including engaging in physical activity whilst protecting the unborn baby, obtaining social approval, and pregnant women listening to themselves as well as listening to others. In conclusion the study highlighted, discursively, how pregnant women's experiences of physical activity were influenced or 'shaped' by the opinions of others (i.e., their social environment); opinions which often demonstrated a lack of knowledge about antenatal physical activity. The study concluded that a lack of societal knowledge hinders the deconstruction of the social stigma concerning physical activity during pregnancy, which, the authors added, remains an issue to be addressed. On reflection of antenatal physical activity continuing to be constructed as a stigmatised behaviour, even in modernity where exercise is encouraged more readily amongst all populations including pregnant women (Department of Health and Social Care, 2019), the current study provides an opportunity to explore how pregnant women account for their

physical activity relationships and identities in navigation of such oppositional yet dominant discourses (including social stigma).

Amongst similar topics, discourse analysis has been deployed to explore how pregnant women negotiate their behaviour and identities concerning stigmatised behaviour, such as smoking during pregnancy. Wigginton and LaFrance (2014) discursively examined how 12 pregnant women accounted for their smoking during pregnancy against a backdrop of the 'implicit but ever-present discourses that smoking in pregnancy harms babies' (2014:532). They found pregnant women predominantly drew upon two discourses to account for smoking: (1) 'stacking the facts', which illustrated how they had fortuitously 'evaded the risks' of smoking to pregnancy; and (2) 'smoking for health', which was used to highlight how quitting smoking during pregnancy could precipitate experiences of 'stress'; with 'stress' being positioned as an aggravating factor carrying greater harm to pregnancy than smoking a 'reduced amount'. Indeed, the stigmatisation of behaviour during pregnancy is an interesting area to explore, as pregnancy is a time where women may experience a range of social responses that are cautious towards antenatal physical activity. Understanding, how pregnant women discursively position physical activity and then, manage their position provides an indication of the dominant discourses pregnant women may encounter in their social environment.

Although not a discursive study, Wagnild and Pollard (2020), using a social practice approach, explored how pregnant women with a risk of gestational diabetes mellitus negotiated physical activity. In doing so, participants negotiated the constraints of working and caregiver roles, as well as social expectation to 'sit down and slow down' and to find time and space to engage in physical activity that offered therapeutic properties. In addition, 'listening to the body' was identified as a means for participants to resist the surveillance of others and to negotiate physical activity. This study highlights the importance of identifying the ways in which pregnant women negotiate physical activity, as this may reveal or enhance the literature, which focuses on express barriers and enablers (Wagnild and Pollard, 2020:1072). Indeed, exploring the negotiation of physical activity through discourse will enable an exploration of subject-positions, which indicates resistance of and alignment to dominant and/or subversive discourses when accounting for a position on physical activity.

In conclusion, by exploring how pregnant women resist or conform to discourses concerning physical activity, a behaviour which has both medical support as well as cultural and social stigma, also provides an indication of how pregnant women, as autonomous agents interpret these discourses on physical activity. Although there is a body of research exploring barriers and enablers to antenatal physical activity, to date, there appears to be no other primary study examining specifically how pregnant women navigate and position themselves within discourse to account for their physical activity, particularly whilst retaining a focus on pregnant women's retention of agency and autonomy.

### 7.2 Methods

#### 7.2.a Aim

To examine how pregnant women discursively navigate and account for their position on physical activity.[21]

| *Table 7.1: Study two objectives and research questions* |
|---|
| ✓ How do pregnant women discursively construct their identities and relationships with physical activity during pregnancy? |
| ✓ What are the dominant social/societal discourses on pregnant activity that pregnant women encounter? |
| ✓ How do pregnant women negotiate and position themselves within discourse to account for their physical activity? |

#### 7.2.b Design

This study aimed to explore how pregnant women account for their physical activity through discourse, therefore a qualitative methodology exploring the use of language through semi-structured interviews was used.

#### 7.2.c Setting

Pregnant women were recruited from social media platforms ‘Facebook’ and ‘Twitter’ and were interviewed at a setting of their choice, within the options provided.

#### 7.2.d Ethics

This study was conducted as part of a research sponsored studentship from Aston University, which required ethical approval before proceeding with participant recruitment and subsequent data collection (REC REF: #1615).[22]

#### 7.2.e Target Population

The inclusion criteria comprised pregnant women who were interested to talk about their relationship with and/or experiences of physical activity during pregnancy, and who had a sufficient understanding of English language to give informed consent.[23] The inclusion criteria did not request eligible participants ‘be’ physically active during pregnancy, it invited interest from participants who had some relationship with or experience of physical activity during pregnancy; that being physical activity for

[21] Physical activity was defined as moderate intensity leisure-time activity, which involves active exercising for fitness, strength or conditioning purposes (i.e., not physical activity conducted for daily living, such as housework, handling shopping, climbing stairs or walking). Leisure-time physical activities could include: swimming, yoga, weightlifting, cycling, aerobic classes, fitness training, functional training, interval training, athletic training and conditioning training.
[22] REC = Research Ethics Committee; REF: Reference number.
[23] The exclusion criteria consisted of non-pregnant women participants and non-English speaking participants.

fitness or leisure. This criterion was intended to elicit a variety of responses, including pregnant women who were very physically active during pregnancy and those whose physical activity relationship/experience was perhaps less so than pre-pregnancy. In any case, it invited responses from pregnant women who identified with the notion of having a 'relationship' with, or 'experience' of physical activity during pregnancy.

**7.2.f Recruitment**

A snowball sampling strategy were used to recruit pregnant women from social media forums. After posting a study advert (*Image 2.1*) on a range of social media forums, 12 participants from Facebook and Twitter expressed an interest in the study and were subsequently recruited. The study advert communicated the nature, purpose and scope of the study and included the contact details of the principal researcher. The study advert encouraged participants who were interested in the study to contact the principal researcher.

Once an expression of interest in the study was made to the principal researcher and participant eligibility was assessed, participants were formally introduced to the study by the principal researcher and provided with written information explaining the study. Written information included a participant information sheet (Appendix E) and a consent form (Appendix F), which together described the nature and scope of the study, data protection and consent requirements and implications. All communications of the study made clear to potential participants of their eligibility to redeem a £20 'lovetoshop' voucher for their full participation in the study. After reading the information, all participants who communicated their wish to participate in the study provided written consent before arranging a time, date and digital means for interview with the principal researcher.

Furthermore, recent national guidance, concerning the COVID-19 pandemic, identified pregnant women, amongst other individuals, as part of a high risk-group who are likely to have a lower immune response to COVID-19 compared to other members of the population. This meant that social restriction measures were put in place to shield and protect all individuals who were assigned to this high-risk group. These social restrictions introduced a challenge for pregnant women participants to send (and potentially receive) documents via post. In addition, social restrictions also rendered it difficult for the principal researcher to access postal services, without introducing undue risk into the study. In response to this a number of steps were put in place to support interested participants to consent and take part in the study remotely.[24] When following-up consent, participants were asked,

[24] [1] All interviews were conducted either over the telephone or online. [2] All documents were sent to and from participants digitally through email. [3] Participants were provided with the following options to provide consent using remote and digital means, including: [i] to print, hand-sign and scan/take a photograph of the consent form, or [ii] to assign an electronic signature to the consent form, or [iii] to provide a typed signature. This meant participants digitally typed their name into the word-version of the consent form and emailed it back to the principal researcher. [4] In

before conducting the interview, whether they were happy to consent; they were also reminded of their right to stop and withdraw from the interview and from the study altogether by retracting their data within 14 days of interview.

### 7.2.g Participants

In total twelve participants were recruited to this study. It was decided by all members of the research team that twelve participants was a sufficient population size for the nature of this study. This was due to the consideration that not only did the recruited participants provide a wealth of data, but that the sample size (n=12) was comparable to that of similar single-interview, discursive studies with pregnant women participants (Darroch & Giles, 2016; Harper & Rail, 2011; Jette & Rail, 2013; Mayoh, 2019).

***Image 7.1: Study Two Advert***

relation to the £20 love2shop voucher, this was sent in the post to participants at a time when social restrictions issued by the UK government were substantially relaxed.

### 7.2.h Data collection

Participants who were both eligible to participate and who expressed an interest in the study by contacting the principal researcher, were invited to take part in an interview at a time, date and digital means of their choosing. Prior to interview, participants were asked to complete a consent form. Data were collected during a one-to-one, semi-structured interview via an encrypted digital audio-recording device. Interviews ranged between one hour and one hour 30 minutes in duration.

A semi-structured interview guide was used (Table 7.2), comprising open-ended questions centred on pregnant women's physical activity relationships and identities and their experiences of social interactions concerning their physical activity. The question format is that of description followed by reflection, which enabled participants to openly explore question topics before reflecting on how they have come to that view or position on physical activity. In this way, the interview schedule aimed to touch on participants' physical activity relationships, identities and experiences, by exploring views, decisions, social influences and responses to physical activity.

<table>
<tr><td colspan="3">Table 7.2: Study Two Interview Schedule</td></tr>
<tr><th>Topic</th><th>Questions</th><th>Prompts</th></tr>
<tr><td>Opening questions</td><td>Can you tell me a bit about your pregnancy so far?</td><td>How are you?<br>How far along are you in your pregnancy?<br>(e.g., week/trimester)</td></tr>
<tr><td rowspan="2">Pregnant women's experiences or relationship with physical activity before pregnancy or previous pregnancies</td><td>Can you tell me about your physical activity before you became pregnant?</td><td>Were you physically active?<br>How would you describe your physical activity before you became pregnant?<br>Has your physical activity changed in any way since becoming pregnancy?<br>How do you think that happened?</td></tr>
<tr><td>[Where relevant] Can you tell me about your relationship with physical activity during other pregnancies?</td><td>How would you describe your physical activity during other pregnancies?<br>Did this relationship with physical activity change?<br>[If so] How did this relationship change?</td></tr>
<tr><td rowspan="3">Pregnant women's thoughts and experiences on exercising during pregnancy</td><td>Can you tell me a bit about what physical activity means to you?</td><td>How have you come to that view?<br>What would life be like without physical activity?</td></tr>
<tr><td>What do you think about physical activity during pregnancy?</td><td>How have you come to that view?<br>Is it a good thing or a bad thing?<br>What does it do for you?</td></tr>
<tr><td>Can you tell me about your experiences of engaging in physical activity during pregnancy?</td><td>What did you think about this experience?<br>How did this make you feel about your physical activity?<br>Have you found any baby movements during physical activity?</td></tr>
</table>

| Pregnant women's experiences with other people concerning their physical activity | Do you know anyone or know about anyone who engaged in physical activity during pregnancy? | What do you think about their experience?<br>How does that relate to your experience or understanding of physical activity?<br>How have you come to that view? |
|---|---|---|
| | Can you tell me about your experience of people's opinions of your exercising or not exercising during pregnancy? | How did you feel about that?<br>Family, friends, partner, work colleagues<br>Has this had an effect on your relationship with physical activity? |
| | Can you recall any conversations or discussions you have had with anyone about your exercising or not exercising during pregnancy? | What did they say?<br>What did you think?<br>Has this had an effect on your relationship with physical activity? |
| | Can you recall anything you have heard, read or seen which influenced your exercising or not exercising during pregnancy? | E.g., Social media or advert<br>What did you think about it?<br>Has this had an effect on your relationship with physical activity? |

During interviews, data were collected using an encrypted digital audio recorder device. The recordings from this device were uploaded to and stored electronically on the secure University server, before being deleted from the digital audio device. Following this, all audio recordings were transcribed verbatim onto an electronic word document for each participant. Each interview transcript was assigned a unique reference number before being saved securely on the University server. During transcription, all participant-identifiable information in the data were anonymised and participants were assigned a pseudonym. All hard copies of information[25] were stored securely electronically.

### 7.2.i Data Analysis

#### 7.2.i(i) Discourse analysis using a discursive psychology approach

Discourse analysis using a discursive psychology approach was applied to the data. Discursive psychology is a form of discourse analysis that applies social constructionist principles alongside 'psychological issues' (Potter, 2012:119). While discourse analysis possesses a 'social constructivist orientation' (White, 2004:07), pertaining to how people's social worlds are constructed, actioned and situated in discourse; discursive psychology extends a social constructionist approach to reflect on psychological interests: *'discursive psychology…is interested in the psychology of language as a topic amongst others, prejudice, social influence…it starts with a view of people as social and relational'* (Wiggins and Potter, 2008:77). Discursive psychology's examination of discourse as an indicator of

[25] Including participant details, consent forms, interview transcripts, researcher notes. Researcher notes contain codes, which were used to facilitate a review of the coding process between the principal researcher and the research team.

relations between the self and one's social world, enables the exploration of self-navigation through 'stake and interest' management and 'mind-world' relationships:

*'A core theoretical theme in discursive psychology is…the mind-world relationship. Rather than viewing that relation from a (traditional) analyst's perspective, namely as one between two separate, clear-cut domains – an objective world and a subjective mind – discursive psychologists understand it as the key issue for participants to be managed in talk…a focus on how stake and interest are managed by speakers – confessed, countered or treated as irrelevant – so as to protect the factuality of their descriptions (Potter, 1996)'* (Molder, 2015:05).

Such features are entirely relevant to the focus of this study, as negotiating one's physical activity identity and relationship traverses the deployment of stake management and agency through discourse. In this way, discursive psychology offers an insight into the micro-macro subject-positions participants navigate to account for their physical activity, revealing discursive constructions of physical activity identity and relationship.

**7.2.i(ii) Positioning theory**

Taking inspiration from the discursive work of Wigginton et al., (2014) exploring the subject-navigation of smoking behaviour in pregnancy (Wigginton and LaFrance, 2014; Wigginton and Lee, 2014), the current study drew upon *'positioning theory as a discursive tool for interpretation',* alongside a synthetic approach. The rationale for applying positioning theory rests upon the focal point of the current study, which is to discern how pregnant women account for their physical activity identities and relationships by assuming and navigating subject-positions.

Broadly, 'positioning theory' (Davies and Harré 1990; van Langenhove and Harré; 1991; 1999a; Harré and Moghaddam, 2003a) concerns the 'discursive production' of the self through navigating 'positions' in language (McVee et al., 2018). These positions are relevant to identity, as they provide a unique perspective or 'vantage point' in which an individual is constituted as a subject of their own making: *'Once having taken up a particular position as one's own, a person inevitably sees the world from the vantage point of that position'* (Harré and Davies, 1990:46; see also McVee et al., 2018). According to the aforementioned work of Davies and colleagues, a 'position' includes 'rights, duties and obligations of an individual', which are assumed, supported, negated etc., via discursive practices of 'speech and other acts', and constructions of narratives or 'storyline' (McVee, 2011; McVee, Silvestri, Barrett, Haq, 2018).

Positioning theory considers that participants or 'speakers' actively construct themselves as subjects using discursive practices of 'speech and other acts' and 'storylines': *'to think of ourselves as a choosing subject, locating ourselves in conversations according to those narrative forms with which we are familiar'* (Davies and Harré, 1990:52). At the same time, positioning theory examines how

‘speakers’ may also be constructed as subjects that are positioned by the discursive practices of others. In application, positioning theory enables the use of a pragmatic treatment and assessment of language to examine how speakers draw upon various discursive practices (speech and other acts, and storylines) to both position themselves as subjects (directly), and to yet how speakers are positioned (inadvertently) by such discursive practices as subjects themselves: *‘Positions are dynamic; participants in social contexts can both position and be positioned by others. Positions can shift within social settings and when an individual looks back on or reconstructs previous experiences and discourses’* (McVee, 2011:05).

In this way, discourse has a utility, both for the speaker and for the social discourses, which inadvertently position speakers as subjects. Pragmatically, discursive practices enable subjects to take-up or inhabit various positions, such as to counter, resist, conform to, confirm or deny claims, ‘states of affairs’, facts, states of being or existing. Discourse may also constrain, construct, contort and liberate subjects into positions that engender ‘state of affairs’, facts and being. In the current study, positioning theory was used as an ‘analytic lens’ (Green, Brock, Harris, Baker, 2020:06) to support the researcher to consistently identify how social discourses (inadvertently) position the participant speaker as a subject and indeed, how the speaker actively or directly positions themselves relative to these discourses. This positionality through discursive practices pragmatically reveals a range of ‘interpretative repertoires’ available to the speaker when ‘accounting’ for/against a subject matter (i.e., their physical activity identity/relationship). In their study, using positioning theory and a synthetic approach examining participants ‘contradictions’ when discursively navigating their perspective on hormone replacement therapy, Stephens, Carryer & Budge (2004) aptly explain this intersection of discursive psychology ‘interpretative repertoires’ and the discursive navigation of positions, which construct the speaker as a subject, when accounting on a particular subject-matter or ‘object’ – that fits with the overall methodological position of this study:

*‘One person may use different interpretative repertoires to construct an object at different moments (Potter and Wetherell, 1987) and, to explain this variability, Edwards and Potter (1992) have demonstrated that accounting involves social functions such as making claims and justifications. Particular interpretative repertoires are drawn upon to construct particular objects according to the social function of the account that is being offered at any one moment. Accordingly, a woman may draw on different socially available interpretative repertoires to construct HRT in a conversation…Interpretative repertoires available to construct objects in discursive practice also provide subject positions (Davies and Harré, 1990). Subject positions include related rights and obligations for the subject, and a location for a person within this set of rights’.*

#### 7.2.1(iii) A synthetic approach

A synthetic approach facilitates the examination of how *‘identity construction’* and *‘agency’* is situated or functions within a ‘discursive setting’ (Wigginton and LaFrance, 2014:08). This ‘discursive setting’ supports the researcher to consider the wider contextual factors informing identity construction within

discourse, such as cultural, social and historical constructions of identity. Essentially, how participants then discursively navigate and situate themselves within these 'discursive settings' manifests a nuanced and contextual discursive construction identity and agency:

*'A synthetic approach considers identity positions as achieving particular social objectives within talk; that is, they are used strategically to do certain things (Willig, 2000), but at the same time takes an interest in the effects of various identity positions. The emphasis is on the individual's agency within the local discursive setting, the individual orientation to that discursive setting, and thus how participants position themselves relative to that discursive setting within talk (Wetherell, 1998)'* (Wigginton and Lee, 2014:271).

Where the current study differs to Wigginton's work however is twofold. Firstly, the aim of the study seeks to formulate and frame the variety of discourses and subject positions available to pregnant women accounting for their physical activity identity/relationship. This aim is aligned to the wider ambitions of this thesis to 'illuminate, conceptualise and articulate' working theoretical models than can be applied to real world solutions that support pregnant women's physical activity identities/relationships. Another divergence is a more methodological one concerning the decision not to prime participants for interview through preliminary introduction to subject matter. In Wigginton's studies, participants are often introduced to the subject-matter of smoking during pregnancy with information that predicates this behaviour as discouraged by medical guidance (Wigginton and LaFrance, 2014) or social discourse generally. This is done specifically to illicit the use of rhetorical devices from participants discursively negotiating positions on the subject matter: *'We focus on the rhetorical devices women deployed to account for their smoking in light of the dominant biomedical discourse that smoking in pregnancy is harmful to babies and how these constructions implicated their identity constructions'* (Wigginton and LaFrance, 2014:06). For example, in their study using a pluralist qualitative approach to exploring university student's responses to women who smoke during pregnancy (Wigginton and Lee, 2014:06), the methods section reads:

*'The initial description of the study immediately evoked a particular discursive space that privileged certain responses and potentially silenced others. That is, we had constructed an invitation for participants to consider women who smoke while pregnant as a group with salient characteristics in common, as problematic, and as subjects worthy of psychological research attention'*.

In the current study, pregnant women were invited to talk about their physical activity relationships and experiences during pregnancy, without placing an emphasis on pregnant women who exercise as subjects. This was to ensure that participants were precluded from formulating a guided presupposition on antenatal physical activity, so that a full breadth of subject-positions available to pregnant women were freely navigated.

#### 7.2.i(iv) Applying discourse analysis using positioning theory and a synthetic approach

The data were analysed in a manner that considered methodological practices of coding and organising data to a discursive psychology approach (Willig, 2013):

1. *Familiarisation with the data:* was conducted by reading the transcripts and listening to the recordings; doing so enabled the researcher to become familiar with the participants, the phenomenon, the position of the participants and the social and cultural contexts in which the data is set.

2. *Contextual coding of the data into contextual markers:* The data was re-read and annotated, organising the data relative to the research objectives of the study. Coding included contextual markers broadly relating to [1] physical activity identity and relationship, [2] social interactions and [3] physical activity accounting or 'stake management'. The data were framed by these contextual markers to distinguish the participant speaker from the discourses within the data (Appendix G).

3. *Semantic coding to identify discourses and subject-positions:* The data were coded with semantic annotations within these chunked contextual-markers to locate discourses followed by subject-positions. Discourses were located by how participants used language to construct [1] their physical activity identities and relationships, which included how [2] physical activity were constructed by social/societal discourses, and how participants [3] used discourse to navigate and account for their physical activity identities and relationships (Appendix G). After identifying numerous discourses, positioning theory were applied to identify subject-positions that were constructed and shaped by these discourses.

4. *Refining discourses and subject-positions:* The coded discourses and subject-positions were lifted from the transcripts to begin a refining and assigning process. At the refining stage, discourses and subject-positions were analysed in isolation. Multiple discourses were clustered to form overarching discourses. Subject-positions were also refined using a synthetic approach to positioning theory, which focuses on 'identity positions'.

5. *Assigning discourses to subject-positions:* Discourses were assigned to subject-positions, by revisiting transcripts and analysing the discourses that were engaged when constructing and navigating subject-positions. In assigning discourses to subject-positions a synthetic approach to positioning theory were re-applied to discern how these 'identity positions…were achieving particular objectives within talk' (i.e., how the subject-positions were both navigated and brought into being through the located discourses). This created a relationship between the overarching discourses and the subject-positions that explained how the two work together to discursively account for a physical activity identity and relationship.

6. *Constructing the model*: Once overarching discourses were assigned to subject-positions, both were clustered under physical activity stances and mapped along a continuum of proactive-leaning and protective-leaning stances. These stances visually organise the subject-positions into extremes and mediums of approaches available to pregnant women when discursively navigating and accounting for their physical activity relationships and identities (*Diagram 7.1*).

# Chapter 8: Study Two: Social Discourse Results

## 8.1 Results Introduction

### 8.1.a Study participants

Twelve participants were recruited and interviewed remotely, including telephone (n=5) and video-call via 'Zoom' (n=6) or 'Skype' (n=1). Interviews usually lasted one hour, with the longest interview lasting approximately one hour, 30 minutes and the briefest interview lasting circa 50 minutes.

All participants resided in the UK, including North Yorkshire (n=4), West Midlands (n=1), East Midlands (n=2), South West (n=2), Greater London (n=3). Most participants were aged in their thirties, with one participant aged in their twenties. Most participants were White, British (n=10), one participant was Asian, British and one participant was Black, British. All participants were employed (including a mixture of full and part-time positions), and all participants were in heterosexual, partnered relationships. Although most participants were quite advanced in their pregnancies with 7 participants in trimester 2 (weeks 13≥26) and 6 participants in trimester 3 (≥27), there was a range of gestational weeks reported, from week 15 up to week 40. The majority of participants were primiparas, with only 2 multiparas pregnancies, including one second and one third pregnancy. Participants also displayed a variety of physical activity experiences and relationships. Some participants described themselves to be highly active, such as competing in athletic pursuits or team sports. Some participants described having a 'love-hate' relationship with physical activity, which they attenuated to improve their fitness for health and wellbeing purposes. Some participants lamented relinquishing physical activity interests they had enjoyed before pregnancy (e.g., pole-fitness, hula-hooping, netball, kickboxing, weightlifting, skateboarding). Some participants gravitated away from perceived intensive exercise and towards activities considered more appropriate for pregnancy (i.e., prenatal yoga and pilates).

It is important to note that participants were subject to 'shielding', which required pregnant women to stay indoors and isolate themselves from others as much as possible. However, as the interviews were conducted during the beginning of the first national 'lockdown' of the Covid-19 pandemic (between late March to early May 2020), participants, all of whom who were in trimesters two and three, were able to draw on substantial experiences before the 'lockdown'.

***Table 8.1 Study participant characteristics***

| Participant pseudonym | Pregnancy stage (week) | Pregnancy status | Pre-pregnancy physical activities | Pregnancy physical activities |
|---|---|---|---|---|
| Lilly | 16 weeks | Multiparas (second pregnancy) | *Some gym (cardio, weights), Yoga | Yoga, body-weight exercises at home, some prenatal yoga |
| Zinnia | 20 weeks | Primiparas | *Yoga, *Weightlifting class, *Cycling | Yoga until felt uncomfortable in class because of yoga instructor, Walking |
| Jasmine | 21 weeks | Primiparas | Yoga, *swimming, *gym (weightlifting), played sports | Walking, prenatal yoga, 'HIIT' or moderated bodyweight exercises (especially lower body), Pilates |
| Daisy | 23 weeks | Primiparas | *Skateboarding, *pole-fitness, *Pilates, *swimming | Mainly prenatal Pilates.<br>Didn't enjoy 'pregnancy yoga' |
| Willow | 25 weeks | Primiparas | *Dancing, *Gym classes (aerobics and weightlifting), *Pilates | Prenatal exercise class online (includes yoga, cardio, bodyweight exercises),<br>Walking |
| Lavender | 27 weeks | Primiparas | *Swimming, *hula-hooping | Walking. Unable to do prenatal yoga because of no local groups |
| Alyssa | 30 weeks | Multiparas (third pregnancy) | Swimming, running, cycling, *kickboxing | Swimming, running, HIIT |
| Briony | 33 weeks | Primiparas | *Gym (weightlifting), running, netball, *functional HIIT exercises (e.g., wall balls) | Light/adjusted Weightlifting (not lifting too heavy or swinging kettlebells), running (5k event) |
| Orchid | 35 weeks | Primiparas | *Hockey, *Triathlon, *Running, *Swimming | Great North Run,<br>During pregnancy, had to stop usual pre-pregnancy activities,<br>Prenatal yoga |
| Kalina | 38 weeks | Primiparas | *Gym (some cardio and weights), running (10k event) | Walking |
| Hyacinth | 39 weeks | Primiparas | *Intense Bootcamp | *Low impact bootcamp (adjusted exercises)<br>Prenatal yoga |
| Yolanda | 40 weeks | Primiparas | *Gym, *Pilates, *Swimming | Prenatal exercise class (adjusted cardio and weightlifting) |

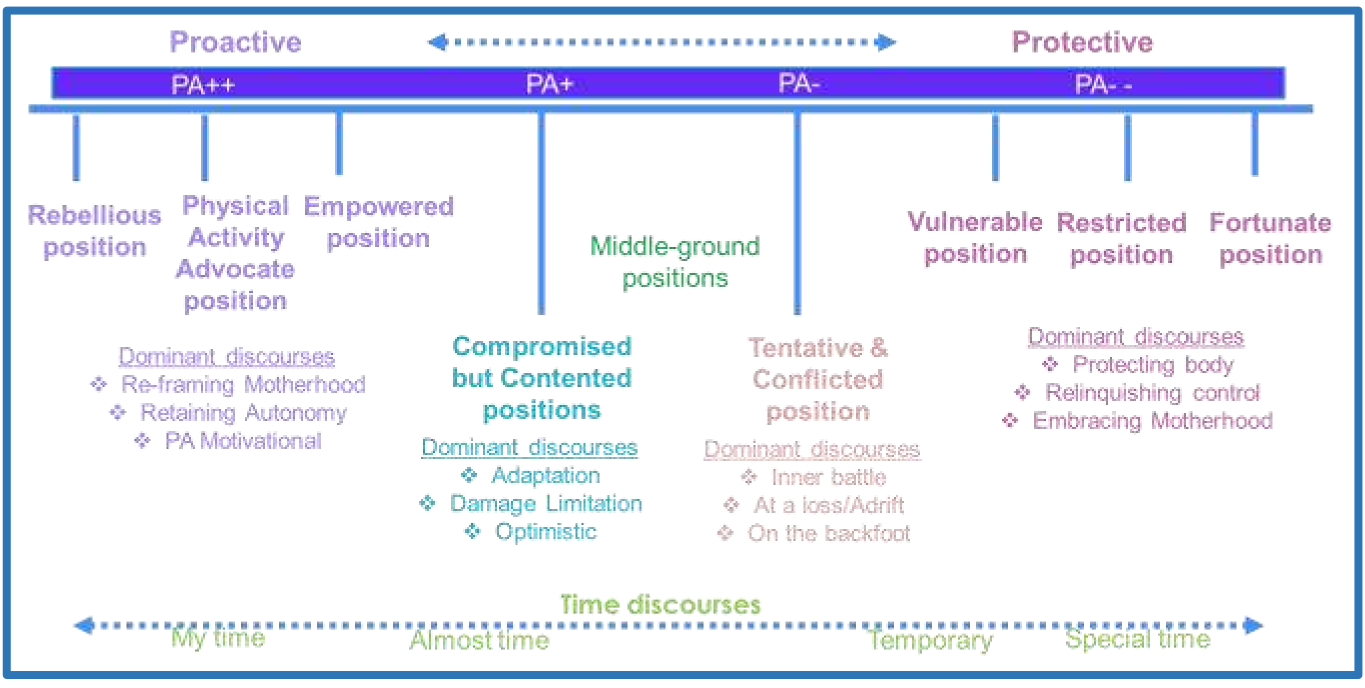
*Stopped physical activity specifically for pregnancy

### 8.1.b The Discursive Navigation Model

A discursive navigation model (*Diagram 8.1*) encapsulates the objectives of this study, which were to identify how pregnant women discursively construct their physical activity identities and relationships, the societal discourses they encounter and how they discursively navigate their position on and account for physical activity during pregnancy. Following this, the multiplicity of subject-positions and discourses were examined, yet for the purposes of brevity, this section has been 'appendicised' (Appendix H).

Three physical activity stances were plotted along a physical activity continuum (proactive, middle-ground and protective). Ten subject-positions were allocated to these stances, underpinned by 12 discourses, each of which comprised interweaving sub-discourses. This model provides a comprehensive depiction of subject-positions and discourses available to pregnant women when accounting for antenatal physical activity.

***Diagram 8.1: The discursive navigation model relative to physical activity in pregnancy***




[26], [27]

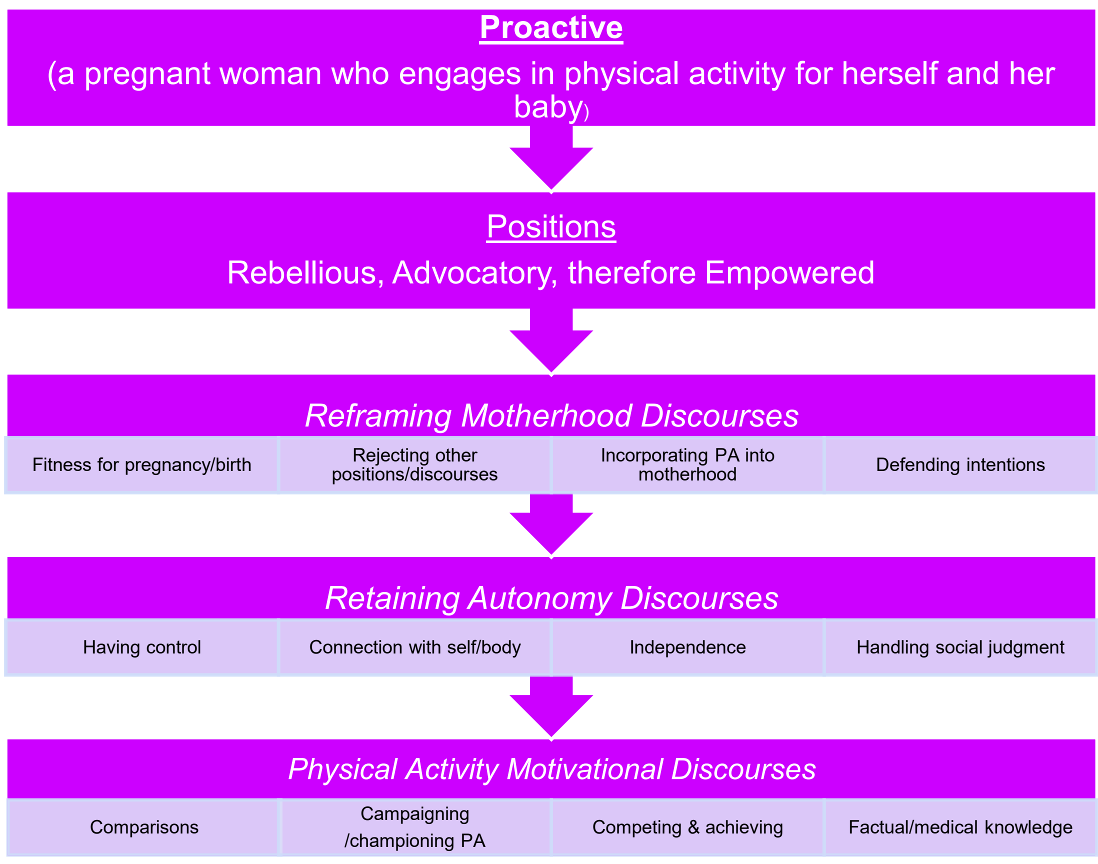
[26] *Physical activity (PA)
[27] *Time discourses are not discussed in great detail in the results section; but are outlined in the diagram as a proxy indicator of temporal discourses participants mentioned when navigating subject-positions. For example, 'My time' is mentioned in the 'Retaining autonomy' discourse of 'connection with self'.

### 8.2 Results: The Positions and Discourses

### 8.3. Proactive positions

Proactive positions, which included **Rebellious, (Physical Activity) Advocate** and **Empowered**, defined a pregnant woman who expressly engaged in physical activity for herself and her baby. These positions, navigated through three overarching discourses: ***Redefining Motherhood, Retaining autonomy*** and ***Physical activity motivational***, were interconnected. For example, **Advocating** antenatal physical activity was constructed as a deviation from social norms, by challenging antithetical discourses and constructing a new narrative for a proactive stance. This necessitated a **Rebellious** position, as the very need to discursively **advocate** physical activity constructs it as a prohibited behaviour. Assuming positions that challenge and campaign for antenatal physical activity ultimately enable an **Empowered** position. Proactive pregnant women are therefore **Empowered** by being **Rebellious Advocates** who discursively ***retain autonomy, reframe motherhood*** and *campaign, factually*, viscerally and subjectively, for an uncompromised/unaltered physical activity relationship, especially through ***motivational*** speak.

***Diagram 8.2: Proactive positions and discourses***



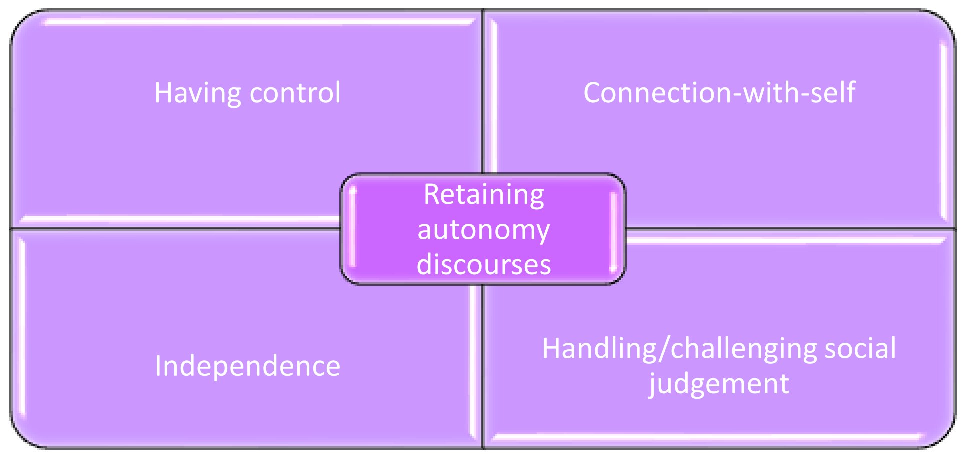
**8.3.a Rebellious and Empowered positions**

The **Rebellious** position was predominantly assumed when pregnant women navigated ***Retaining autonomy*** and ***Reframing Motherhood*** discourses that vied for a physical activity identity/relationship, which they considered to be at risk under protective discourses, as they favour a more sedentary transition to motherhood. The navigation of a **Rebellious** position challenged protective discourses that situated pregnancy within an inherently **Vulnerable** position. In efforts to navigate away from this latter position, the assumption of a **Rebellious** position ultimately strived to occupy an **Empowered** one.

***8.3.a(i) Retaining autonomy discourse***

***Retaining autonomy*** discourse centred on pregnant women retaining their identities through their physical activity relationships. Under this discourse, physical activity was constructed as a precious commodity in which they could connect with and liberate themselves from others judgement.

***Diagram 8.3: Retaining autonomy sub-discourses***




***8.3.a(i)a Having control discourse***

Under this discourse physical activity was constructed as a means for pregnant women to *have control* over *'something'*: *'I think it's having a bit of control over something whilst am pregnant'* (Yolanda). Indeed, pregnant women accounted for physical activity as the single behaviour that afforded them *[some] control* over their bodies: *'you take ownership of it and you can make it go the way you want it to go and you can control your own body'* (Lilly); which in turn restored a sense of normality: *'it made me feel…that everything was normal?!'* (Hyacinth, p.5). For some pregnant women, maintaining physical activity enabled *having control* over their pre-pregnancy physical activity identities: *'people can't play if there isn't a referee so…I was just trying to stay as involved as possible and…I felt still like I had a purpose and a role'* (Orchid).

#### *8.3.a(i)b Connection-with-self discourse*

In navigating proactive positions, pregnant women constructed physical activity as a means of fostering a *connection-with-self*; something which was seen to decline throughout pregnancy: *'you can get so wrapped up in just constantly organising or planning for the birth or planning for the baby…and everything's centred around that – that you sometimes forget about looking after yourself!'* (Yolanda). This included focusing on establishing positive relationships with their bodies through physical activity: *'it can help you to just…become a bit more like friends with your body…just get to know it a bit better, feel embodied in your body…trust it a bit more, get to know it. And maybe, if you're lucky, become a bit more fond of it'* (Zinnia); as well as enabling escapism from external pressure: *'you can sort of be in your own little world as well'* (Yolanda), and *'I can silence everything around me and it just be me'* (Daisy).

Time was a central construct to the *connection-with-self* discourse. Indeed, pregnant women constructed time as a commodity and a space in which they could *connect* with their authentic self: *'I think a little bit of selfishness in there, for want of a better phrase…I wanted some time to myself and I wanted to feel like me…if I wasn't doing exercise in the week, I wouldn't feel like me at all'* (Briony). Interestingly, taking time for a *connection-with-self* was sometimes accompanied by social judgement labels of *'selfishness'*, implying that dominant discourses constructed favourable maternal behaviour as a *relinquishing* of such *connection-with-self* pursuits. *Connection-with-self* discourse was therefore both constrained and enabled through finding time:

> *'when it got to 20-odd weeks when I had a bit more energy, I actually had some time to do something for myself?...that half an hour, 40 minutes on the Saturday was really important 'cause that was sort of 'my time'…though it's pregnancy-based exercise it wasn't focused on the pregnancy, it's about me looking after myself….and doing something that I wanted to do for half-an-hour?'* (Yolanda).

#### *8.3.a(i)c Independence discourse*

*Independence* discourse predominantly accounted for physical activity through its enabling of personal decision-making: *'but I've just decided that: it's my body and I need to make my own decisions and it's nobody else's decision as to what I do'* (Orchid). Asserting their right to make decisions about physical activity in turn justified their right to retain *independence* in pregnancy:

> *'but can I make my own decision over that?' Or 'are you telling me that you're making that decision for me?"…there's that feeling that you're told a lot what you can and can't do rather than being informed about what you can and can't do – and then you make your own choice based on that'* (Jasmine).

*Independence* discourse was also engaged where pregnant women talked about their physical activity relationships in terms of ownership and thus ***retention [of] autonomy***: *'you feel like you're doing it for yourself'* (Lilly).

Interestingly, *Independence* discourse often coincided with *handling/challenging social judgement* discourse, as ***autonomy*** (i.e., decision-making and ownership of physical activity) was discursively retained through *challenging social judgement*, particularly that which discursively constrains and defines appropriate physical activity: *'there is a real lack of empowerment and giving women the education of understanding what's right and wrong for them and then from their making their own decisions, it's almost like: 'we know these exercises are safe''* (Jasmine). Doing so, enabled an **Empowered** position, by navigating a **Rebellious** position contrary to social expectation: *'I've tried to take on board their concerns…weigh it up…and probably my stubborn streak…reigned on through and I've just done what I wanted to do'* (Orchid).

***8.3.a(i)d Handling/challenging social judgement discourse***

*Handling/challenging social judgement* discourse depicted accounting for physical activity as a strategy to ignore other's opinions: *'it's very in your own head, as you're doing your lengths…you're just in your own mind, you can't hear other people, you don't pay attention to other people'* (Alyssa); thus constructing physical activity as a silent protest against implied protective-leaning social discourses: *'I don't care. I'm there to swim, they're there to swim – we're not there to look at each and comment about: 'oh that person's pregnant''* (Lavender). *Handling/challenging social judgement* discourse was also engaged in the act of concealing physical activity, which furthered a **Rebellious** position of being physically active in spite of others' judgement: *'it felt amazing and I kind of found myself, as I was going round chuckling and giggling to myself that me and my husband were the only people that knew I was pregnant. And yet I was still doing the half marathon'* (Orchid). Interestingly, *handling/challenging social judgement* discourse manifested power relations[28] between pregnant women and others, who instructed pregnant women about their bodies, thus constraining and determining the discourse on appropriate antenatal physical activity: *'everyone seems to have, feel like they have a right to tell you what to do…I feel an infringement…I don't like the fact that the yoga teacher can tell me that I can't do a certain movement, because she feels that she's in charge of deciding that…it's my pregnancy!'* (Zinnia).

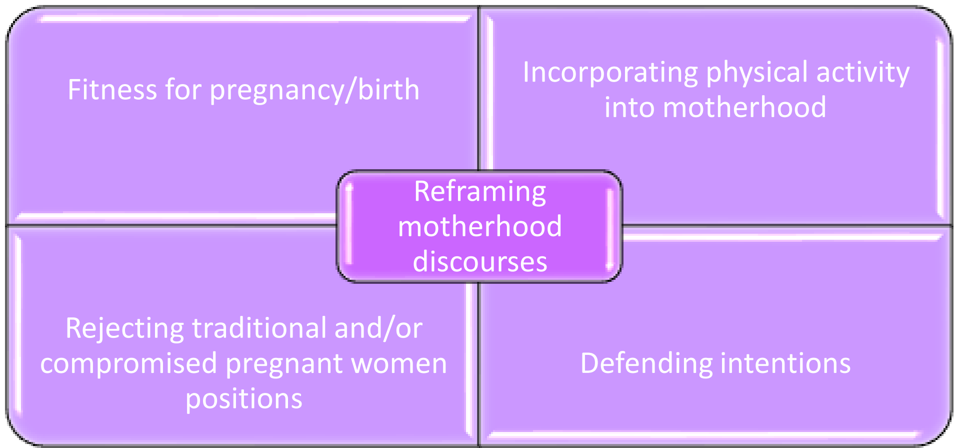
***8.3.a(ii) Reframing motherhood discourse***

***Reframing motherhood*** sub-discourses took a softer and harder approach in navigating proactive-leaning positions on physical activity, with a softer approach focusing on transition to motherhood

[28] Foucault (1994)

being more diplomatic and therefore more **Advocatory** than **Rebellious** in nature, and a harder approach, by rejecting and defending discourses, staunchly navigated a **Rebellious** position, concomitant with an **Empowered** one.

***Diagram 8.4: Reframing motherhood sub-discourses***




***8.3.a(ii)a Fitness for pregnancy/birth discourse***

Softer approaches included *fitness for pregnancy/birth* discourse, which accounted for physical activity as an exercise complimentary of (*'I want to be fit enough to give birth',* Briony) and therefore integral to the transition to motherhood within the context of labour:

> *'fit pregnancy usually means fit labour and quicker…It generally makes you feel better about everything, so it's going to make you feel more positive. I mean seeing your body be able to do something, do it well, it kind of echoes on into labour, makes you have confidence in your body in general, which is something you need for labour'* (Alyssa).

***8.3.a(ii)b Incorporating physical activity into motherhood discourse***

*Incorporating physical activity into motherhood* discourse softly constructed a place for physical activity within the transition to motherhood, with its potential to foster foetal connection: *'really nice class, it was quite gentle…there was a bit more connection to the baby and giving yourself a bit of time to just really think about the situation you're in and going through being pregnant'* (Jasmine). In this softer approach, discursive constructions of *incorporating physical activity into motherhood* through a connection with the foetus were shrouded with uncertainty by the use of trepidatious language: '*maybe the baby is…appreciating that physical activity too'* (Orchid); and rhetorical devices to persuade others as well as themselves of this *'connection to the baby'* through physical activity: *'I think he was just happy I was moving?…I don't know if he was happy about it or if he was just like: 'slow down!'…You know what I mean? He sort of seems to have enjoyed it a bit more'* (Hyacinth).

***8.3.a(ii)c Rejecting other positions discourse***

***Reframing Motherhood*** discourses that offered a harder approach, included discursively *rejecting other positions*, such as framing protective discourses (e.g., *rest and relaxation*) as constructing pregnancy as an illness or condition: *'that's just a general perception of what most people do? Like most people stop doing stuff?! Whereas I just think: 'well, I'm not unwell, I'm fine''* (Orchid). Thus, a *rejecting of 'protective' position* discourse, rejected **Vulnerable** and **Restricted** positions: *'well, yeah…I'm pregnant, so what?!' You know? I didn't need to be wrapped in cotton wool…nine months is a long time to not do anything!'* (Hyacinth). This discursive rejection revealed a resistance to a socially accepted reduction in physical activity by rejecting the self-sacrificing discourses underpinning protective positions: *'I wanted to make sure I was still doing that bit for you that you're still doing something, you have to change so many things for…this baby that doesn't exist…it was one thing that was still my thing that I could keep'* (Briony). *Rejecting protective position* repudiated an all-consuming and all-embodying pregnancy at the expense of a physical activity relationship with physical activity, especially one which remains integral to their identity:

> *'I often push past what I should be doing because I don't want the limitations of pregnancy. It really annoys me. It really frustrates me. That I started running and within a few minutes I was really out of breath and I had really awful down ligament pain…I just felt really irritated that I couldn't do it…it doesn't match up for me that I look down and there's just this bump and that's all there is to see'* (Alyssa).

This represents a **Rebellious** position, wherein transition to ***motherhood*** must be discursively ***reframed*** to accommodate a proactive physical activity identity and relationship: *'I don't want to be laid on a bed, I want to be walking around as much as I can…and not just waiting for it to happen'* (Kalina), which was highlighted through contrast with protective-leaning stances of inactivity: *'rather than just going through it, just letting the experience happen…you can do something'* (Lilly).

Some pregnant women also discursively *rejected a compromised position*, as such a position seemed to undermine pregnant women's pre-pregnancy physical activity relationship and identities: *'I guess a lot of the exercises you might find in magazines they feel a bit patronising. A bit like: 'and lie on the floor and lift one leg and then lift another''* (Jasmine). This also included discursive **compromises** on their physical activity *achievements* integral to their physical activity relationship and identities and **conflicted** discourses of *contending with loss*: *'I didn't like that – 'cause where I was at the time – I'd progressed so much, that we were doing harder moves, and we were holding our own bodyweight'* (Daisy).

***8.3.a(ii)d Defending intentions discourse***

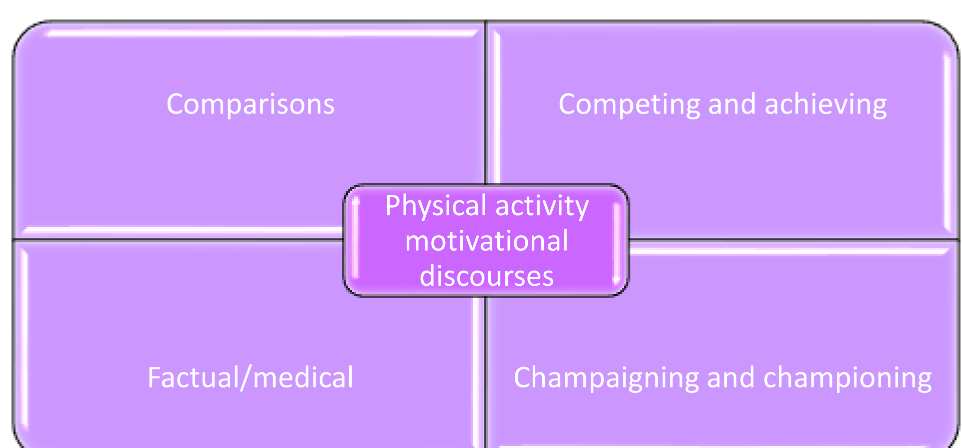
An **Empowered** position was also assumed through a harder approach of pregnant women *defending their intentions*, which discursively mandated and preserved physical activity relationships and identities against competing social discourses: *'I got told the other day, by one of my friends, who really should know better, she's like: 'oh you're 20 weeks, you probably should think about stopping cycling' – And I just thought: 'hell no!'…It's like the only thing I'm doing at the moment where I'm moving my body'* (Zinnia). This also included pre-emptively protesting against discourses that positioned proactive pregnant women amongst as *'extreme'*: *'I'm not doing anything to an extreme'* (Jasmine). *Defending intentions* discourse therefore seemed to be deployed in response to social presumptions, which constructed physical activity as an act of self-prioritisation over the wellbeing of the foetus. This is particularly clear through the use of adverbs that augmented statements of accounting with a protestive tone, for example, the adverb *'obviously'*: *'obviously I wouldn't want to do anything that would have put my pregnancy at any risk'* (Kalina), and the adverbial adjunct *'at all'* as an exclamatory emphasis to defend a physical activity relationship: *'I don't think I overdo it at all'* (Lavender).

**8.3.b The Advocate position**

The **Advocate** position was predominantly navigated through ***Physical activity motivational*** discourse, which deployed **motivational** speak common of the physical activity industry that vehemently vies for *competition and achievement* in a world of *'no excuses'*. This discourse positioned participants as **advocatory** motivators for proactive pregnant women, and in doing so, this position, at times, traversed a **Rebellious** one, by *campaigning* a narrative opposed to protective-led discourses.

***8.3.b(i) Physical activity motivational discourse***

***Diagram 8.5: Physical activity motivational sub-discourses***



#### *8.3.b(i)a Comparisons discourse*

When accounting for physical activity, pregnant women drew *comparisons* between themselves and proactive pregnant women, whom they constructed as **advocates** and role models for them to emulate:

> *'my friend is very similar to me in her outlook during pregnancy…She's run all the way through pregnancy…I always thought that was really positive…I look at her a bit as a role model. She got me into running. I do regular running for her…I always see her as very fit and strong, and I knew her pregnancy would be nice and fit and healthy…I like telling her that I've gone for a run. I feel like she'll be proud of me if I go for a run'* (Alyssa).

*Comparisons* discourse prompted pregnant women to locate their physical activity relationships amongst others: *'most of them stopped at a similar time, there was the odd one that carried on a bit longer…which was what was making me think: 'I should carry on for a bit longer''* (Orchid); and to reflect on whether they **Advocated** a physical activity relationship as much as others: *'she was still posting stuff on Instagram of her in the gym doing weights and stuff and I was like: 'Oh my God! As if she's still doing that!'…I was thinking that: 'maybe I should be doing it' – because I want to stay as active as I can'* (Daisy).

#### *8.3.b(i)b Competing and achieving discourse*

Pregnant women also positioned themselves as **advocates** through *competing and achieving* discourse, which distinguished them from inactive others and highlighted the *competitive* nature and *achievement* of the pregnant woman speaker: *'I have seen people who haven't done any at all and, not just from work but friends that I know, who probably weren't very active before pregnancy but then didn't do any kind of activity during pregnancy and they've definitely had more difficult…pregnancies'* (Lilly). This discourse also included transgressing social expectations by *competing with and achieving* above the physical activity levels of non-pregnant people:

> *'I loved the fact that I can still outswim anyone in my lane even when I'm heavily pregnant. And they look at me and clearly think: 'this, giant whale is not going to, why's she getting in this lane with me?' And then I'll get in and I'll be able to lap them because I have a good, proper grounding in swimming and they don't, and actually most people in there, especially the men they can't even swim well. They're like splashing around and they think because they're big, and they kind of look muscly – they must be good at swimming, but they're usually crap! So I enjoy that aspect that I'm better than them'* (Alyssa).

By competing and achieving in spite of others' abilities and expectations, this also placed pregnant women within a **Rebellious** position.

***8.3.b(i)c Factual/medical discourse***

Pregnant women drew upon *factual/medical* discourses to reinforce their position as **Advocate** by objectively challenging protective-leaning discourses: *'it's always like – at the risk of your child! And you're like: 'but, what's that based on? Like that's not based on scientific evidence'* (Jasmine). A *factual/medical* discourse introduced an objective-based discourse that vilified visceral or subjective discourses pertaining to ***retaining*** a physical activity identity and relationship: *'I said to her: 'listen I've looked at all the evidence and as long as you are safe with these weights and you don't go above this weight…weightlifting is a very safe and healthy way to exercise in pregnancy'…once I gave her that medical go-ahead, she was really encouraging'* (Zinnia). The *factual/medical* discourse provided an informational/educational mandate to argue a proactive physical activity stance, perhaps in a manner less emotive than a **Rebellious** position would allow.

***8.3.b(i)d Campaigning and championing discourse***

Pregnant women also drew upon discourses where they actively *campaigned* for and *championed physical activity*; enabling them to assume an **Advocatory** position concerning their physical activity. *Campaigning* discourses occurred particularly through altering the messaging on the active pregnancy movement and leading the narrative as if it were a *campaign*: *'I don't feel happy with the messaging around exercise and pregnancy in this country…there's inconsistencies about messaging around cycling, which has kind of annoyed me'* (Zinnia). *Championing* discourse positioned pregnant women as exemplifying the active pregnancy and being recognised by others: *'just overwhelmingly positive and encouraging really!...and I think a few especially older ladies that had had children, they'd kind of wished…they'd probably done it, when they could'* (Hyacinth); as well as being positioned to commend others who too exemplified an active pregnancy: *'I really like from the job that you work in that, if you see someone that's overweight is out running, I go like: 'that's amazing', I want to go and tell them: 'well done – keep going''* (Briony). Notably, *campaigning and championing* discourse introduced a physical activity industry rhetoric into pregnant women's position management, a rhetoric purposed to motivate an increase in physical output to achieve a higher level of fitness or bodily change. For example: *'there aren't any limits', 'no reason'* and *'no excuses'* were attributed to physical activity levels during pregnancy and inspired language that both *campaigned* for and *championed* an active pregnancy: *'I think there seems to be quite a lot of people that seem to use pregnancy as an excuse to why you can't be physically active?…it's not an illness, I don't think it's an excuse, long as you're safe'* (Orchid).

**8.4 Protective positions**

Protective positions define a pregnant woman who wished to significantly reduce or (more often) completely abstain from physical activity for the health of her gestating baby, thereby constructing

physical activity as a behaviour that introduces real and unnecessary risk to foetal wellbeing. This was achieved by constructing pregnant women as inherently **Vulnerable** and who, consequentially, must be **Restricted** from physical activity. Ultimately, under an ***Embracing Motherhood*** discourse, *acceptance* of such positions enabled the navigation of a **Fortunate** one.

***Diagram 8.6: Protective positions and discourses***

**Protective**
(a pregnant woman who significantly reduces or completely stops engaging in physical activity for her baby)

**Positions**
Vulnerable, Restricted, but Fortunate

| *Protecting body Discourses* | | | |
|---|---|---|---|
| Rest and Relax | Encumbered body | Liability/fear | Reject Proactive |

| *Relinquishing control Discourses* | | | |
|---|---|---|---|
| Obtaining permission | Shouldn't/prohibited | Temporary/opportune time | Maternal body is a public body |

| *Embracing motherhood Discourses* | | | |
|---|---|---|---|
| Re-prioritize/ Sacrifice | Maternal body connection | Grateful/thankful | Acceptance |

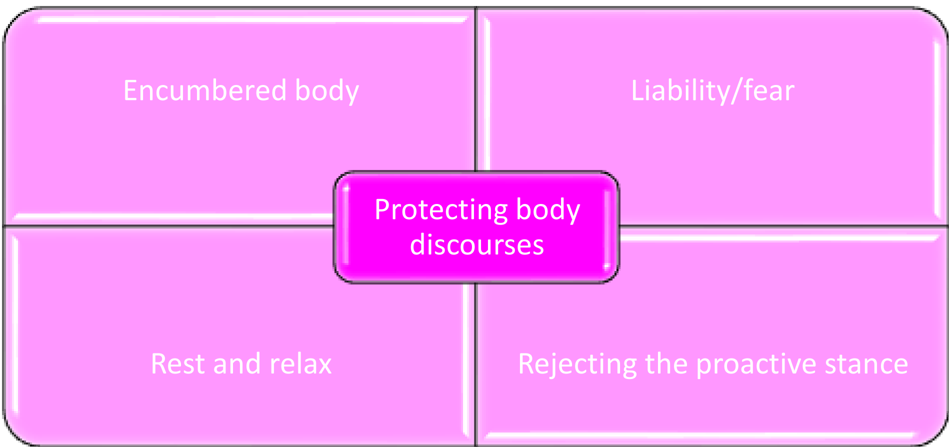
### 8.4.a Vulnerable and Restricted positions

Pregnant women navigated **Vulnerable** and **Restricted** positions by drawing upon ***Protecting body*** and ***Relinquishing control*** discourses.

#### ***8.4.a(i) Protecting body discourse***

***Protecting body*** discourse constructed the embodied experience of pregnancy as one which situates pregnant women within an inherently **Vulnerable** position concerning their unborn foetus. Thus, constructing pregnant women as obligated to ***Protect*** their **Vulnerable *body*** through a **Restricted** position concerning their physical activity.

***Diagram 8.7: Protecting body sub-discourses***




***8.4.a(i)a Encumbered body discourse***

In accounting for a **Vulnerable** position, pregnant women discursively constructed themselves as having a progressively *encumbered body,* with depictions of an infirm body, such as *'feeling ill'*, being *'sick'*, suffering *'fatigue'* and uncoordinated or '*clumsy'*. An *encumbered body* also accounted for a ***Restricted*** position through physical activity abstinence: *'as the baby gets bigger and actually takes up some more space and, across your lung space…obviously things are heavier and I'm…bit more restricted'* (Kalina). An *encumbered body* discourse was also engaged where others suggested physical activities for bodily *'problems'*, as this forged a discursive nexus between the infirm body and the maternal body: *'you were mostly, not isolation, but working on your own exercises anyway, and the instructor would adapt them for people that had back problems, hip problems or if they were pregnant'* (Hyacinth).

***8.4.a(i)b Liability/fear discourse***

Under a *liability/fear* discourse, some pregnant women considered physical activity as a risky behaviour due to their *encumbered body*: *'I'm aware that there's a lot of things that are dangerous for me right now so'* (Willow); rendering the mere motivation for engaging in physical activity a *liability: 'but just making sure I didn't over-exert myself, 'cause I noticed that during those times where I was being more sick, that sort of related a lot of the time to when I was physically exhausted'* (Yolanda). To account for a **Vulnerable** therefore **Restricted** position, the *encumbered body* was shrouded in such constructs of *liability/fear* for engaging in physical activity: '*I don't wanna over-stretch, 'cause like I know you can tear your placenta away if you over-stretch'* (Daisy). These included physical activity being a risk to foetal wellbeing when running: *'I would also say I was juggling the baby up and down a lot, which is probably fine – 'cause people do it! But I would just feel like I was sort of scrambling her'* (Lavender), and a compromised immune system:

> *'I only stopped just because I was picking up so many colds and coughs!…because your immune system is suppressed…I just didn't seem to have the normal resilience I would have to the cold and coughs and things, and coupled with me being tired'* (Hyacinth).

For some participants, *liability/fear* discourse was constructed in relation to exercise professionals' *'insurance'* issues or *liability* concerns: *'when you just think: 'I don't know if I should be doing that'. So I pulled the instructor to the side and was like: 'I didn't want to tell you yet but…' and she was like: 'arrrgh'…she needed to be aware and obviously it would affect things like her insurance if something…happened'* (Hyacinth). This discourse brought into question, pregnant women's ability to engage in physical activity safely without being a source of *liability/fear* for the professionals who advise them: *'there's like a fear of what people are putting out into the messaging, because they're worried that if they do something wrong and the woman miscarries then that will have a back lash'* (Jasmine). For some participants this resulted in both a rejection of and from gym-settings, which positioned pregnant women in a ***Restricted*** position of being without the requisite *permission* to continue exercising: *'they kicked me out – said insurance wouldn't cover me to carry on kickboxing whilst pregnant. Even though I wasn't going to be doing the sparring'* (Alyssa).

#### *8.4.a(i)c Rest and relax discourse*

*Rest and relax* discourse depicted safe or socially preferred behaviour during pregnancy: *'in books and things, there's a lot of text around like not putting that pressure on yourself and just like give yourself a bit of a break'* (Willow), with it often deriving from interactions with various individuals in pregnant women's social networks: *'people like my work colleagues and my family…telling me that I needed to slow down and take it easy'* (Orchid). In some instances, family and friends would conjoin the *rest and relax* discourse with other ***Protecting body*** discourses, such as *liability/fear*. This occurred where individuals constructed pregnant women's motivation for physical activity as introducing *liability/fear* to the pregnancy: *'I think generally people are looking out for you – my dad will always keep telling me to be careful…'Don't overdo it!' Is what he always says…I think there's a fear that I won't stop or he doesn't think I'm maybe changing what I'm doing – I don't know if he doesn't trust me'* (Willow). This further interpellated proactive pregnant women as essentially **Vulnerable** to themselves. For pregnant women navigating protective positions however, *rest and relax* discourse was constructed as an act of care and concern: *'what people are saying is what they believe to be true and healthy and safe…safest thing is to just 'lie on the sofa and put your feet up!'…it can be a way of showing love'* (Zinnia).

#### *8.4.a(i)d Rejecting the proactive stance discourse*

Pregnant women further established a **Vulnerable** position by discursively *rejecting the proactive* approach/persona on physical activity. This was performed in various ways, such as constructing a hypothetical proactive persona as an extremity, alien to their pregnancy experience: '*I don't know*

*anyone who's sort of been that really extreme person like still running marathons at six months' pregnant and anything like that'* (Jasmine), and by interpolating real-world proactive personas as different from themselves (e.g., possessing a different body-type or level of fitness, which accounted for an extreme or alternative approach/persona):

> *'she was active throughout…I think it was like two weeks up until she was due she was still posting stuff on Instagram of her in the gym doing weights and stuff – and I was like: 'Oh my God! As if she's still doing that!'…I think it's 'cause her body has been trained to do it for so long that she's just kept up with it…I was thinking that: 'maybe I should be doing it'…but then at the same time I think: 'she's got a totally different body type to me'…I'm not that into lifting weights and things, I'm more…probably cardio than anything…She's like athletic'* (Daisy).

In *rejecting the proactive* approach/persona, social media was blamed for proliferating proactive-leaning discourses, which exert a pressure on pregnant women to not only ***retain*** physical fitness, but also bodily *control*: *'…really tiny little pregnant women…you get these like yoga courses and things advertised to you…I think there is definitely a little bit of pressure to keep your body, and then after you've had the baby – get your body back…I think social media can be a little bit of pressure'* (Willow). While navigating protective positions, pregnant women would draw upon the *encumbered [maternal] body* discourse as a sensible or appropriate reason for *rejecting the proactive* approach. This was clear where the maternal body was positioned as incompatible with the muscular or athletic physical attributes associated with physical activity. Therefore, pursuing such physical activity was considered *'hard work',* and vexing rather than ***embracing*** the physical ***limitations*** of the maternal body: *'I couldn't imagine running pregnant…I feel like it would just be…quite hard work…you've got a bump in front of you, like your boobs are bigger so, it would just be painful and with my slight hip pain. I imagine running would exacerbate that!'* (Lavender). Indeed, some pregnant women *rejected the proactive* approach by positioning both pre- and post-pregnancy fitness as a *'pressure'* for bodily control, which only served to make their transition to motherhood more difficult: *'it made me think a bit more about self-care and, the pressure was off a little bit, I felt like I had to maintain this kind of ideal for my body and I've been a bit more kinder to myself…even though I was disappointed that I couldn't do the things that I really liked to do'* (Willow).

Furthermore, *rejecting [the] proactive* approach rendered it possible for pregnant women to retain their **Vulnerable** position and to justify a **Restricted** one, by constructing the proactive approach as one that contravenes ***Protecting body*** discourse (i.e., *rest and relax* due to an *encumbered* body): *'I just needed that little bit more rest…so I didn't feel sad about it, I think it was a sense of relief 'cause it was one less thing I needed to do!...it was a bit of relief, just to kind of: 'right, I've done as much as I can''* (Hyacinth). In this way, pregnancy was also constructed as an *opportunity* to *reject* not only the proactive approach, but a disciplining of the body, by focusing on their bodily transition towards motherhood: *'I was all a bit wrapped up in how I looked and the ideal of a dancer and how a dancer is*

*supposed to look and that did change…I think it's really helped me, I think it's really healthy for me to go through this and to not be so wrapped up in all that fitness stuff too much'* (Willow).

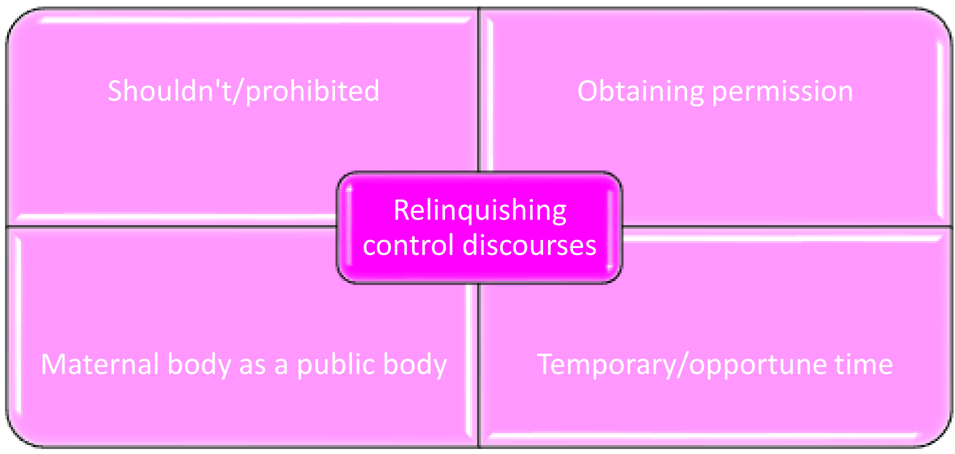
The *rejecting proactive* approach discourse highlighted not only the external social pressure pregnant women encountered through social media and physical activity **advocates**, but it also manifested another **vulnerability** some pregnant women experienced: their own physical activity motivation. Indeed, the proactive persona was discursively constructed as a social lure that not only overlooked the inherent **vulnerability** of the *encumbered body*, but that also positioned pregnant women as **Vulnerable** to an addictive relationship with physical activity, whereby they disregard the risk of overexertion:

> *'I do have a very addictive personality…I have taken things to the extreme and I can see that, if you're mentally like that, being pregnant is just adding another something into that where you're almost trying to be like: 'being pregnant doesn't hinder me, it's fine, I can do all these things I normally do and look – the baby's fine and I'm fine and probably a lot of people validify it and say: 'oh my god that's amazing that you're able to still go on a ten mile run at like seven months' pregnant' and that almost feeds that person's addictiveness and ego…And it's like: 'actually, is what you're doing healthy for you and the baby?' I would hazard a guess: 'no''* (Jasmine).

**8.4.a(ii) Relinquishing control discourse**

Under the ***Relinquishing control*** discourse, pregnant women retained a **Restricted** position from navigating a **Vulnerable** one by placing control of their physical activity into the hands of other people and by surrendering to time.

***Diagram 8.8: Relinquishing control sub-discourses***



#### *8.4.a(ii)a Shouldn't/prohibited discourse*

Pregnant women often accounted for their physical inactivity by explicitly ***Relinquishing control*** to others; this occurred through constructing physical activity as a socially prohibited behaviour. For example, in accounting for a **Restricted** position, pregnant women talked about being expressly *prohibited* from engaging in physical activity by others, including family, friends and exercise professionals: *'when I found out I was pregnant I was trying to continue some of the classes I was doing at the gym, but was told that they're not appropriate for pregnant women! So I don't do really any of the…gym stuff'* (Willow). Such instruction from others were manifested through drawing upon *shouldn't/prohibited'* discourse shrouded in instructive language such as: *'they told me I wasn't allowed to do it anymore'* (Alyssa) and that they *'should stop': 'my husband was like: "you're not swimming in the sea while you're pregnant"'* (Orchid). At times, *shouldn't/prohibited'* discourse was even delivered in an peremptory manner (as a command):

> *'yoga being told that I couldn't do it and virtually being told that I shouldn't do it from 12 weeks – which is wrong, and then secondly being told I shouldn't do certain movements…I was annoyed by it, and it did put me off a little bit…It's almost like society has given me a signal that I shouldn't do it'* (Zinnia).

The agitation manifested by this participant highlights how the use of such imperative language enabled others to assume a legitimate power position[29] in the discourse on antenatal physical activity, which constructed pregnant women as **Restricted**. Indeed, *shouldn't/prohibited'* discourse was ultimately deployed to constrain and define acceptable physical activity: *'you're told a lot what you can and can't do rather than being informed about what you can and can't do'* (Jasmine).

#### *8.4.a(ii)b Obtaining permission discourse*

Pregnant women also decorated individuals in their familial networks with a legitimate power position through *obtaining permission* discourse: *'people give you permission to stop as well…my husband like if I'm feeling a bit tired he'll like give me permission to stop and be like: 'just go on, put your feet up and you know, you're allowed to, you're pregnant – you're growing a baby, that's exhausting you know''* (Willow). This occurred where pregnant women expressly described their need to *obtain permission* from family, partner as well as health professionals to engage in physical activity: *'I think when I found out I was pregnant I stopped going to the gym 'cause I wasn't too sure if it was ok to go? Whether I needed to check with my GP if it was ok to go to the gym then, I think especially at [GYM NAME] they did used to have on their website that if you were pregnant you weren't allowed to go?'*

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[29] A legitimate power position originates from French and Raven's (1959) social power theory. A legitimate power position pertains to an individual possessing automatic authority due to their social position or social standing; a position which others perceive as legitimate. For example, an employee may follow the commands of their employer, because they consider their employer to be in a legitimate power position of authority, to which they as employees are obligated to follow.

(Yolanda). *Obtaining permission* from others situated and contained participants witinh a **Restricted** position. This was clear through the varied discursive meanderings around the notion of being allowed: *'well actually, I'm allowed to go out and exercise'* (Kalina), as well as not being allowed: *'there's a lot of things I'm not allowed to do'* (Willow). Thus, the approval of others acted as a discursive exchange of ***Relinquishing control*** for the *permission* of others.

***8.4.a(ii)c Maternal body as a public body discourse***

Social discourses were often drawn upon to frame the *maternal body as a public body*, in which the pregnant body and its physical activities were normatively subject to surveillance and monitoring: *'[family] just want me to feel a bit steadier…they're just being extra careful around me – my family are making sure, checking-in…I guess like maybe this is where it goes really deep to like how people look at-at a pregnant body'* (Willow). Constructing the *maternal body as a public body* positioned pregnant women as **Restricted**, wherein they were confined by the social discourses curtailing their physical activity behaviour. Some participants appeared to internalise this discourse, reflecting on their implicit role in also socially constructing appropriate behaviours in pregnancy:

> *'it makes me reflect on how I've been with my friends when they've been pregnant before and not going through it and I remember going to the gym with my friend last year and she was five months pregnant and she did some deadlifts with me and I remember being like…'I'm not sure you should be''* (Briony).

The *maternal body as a public body* discourse also occurred where pregnant women showed consideration of appearing to be visibly pregnant to others: *'I don't wanna gain too much weight, I want people to look at me and think: 'yeah she's pregnant, she's not just put loads of weight on'* (Kalina). This interestingly highlighted an ***inner battle*** or conflict in coping with and moderating perceptions of their bodies; as pre-pregnancy, physical activity would have been the approved behaviour to maintain bodily control.

Constructing the pregnant or *maternal body* through a *public body* discourse implicated pregnant women in a discursive power relation, not only with individuals in pregnant women's social networks, but also in contention with a socio-historical context, which rendered them powerless to bodily change and to societal expectation surveying their transition to motherhood:

> *'pregnancy can be a really alienating experience…especially in terms of your relationship with your body…particularly in like Euro-American societies, you have a slightly uncomfortable relationship with your body, and you've been made to feel that it's inadequate…conversations around women's bodies are often to do with control and discipline and you know, keeping it in a certain shape and a certain size seems to be acceptable, so society only thinks you're beautiful if you're a certain, size and shape!...and then you go into pregnancy where it's like: 'well, whatever you think – this is happening to you, and it's unstoppable''* (Zinnia).

Indeed, both contemporary and historical discourses that frame the *maternal body as 'public property'* or *'public knowledge'*, perhaps rendered pregnant women more willing to navigate or indeed less able to discursively avoid a **Restricted** position concerning their physical activity: *'suddenly your body and the functions of your body become…public knowledge – they become like public property…this is just how society reacts to pregnancy'* (Zinnia).

***8.4.a(ii)d Temporary/opportune time discourse***

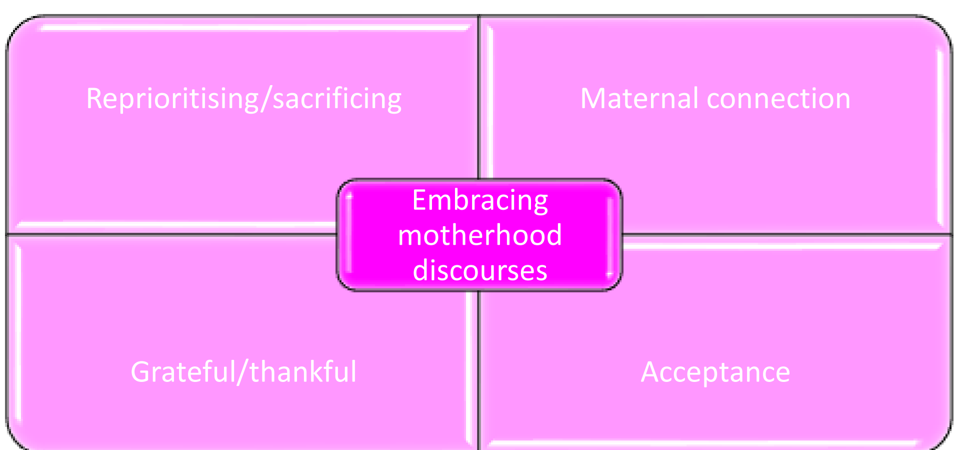
Pregnancy was also constructed as a time-framed experience in which pregnant women ***relinquished control*** of their bodies and their physical activity relative to the gestational vicissitudes of trimestral stages. Meaning that, in accounting for their **Restricted** position, pregnant women would activate temporal discourses that framed pregnancy as a *temporary* state or an *opportune time*, in which previous pressures/expectations constructed under proactive positions could be ***Relinquished***: *'I was accepting fairly soon that it would be temporary and it's for a good cause. It's not just about me anymore, what I want, and I actually also think that's quite refreshing, quite nice to not be so centred around yourself all the time'* (Willow). Thus, in *acceptance* of a **Restricted** position (i.e., a *temporary* state), pregnant women could navigate a **Fortunate** one (i.e., *opportune time*).

**8.4.b The Fortunate position**

The **Fortunate** position was directly assumed via the ***Embracing Motherhood*** discourse. Through this discourse, the **Fortunate** position endorsed a submersion into the embodied experience of pregnancy, which required an *acceptance* of a negated physical activity relationship/identity, with a transition to motherhood ultimately being a *sacrificial* one.

***8.4.b(i) Embracing motherhood discourse***

***Diagram 8.9: Embracing motherhood sub-discourses***



*8.4.b(i)a Reprioritising/sacrificing discourse*

One way this **Fortunate** position was achieved was through a discursive *reprioritising/sacrificing* of physical activity for the gestating foetus: *'it doesn't…matter so much as well 'cause there's something more important happening in my body'* (Jasmine). *Reprioritising/sacrificing* constructed pregnancy as a *'sacrifice'* itself, one which warranted a cessation of physical activity and interpolated decisions to continue with physical activity as an act of selfishness, contravening ***Embracing motherhood*** discourses: *'the main advice was just not to be selfish and it was – I had to look at the bigger picture really'* (Orchid). Indeed, *reprioritising/sacrificing* physical activity, constructed a change in priorities as a marker of transitioning to and **embracive of motherhood.** Health professionals reinforced this discourse by treating physical activity as a lower priority:

> *'I don't think it's really a priority…I've seen her [midwife] a couple of times now and the priority is like general: 'How are you?' and 'anything that we need to know about? Do you have any issues?' And then it's like your blood pressure…listen to the baby…with health professionals, I don't think that is really on their priority list…I probably wouldn't have even thought to have brought that up with my midwife. It doesn't feel like it's top priority'* (Willow).

*8.4.b(i)b Maternal connection discourse*

Physical inactivity was also accounted for where it was discursively constructed as a superfluous pursuit, obstructing a *maternal connection with their bodies*. Indeed, fostering a *maternal connection with their bodies* helped pregnant women to focus on and ***embrace*** a significantly reduced or depleted relationship with physical activity, positioning this rearrangement of priorities as natural or *'logical'*:

> *'I'll be more like: 'yeah I can't do that, look at the size of me, I've got a massive bump, I can't deadlift anymore so I can't touch my toes'…I have to have the logical along with just the fact that you're having a baby so you're meant to, it's that bit that you are meant to get bigger'* (Briony).

This *maternal connection with their bodies* by postponing physical activity represented a new, and perhaps refreshing relationship with their bodies to discursively navigate: *'I didn't really quite realise what it entailed and how much of a strain it does put on your body and how amazing the female body is for coping with it…that probably did spark my interest in anatomy'* (Lilly). Embracing a *maternal connection with their bodies* discourse enabled pregnant women to account for physical inactivity by positioning themselves as **Fortunate** enough to experience pregnancy itself and ***embrace*** an alternative form of bodily ***control*** and *connection*: *'this is where it goes really deep to like how people look at a pregnant body…it's really fascinating and really beautiful…I've taken to it really well – I've really enjoyed the changes and the milestones*' (Willow).

***8.4.b(i)c Grateful/thankful discourse***

Pregnant women positioned themselves as **Fortunate** through being *grateful/thankful* for the pregnancy itself:

> *'this is the major milestone to get passed – to be lucky enough – at [AGE] – to be accidentally pregnant, not even be on folate, be quite…overweight! And then still have this like perfectly formed foetus – that hopefully will turn into a baby…a great blessing'* (Zinnia).

This gratitude positioned physical inactivity as a superfluous pursuit that could potentiate risks and uncertainties: *'I've had a fairly uncomplicated pregnancy, which I don't know if that would have been different if I had stayed as active'* (Orchid). A **Fortunate** position was also navigated by being *'lucky'* or *grateful/thankful* to be pregnant, which precipitated a negotiated discourse of *acceptance,* whereby bodily changes were ***embraced*** as a visible manifestation of a progressing pregnancy:

> *'I'm definitely happy at the moment that I think I'm quite…'lucky' is not the word…I'm lucky in my world…two months ago I would've got frustrated with it rather than accepting…not getting fearful of the fact that you're not gonna be able to do something – it's just embracing it at the point where I can't deadlift anymore, I can't pick up the weight because my bump is too big is a good thing'* (Briony).

***8.4.b(i)d Acceptance discourse***

Navigating a **Fortunate** position enabled an *acceptance* of the vicissitudes of pregnancy, predominantly a lack of bodily control, which precluded physical activity:

> *'even if I wanted to do all the things I was doing before, I don't think I would be able to now, just thinking back to all the classes I was doing and the level of energy…my body just wouldn't be capable of doing that, it would feel very different and heavier and, my body's not bending in the same way'* (Willow).

By discursively *accepting* the bodily limitations of pregnancy and ***Embracing*** [this aspect of] ***motherhood***, this enabled pregnant women to account for a marked reduction or cessation in physical activity by *accepting* it to be a *temporary* alteration: *'I was just a little bit down about it initially but your priorities completely change so…I was accepting fairly soon that it would be temporary and it's for a good cause'* (Willow). Participants could also *accept* a **Fortunate** position in attenuation of physical activity, when it was constructed as a socially accepted strategy to mitigate risk:

> *'obviously pregnancy you do end up putting on weight in different places and you do end up being unfit because you can't physically towards the end do as much as what you could…I didn't want to make it worse than what it needed to be'* (Kalina).

### 8.5 Middle-ground positions

The middle-ground positions of **Compromised but Contented** and **Tentative and Conflicted** both reflect varying tensions and resistance between the proactive and protective ends of the physical activity position continuum.

#### 8.5.a Compromised but Contented positions

This dual position defines pregnant women who navigate a progressively **compromised** physical activity relationship; yet they are **contented** with being able to engage or rather maintain some level of physical activity to attenuate bodily changes. This is achieved by discursively negotiating a place for physical activity as part of their pregnancies, through ***adaptation***, managing *bodily limitations* whilst visualising or *hoping* for a return to physical activity post-pregnancy. The **Compromised but Contented** position is less vehement or protestive about preserving a physical activity relationship and identity as the proactive positions by acknowledging protective positions; thus, trying to navigate a middle-ground between the two.

***Diagram 8.10: Compromised but Contented positions and discourses***

Compromised but Contented positions
(but continuing to do physical activity)

| Adaptation discourses | | | |
|---|---|---|---|
| Tailoring/modifying | Tempering/re-thinking | Listening to body | Aligning to others |

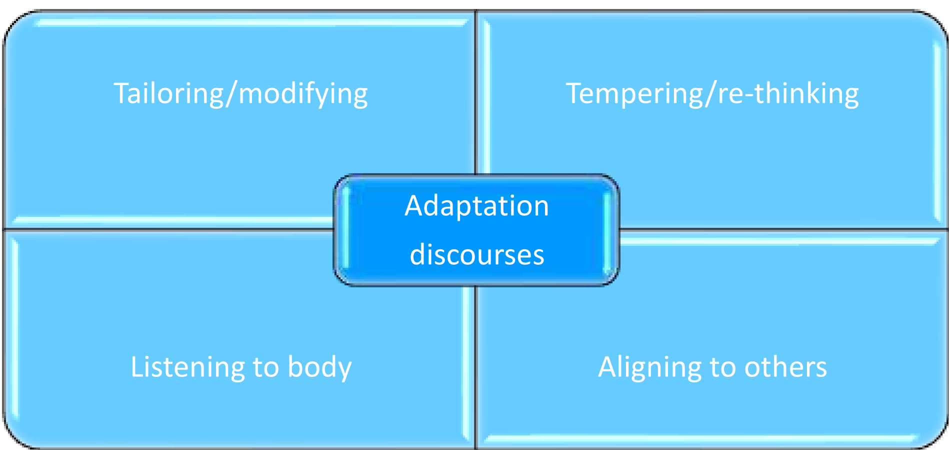
| Damage limitation discourses | | |
|---|---|---|
| Helping and preparedness | Managing bodily changes | Maintenance and carrying on |

| Optimistic discourses | | |
|---|---|---|
| Hope to reclaim body/return to physical activity | Good all things considered | Support from others |

#### ***8.5.a(i) Adaptation discourse***

***Adaptation*** discourses were deployed to support a **Compromised but Contented** position through three discourses, comprising physical, mental, metaphysical and social adaptions.

***Diagram 8.11: Adaptation sub-discourses***




***8.5.a(i)a Tailoring/modifying discourse***

Pregnant women often constructed physical activity as a behaviour that can be conducted in pregnancy through physical *tailoring/modifying*: *'I'm sort of slowly having to tailor things a little bit'* (Lilly); rendering it more compatible with pregnancy: *'I've kind of adapted what I'm doing to make sure that it's not uncomfortable'* (Briony). Indeed, a modified physical activity accounts for a safer activity: *'we've modified our walking'* (Lavender), and therefore a **Compromised** position through a physical ***Adaptation*** discourse: *'I've got better at stopping or trying to not do too much'* (Briony).

***8.5.a(i)b Tailoring/re-thinking discourse***

The physical ***adaptation*** *tailoring/modifying* discourse was also teamed with a mental *tempering/rethinking* discourse, enabling pregnant women to accept their **Compromised** position by seeing things differently: *'I think it is just getting your head round the fact that you can do what you were doing, you might just need to do it for less time or less reps or less weight…there's been two instances where I've had like a: 'no I need to stop this''* (Briony). *Tempering/rethinking* discourse was at times deployed to negotiate a preservation of energy required for pregnancy: *'I'm conscious that even though I'm trying to maintain some normality, I am still in my later stage of the pregnancy…I don't want to over-do it, and I don't want to knacker myself out either in case I go into labour tomorrow!'* (Kalina). Deploying a *tempering/re-thinking* discourse enabled pregnant women to assume a **Contented** position concerning their ***adapted*** physical activity.

***8.5.a(i)c Listening to body discourse***

Pregnant women traversed a metaphysical dimension to their ***adaptation*** discourses through *listening to body,* which concerned adapting or moderating physical activity relative to an inner-bodily intuition as to what was subjectively appropriate for their pregnancy: *'Like reduced the amount of weight I was lifting, I never went over-the-top and you listen to your body, I've always sort of known my own body well enough to'* (Lilly). Indeed, the very words *'listening to my body'* were commonly drawn upon, forming an ***adaptation*** discourse that offered a bespoke, and somewhat *independent* way, in which pregnant women could be experts about their own bodies: *'I do know my own body and I do know what I shouldn't do, so I'm quite happy adapting'* (Willow). *Listening to body* discourse is certainly metaphysical, as it pertains to the dualist theorizing of mind-body connection. It also highlights the embodied experience of pregnancy, with pregnant women discursively creating an *'other'* sense, which they draw upon as testament to their *tempered* and therefore safe ***adapted*** physical activity:

> *'I sort of listen to my body and if I feel tired then I'm not gonna carry on doing the exercise even though I think: 'in the past I would have done more' – I think: 'well ok, I'm tired now, so I should stop'. So I don't want to do too much, I don't wanna over-exercise, I don't want to sort of damage her in anyway by doing too much'* (Lavender).

An interesting point here is the comparison between **Compromised but Contented** position under this discourse of ***Adaptation***, when contrasted with the overarching ***Inner battle*** discourse of the **Tentative and Conflicted** position, particularly under the *wanting to but can't* discourse. Where the ***Adaption*** discourse allows for a positive metaphysical construction of intuition and mind-body concordance or harmony to account for physical activity; conversely the ***Inner battle*** discourses highlight a dualist metaphysical discourse where, despite the intention for physical activity being present, the body so to speak, in the broadest of terms, necessitates a desistance from pursuing physical activity. Essentially, it is interesting that a metaphysical component is discursively constructed in contrasting positions to account for physical activity.

***8.5.a(i)d Aligning to others discourse***

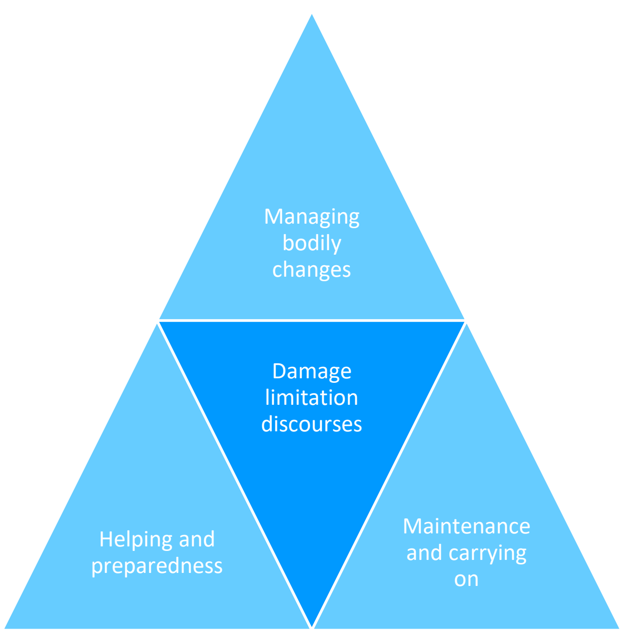
Pregnant women negotiated a **Compromised but Contented** position through ***Adaptation*** discourses on a social level, which involved *aligning themselves* to physical activity individuals, including pregnant women exercisers: *'I do remember seeing a pregnant woman there and thinking: 'oh ok, I'd be ok to go to the gym''* (Yolanda), and exercise professionals: *'there was a Pilates instructor that was brilliant and she'd teach something and then she'd come over and adapt it for me, she was amazing'* (Willow). *Aligning themselves* to and/or highlighting their connections with such individuals, positioned pregnant women as advantaged because they were accessing safe advice: '*we've got a lot of friends that work in sport and one of my best friends had a baby a couple of weeks*

*ago…she has done her pre and postnatal course…it's just really helpful having friends like that which I appreciate not everyone has. I feel quite well connected in a little bubble to ask questions of them'* (Briony). This seemed to create the effect of positioning pregnant women as **Contented** in their **Compromised** position; as they could draw upon the *advice* and experiences of others to not only facilitate and inform their ***adaptation***, which allowed them to *tailor* physical activity to their pregnancies, but to navigate a shared **Compromised** position: *'sharing some of those fears…not having the ability to do any of that does…make you feel like you're trying to find your way on your own'* (Jasmine).

#### ***8.5.a(ii) Damage limitation discourse***

Pregnant women's **Compromised but Contented** position on physical activity and their relationships with their bodies was also constructed through ***Damage Limitation*** discourse, which interpellated pregnancy as a bodily experience that **compromised** pre-pregnancy relationships with physical activity: *'my stamina's definitely gone down in terms of what I can do, so I can't walk as quickly, I'll get tired after a much shorter period of time'* (Jasmine).

***Diagram 8.12: Damage limitation sub-discourses***




#### ***8.5.a(ii)a Managing bodily changes discourse***

Pregnant women discursively negotiated a **Compromised** position by concluding that, although they were unable to enjoy certain pre-pregnancy benefits of physical activity (i.e., fitness and body modification), they could impede further changes. Pregnant women therefore accounted for this **Compromised** position by framing *bodily changes* discourse as an inevitability of pregnancy, which

they must *manage*: *'if you were just to sit around you should start feeling quite sorry for yourself 'cause obviously your body's going through so many changes, and you look completely different to how you looked a couple of months ago'* (Lavender). In acknowledging this, pregnant women assumed a **Contented** position alongside their **Compromised** one, by discursively constructing a role for physical activity within the *bodily changes* discourse. This role being a way to *manage* the perceived ***Damage Limitation*** of a changing body: *'You have to have that confidence that your body can do something, can achieve a big feat…it's very important for both pregnancy itself, for accepting the changes in the body and doing what you can to sort of manage damage limitation'* (Alyssa).

#### *8.5.a(ii)b Maintenance and carrying on discourse*

Under the ***Damage Limitation*** discourse, the **Compromised but Contented** position was discursively constructed through language that pertained to a sense of strife, such as pregnancy being a rough journey from which one emerges: '*I don't want to come out the other side with a bad back and a hip and I can't pick him up and play'* (Briony). Along this journey, physical activity is drawn upon to *manage bodily changes* against the odds: *'but keeping on just being normal and keeping on going as best you can'* (Hyacinth). In this way, physical activity was accounted for as a means to ensure the *maintenance and carrying on* or the *'keeping'* of general fitness; to *'carry on'* or *'manage'* the inevitable *bodily changes,* which revealed pregnant women's **Compromised but Contented** relationships with their bodies: *'I would say my main goal is just maintaining fitness, I don't want to have a baby and find that I'm not able to go for a walk. I want to maintain my fitness…I don't want to get too large – I know I'm going to be different…it's just maintaining fitness…I don't want to sort of lose anything that I've had before'* (Lavender).

#### *8.5.a(ii)c Helping and preparedness discourse*

This overall position was also achieved through redefining physical activity as a means of *helping or ensuring preparedness* for pregnancy, particularly where physical activity was constructed to *manage* the ***Damage Limitation*** of an already challenged pregnant body:

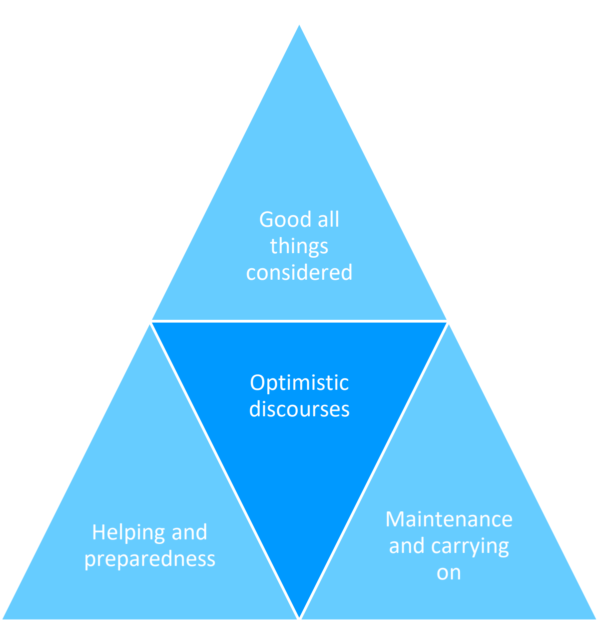
> *'there are very real physical consequences and harm…avoidable harm, that I can do something about, if I just get my arse up and do some exercise…I know that I already don't have a great bladder, and if I don't do exercise it may well be a worser outcome for me. I know that I don't have good core strength, my glutes – I know all this stuff! And I know that it's gonna be much harder if I'm not in good shape'* (Zinnia).

*Help and preparedness* concerned equipping the body to *manage* or cope with pregnancy: *'it helps with like when you're experiencing sickness…it's a good distraction from feeling grotty and horrible'* (Lilly). The ***Damage Limitation*** discourse was thus drawn upon to account for physical activity to *manage* the *bodily changes* through *maintenance,* as this essentially *helps* their ***adaptation*** to a **Compromised** physical activity and bodily relationship: *'I think that's been really, really helpful,*

*especially for my energy levels as well…Which I think when you're getting to the later stages of pregnancy that's probably all you can really do!'* (Yolanda).

***8.5.a(iii) Optimistic discourse***

***Diagram 8.13: Optimistic sub-discourses***




***8.5.a(iii)a Good all things considered discourse***

This discourse constructed pregnant women's **compromised** relationship with physical activity and their bodies as *good all things considered: 'I'm not too bothered about putting on the extra weight…I'm still up and about all the time and pretty flexible, still able to bend over and pick things up off the floor, so, that's not too bad'* (Daisy). Although discursively highlighting their physical activity relationships as being *'good'* despite the bodily ***adaptations*** or ***limitations*** of pregnancy, betrayed the navigation of a largely **Compromised** position, this ***Optimistic*** discourse situated their bodies as striving against the odds, with physical activity being a means to navigate a **Contented** position in tandem with a **Compromised** one: *'I'd say my mood isn't too bad for someone who is effectively very heavily pregnant with three children home-schooling…but actually no, the workout in the morning I'm finding really important'* (Alyssa).

***8.5.a(iii)b Hoping to reclaim body/return to physical activity discourse***

*Managing* this **Compromised** position concerning their physical activity identities and relationships with their bodies was teamed with a **Contented** position through the ***Optimistic*** discourse of *hoping for a return to physical activity or to reclaim their pre-pregnancy body*: *'I'm in a good physical place that hopefully it helps but equally recovery afterwards might be…quicker for want of a better word'*

(Briony). This enabled pregnant women to assume a **Compromised** position and to moderate a decline in their physical activity identities and relationships, with the view of regaining bodily control after pregnancy: *'I did think about going back! But...I thought there's no point in me going back because it's just gonna hurt my muscles even more, 'cause I haven't used them for a while. I just thought it's probably best for me to 'not' and just start again once the baby's here'* (Daisy). Indeed, pregnant women assumed a **Compromised but Contented** position through discursive interjections of *'hope'* that they will be able to *reclaim their pre-pregnancy bodies and fitness after pregnancy*: '*you know that'll come back in the future, for now I'm quite happy to be at a little bit of a steadier pace'* (Willow). Some participants accounted for this physical activity relationship by *aligning* themselves to those who also navigated **Compromised but Contended** positions: ***adapting*** physical activity in response to bodily ***limitation***:

> *'my friend…who's like, super-keen, power-lifter…having her around like makes me realise that just 'cause you've had a kid, doesn't mean that being fit is over with…you can get back into it and I think at the start you very much go like: 'ooh I'm not gonna be as fit as I was…before baby' and like she's incredibly fit and stronger than she's ever been and you're like, it's not an end of the road type scenario'* (Briony).

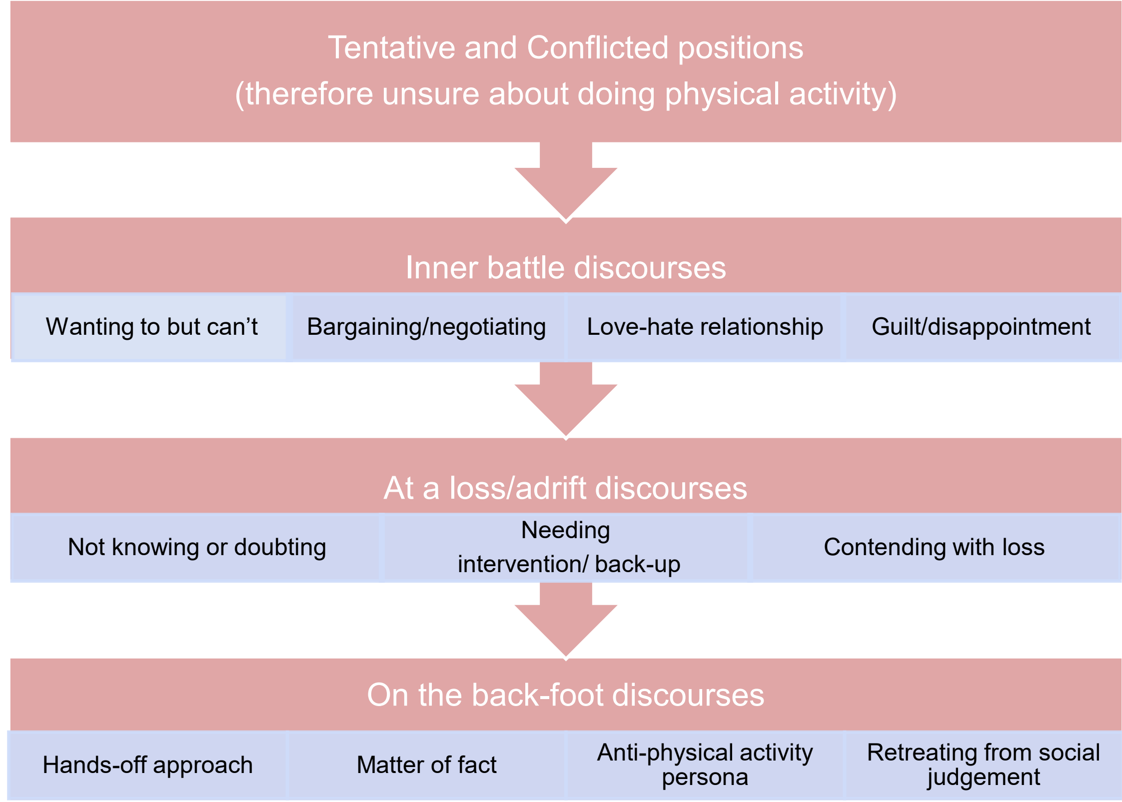
#### *8.5.a(iii)c Support from others discourse*

This discourse was constructed through anecdotes of praise and being *'encouraged'* for an active pregnancy: *'I would say quite impressed…'good on you…why not!' That was actively encouraged by my community midwife – to keep going…they sort of said: 'if you feel well enough''* (Hyacinth). Thus, receiving praise and recognition *from others* for being active during pregnancy, enabled a **Contented** position, despite negotiating a **Compromised** position.

### 8.5.b Tentative and Conflicted positions

The **Tentative and Conflicted** positions depicted an oscillation between active and inactive positions and discourses, such as pregnant women who either wished to continue engaging in physical activity or rather felt they should engage in physical activity; but were unable to do so with a requisite degree of confidence and reassurance.

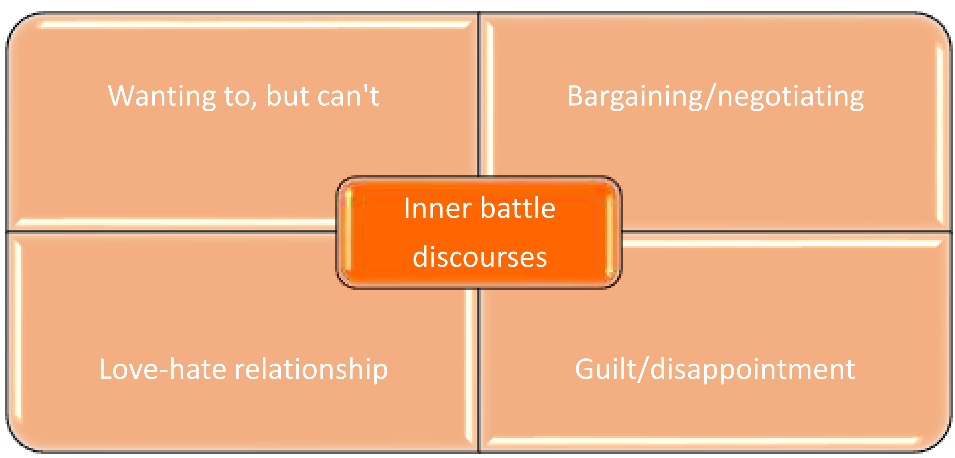
***Diagram 8.14: Tentative and Conflicted position and discourses***




## ***8.5.b(i) Inner battle discourse***

***Inner battle*** discourses were drawn upon to navigate between both **Tentative and Conflicted** positions concerning physical activity.

***Diagram 8.15: Inner battle sub-discourses***



#### *8.5.b(i)a Wanting to, but can't discourse*

Pregnant women often constructed physical activity and their abstinence thereof through the ***Inner battle*** discourse of sequentially *wanting to, but can't*: *'to be honest I would have liked to probably done more than what I have…I feel a little bit more, obviously with everything that's going on, a bit more restricted now on what I can do'* (Kalina). *Wanting to, but can't* discourse traversed socially-imposed restrictions, commonly in consequence of the global pandemic: *'I was gonna look at doing some pregnancy yoga up here – but…corona virus started – so I haven't'* (Lavender), as well as well reported intrapersonal barriers of pregnancy *'fatigue and sickness'*: *'it just makes you feel a bit miserable really and makes you want to try and get up and do something, but then you know you haven't got the energy to do that'* (Yolanda). In order to process the manifest frustrations with this *wanting to, but can't* discourse and account for a **Conflicted** position, some pregnant women would generalise the limiting experiences of pregnancy by drawing upon a second person narrative: *'I struggled with that in the first few weeks when you just don't feel well and you're tired, but you kind of know that you should still, well I felt like I should still be doing something'* (Briony).

Discursively *wanting to, but can't* was also constructed as a dualist or metaphysical dilemma, where **conflict** was implied through the contrast of objectively *'thinking'* and subjectively *'feeling'* about physical activity: *'swimming and running, I kind of felt fine. But it was just like, in the back of my head: 'if I have a clatter off my bike here, it might not be such a great thing''* (Orchid); suggesting that a mind-body discordance adds a metaphysical dimension to the **Conflicted** position (similar to the **Adaptation** discourse of *listening to body*). Pregnant women may therefore discursively account for their **Conflicted** position, by drawing upon or implicitly constructing a mind-body disconnect, with neither entity affording pregnant women the reassurance they require to engage in physical activity without feeling **Tentative** and **Conflicted**.

#### *8.5.b(i)b Bargaining/negotiating discourse*

A **Tentative** position was often navigated through discursively *bargaining/negotiating* physical activity options: '*I just stopped pole fitness altogether…I suppose I can still like go skating up and down the street if I wanted to, but just not on ramps'* (Daisy). *Bargaining/negotiating* discourse however, inadvertently evinced a futile attempt to *negotiate* with themselves and others: *'it did take a bit of persuading…'cause I just kept saying: 'one more week!''* (Orchid), with perhaps knowing already that they are unlikely to engage in physical activity: *'you're also fighting with your own natural human laziness when it comes to exercise, and you're on a knife edge as to whether you're going to exercise or you're not'* (Zinnia). This enabled pregnant women to account for their reduced activity or complete inactivity by discursively highlighting the tensions that rendered them both **Tentative and Conflicted**.

***8.5.b(i)c Love-hate relationship discourse***

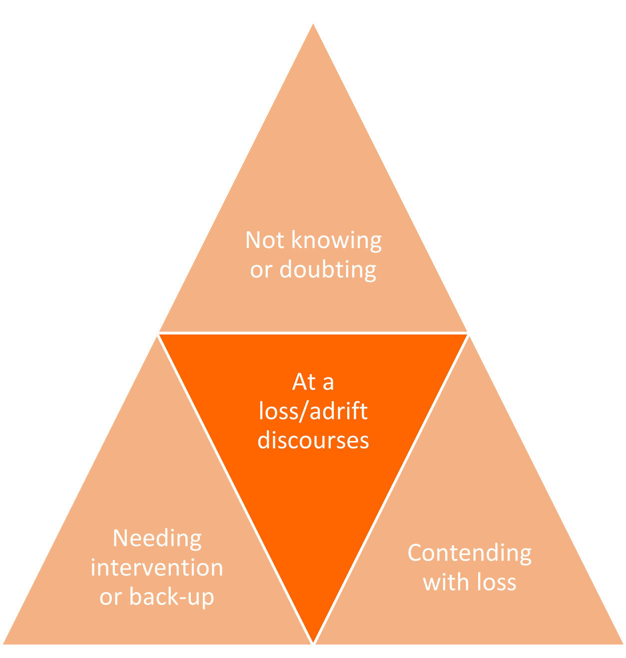
Pregnant women also accounted for a **Conflicted** position through the ***Inner battle*** discourse of harbouring an innate or default *love/hate relationship* with physical activity: *'I sort of have a love-hate relationship with the gym anyway. I'd sort of been going and then I'd stopped going and then I'd start going again'* (Yolanda). Essentially, they were already **Conflicted** about physical activity through a pre-existing discordant relationship.

***8.5.b(i)d Guilt/disappointment discourse***

Finally, pregnant women discursively navigated a **Conflicted** position through *guilt/disappointment* discourse concerning their physical activity. Within this position, physical activity was uniquely constructed in two conflicting ways. (1) Physical activity as a product of *guilt/disappointment* discourse (with *guilt/disappointment* talk attributed to a physical activity decline): '*it was just that feeling of guilt myself that if I'd really worked harder, I could've fitted more physical activity in'* (Kalina, p.8). (2) Physical activity was also a perpetrator of *guilt/disappointment* discourse, where preserving physical activity was interpellated as an interfering force that detracted from pregnancy: *'I genuinely, not forgotten that I was pregnant, but I just hadn't thought about it. And then I felt so guilty, that I wasn't embracing being pregnant and, you know, enjoying the time and all of that'* (Hyacinth).

***<u>8.5.b(ii) At a loss/adrift discourse</u>***

***Diagram 8.16: At a loss/adrift sub-discourses***



***8.5.b(ii)a Not knowing/doubting discourse***

*Not knowing or doubting* discourse constructed physical activity as a behaviour fraught with risk, obstacles and therefore uncertainty, such as *not knowing or doubting* the safety and utility of physical activity during pregnancy: *'it was an exercise we were doing that was sort of like crunches and stuff, and you know when you just think: 'I don't know if I should be doing that''* (Hyacinth). Indeed, discursively *not knowing* perpetuated a sense of *doubt*: *'It does, it did make me question a little bit like: 'am I doing the right thing?'* (Kalina). The *not knowing or doubting* discourse positioned pregnant women as **Tentative** about engaging in physical activity, when examining the information available, which either lacked sufficient detail to inspire confidence in exercising safely: *'I think just some of the advice is hard as well, when it says like: 'don't lie on your back for a long period of time' and I was like…'what is that period of time?''* (Briony); or offered conflicting advice: *'sometimes the more I read the more I'm like: 'oh but, that says that and that says that and then I can't do that – and I'd rather in some ways not do it'* (Jasmine).

***8.5.b(ii)b Needing intervention or back-up discourse***

*Needing intervention/back-up* discourse was drawn upon where pregnant women recanted instances in which *intervention or back-up* from another was needed to reinforce or support their physical activity relationship. For example, discursively drawing upon *back-up* from another in order to engage in physical activity in a gym setting where they had felt judged by others: *'I did sort of avoid her and I used to go, like me and my husband used to go to the gym together, we didn't do the same stuff while we were there but we at least like went into the room together, and I think I felt more comfortable because I knew that we were sort of both there'* (Lilly). *Intervention* was required from others to prevent pregnant women from overdoing their physical activities:

*'they all thought it was a good idea, especially [PARTNER] 'cause he knows how much…I put into it – it sounds strange saying it – but like I do go and I put like 100 percent effort in 'cause I want to be better. So I think he thought if I stopped then it'd be, I won't be putting as much strain on my body'* (Daisy).

In this way, *needing intervention/back-up* constructed a wider ***At a loss/adrift*** discourse, which limited pregnant women to a **Tentative** position. Independent manoeuvring to either a temporary **Compromised** or decisive protective-leaning position in physical activity, could not be pursued without the *intervention or back-up* of others around them.

***8.5.b(ii)c Contending with loss discourse***

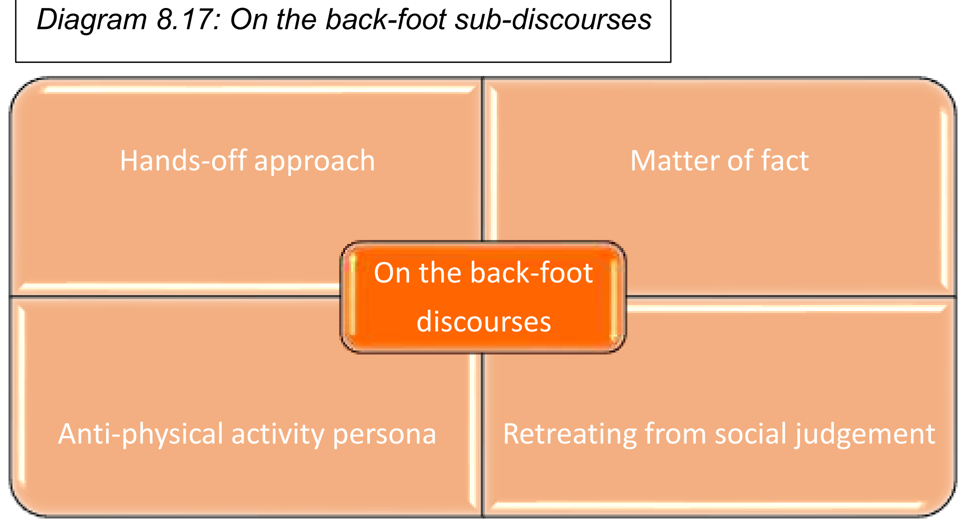
Through *contending with loss* discourse pregnant women talked about their **conflicted** relationship with physical activity, in so much as the difficulties they experienced while attempting to incorporate it safely within pregnancy. This in turn caused them to accept or contend with losing their physical

activity identity/relationship and the benefits it afforded them: *'I feel a bit sad that I've kind of gone downhill on that front, I would like to get back up to that because it's quite a nice thing to do and it's a lovely activity as well'* (Zinnia). Indeed, *contending with loss* discourse implicitly placed pregnant women in a **Conflicted** position in a variety of contexts: (i) when processing a *loss* of fitness and skill progression: *'it's still a bit disheartening when I think: 'Aww I could be at their level now'* (Daisy); (i) a loss of aesthetic image and bodily control: *'I used to have quite a toned stomach…is quite hard sometimes because your stomach is different'* (Lavender); and (iii) when accepting a loss of *'social interaction'*, *'role'* or *'purpose'* generated from their physical activity identity and relationship: *'I was upset. I wanted to do what I wanted to do'* (Orchid).

### 8.5.b(iii) On the back-foot discourse

Pregnant women also navigated both **Tentative** and, at times, **Conflicted** positions under the ***On the back-foot*** discourse; a discourse that enabled pregnant women to *retreat* from social discourses promoting physical activity and negotiate a **Tentative** stance, rendering them uncommitted to physical activity.

*Diagram 8.17: On the back-foot sub-discourses*




#### 8.5.b(iii)a Hands-off approach discourse

The *hands-off approach* discourse was deployed to navigate the difficulties encountered when advising pregnant women on physical activity: *'it's a fine line, 'cause…no one really wants to tell a pregnant woman what to do or…try and add pressure to do certain things*' (Zinnia). This often occurred when pregnant women reflected that a physical activity *'journey'* or *'experience'* suitable for them, may not suit other pregnant women: *'I've learnt how different everybody is in terms of how they cope with pregnancy, what they go through, what they find easy, what they find difficult; no two pregnancies are really the same'* (Lilly). Therefore, despite at times claiming a proactive-leaning position on physical activity, deploying a *hands-off approach* discourse betrayed a self-consciousness

and a desire to avoid or retreat from an **advocatory** position on physical activity that could be considered as *'preaching'*:

> '*on one hand I hate that there's this disdainful attitude towards people that maybe don't do pregnancy or for whom physical activity isn't important 'cause I think: 'oh just piss-off. It's not for everybody…it's preaching…but because it's important to me, I suppose I do take on board some of it'* (Alyssa).

***8.5.b(iii)b Retreating from social judgement discourse***

The *retreating from social judgement* discourse involved the re-evaluation of a physical activity position/stance in response to anticipated or actual social discourses concerning the exercising pregnant body: *'people might look at me [running] and be like: 'oh gosh, why are you still out running?' But…I still don't feel like I've got that much of a bump'* (Briony). This discourse was inextricably linked with social surveillance, as a discursive *retreating from social judgement* became more apparent alongside a visible pregnant body that compelled pregnant women to anticipate social judgement: *'because it was only me that was pregnant, I didn't really want to go to the swimming baths by myself…I just think people would be looking at me…and being like: 'oh what's she doing at the swimming baths?' Like I'm some sort of beached whale'* (Daisy). This discourse ushered pregnant women towards **Tentative and Conflicted** positions, where they *retreated* from others regarding their physical activity relationships, following actual negative social responses, such as exercise professionals*: 'I must admit I always kept an eye out for that woman after that point and sort of like gave her a wide birth…I did sort of avoid her'* (Lilly); and exercise professionals: *'one of them was just insistent!…and it meant that I just didn't go to her class anymore. And her class was the one that I felt a lot of physical benefit from – so it was a real shame'* (Zinnia).

***8.5.b(iii)c Matter-of-fact discourse***

**Tentative** positions were also assumed where pregnant women stated a reduction or change in physical activity had to be taken as a *matter-of-fact*: *'I had to stop playing hockey once I got to 12 weeks…which I found really hard'* (Orchid). This was frequently emphasised through the word *'obviously';* suggesting that a reduction in physical activity proceeded a logical or rational assessment of appropriate behaviour: *'my instructor from pole – I said 'I won't be going for a while', and she was obviously supportive and she was like: 'no problem that's fine, you've got to think of yourself and the baby'…then my best friend who I used to go with, but obviously she was just happy that I was pregnant!'* (Daisy). A *matter-of-fact* discourse was also drawn upon to *retreat* from proactive-leaning statements framed as ambitious about physical activity: *'obviously pregnancy you do end up putting on weight in different places and you do end up being unfit because you can't physically, towards the end, do as much as what you could'* (Kalina). Indeed, retreating from proactive positions was also achieved through *matter-of-fact* discursive devices, such as deploying second person narrative, which

generalised the experience and through categorical language, which instructed pregnant women to navigate protective positions: *'there'll be certain things that you will have to stop!'* (Briony).

***8.5.b(iii)d Anti-physical activity persona discourse***

Finally, a **Tentative** position was navigated where pregnant women drew upon the notion of harbouring an *anti-physical activity persona*, such as: '*I'm not one of these people who's like: 'oh I get such a thrill out of exercising and I love doing it!'…I never have been'* (Lilly). This notion traversed a retreating from physical activity personas they perceived requisite for an active pregnancy. This discourse was often situated in anecdotes, discursively constructing it as a deep-rooted belief to account for their current inactivity: *'it reminds me of the anxious…high school PE vibe where…you're running on the track and you're the last person…I'll consistently be one of the slowest people there'* (Zinnia).

## Chapter 9: Study Two Social Discourse Discussion

### 9.1 Introduction

Altogether ten subject-positions and 12 discourses were identified, which pregnant women drew upon to navigate and account for their stance on physical activity. These subject-positions have been plotted along an antenatal physical activity continuum (Diagram 7.1), which depicts the multiplicity of subject-positions available in a discursive navigation model. The ten subject-positions were clustered under the physical activity approaches of proactive (**Rebellious, Advocate and Empowered**), middle-ground (**Compromised but Contented**, **Tentative and Conflicted**) and protective (**Vulnerable, Restricted, Fortunate**). Owing to the multiplicity of subject positions available in accounting for their physical activity relationships and identities, pregnant women often navigated multiple subject-positions (Appendix H), both drawing upon and resisting varying and vying discourses. The subject-positions and accompanying discourses are discussed below in relation to the extant literature.[30]

### 9.2 Proactive discourses and positions

#### 9.2.a Reframing motherhood discourse

At the proactive-end of the continuum, **Rebellious** was a key subject-position navigated to account for physical activity. Navigating a **Rebellious** position manifested a resistance of the dominant social discourses upholding protective-leaning positions as more compatible with a transition to motherhood. Often a **Rebellious** position was navigated through the ***Reframing Motherhood*** discourses, which enabled a resistance or indeed challenge of societal expectation by *rejecting other [discursive] positions* and *defending intentions* to engage in physical activity for *pregnancy/birth* and *motherhood*. Discourses defining appropriate or societally approved maternal behaviour and body have been described as *'gendered discourse of femininity'* (Johnson, Burrows and Williamson, 2004; McGannon and McMahon, 2021); such discourses often find a place in maternal subject matter, representing a conflict between self-navigation of experience and societal expectation of the feminine body. A good example is Johnson et al's (2004) study exploring the impact of bodily changes during the transition to motherhood. Pregnant women navigated competing discourses of *'pregnancy as transgressing dominant ideals for feminine beauty'* and *'pregnancy as legitimating the transgression of idealised feminine beauty',* to align themselves to and/or resist *'gendered ideologies'* of the appropriate feminine body in utero. In the current study, **Rebellious** and eventually **Empowered** positions were notably navigated through the ***Reframing motherhood*** discourses to deconstruct traditional,

[30] Please note: some discussion may relate to the 'multiplicity of positions' chapter, which can be found in Appendix H.

dominant discourses on pregnancy. This included discursively *rejecting other positions*, namely protective and **Compromised** positions. This discursive resistance of dominant, traditional discourses concerning maternal behaviour has been reported elsewhere. In an examination of the dominant discourses derived from pregnant women's self-representations on the social media platform *'Instagram'*, Mayoh (2019) identified discursive *'resistance'* towards optimised pregnancy ideals under the theme of *'rejecting the 'perfect pregnancy' reworking (and reproducing) dominant ideals'*. Indeed, this was a discursive resistance of a societal expectation for pregnant women to exhibit a *'fit'* maternal body, epitomising both physical fitness and feminine fertility.

***Reframing motherhood*** discourses were drawn upon to *incorporate physical activity into motherhood*, by situating physical activity as a transition to and necessary practice of mothering. This included equivocating physical *'fitness'* as a prerequisite for birth/delivery. The relevance of *fitness for pregnancy* or mothering and ***reframing*** dominant discourses of ***motherhood*** to challenge *'restrictive stereotypes of the "good" mother'* (Lewis and Ridge, 2005:2295), has been identified in research exploring gendered ideologies and/or gendered discourses (Lewis and Ridge 2005; Nash, 2011; McGannon et al., 2017). For example, in Nash's (2011:56) grounded theory study exploring women's negotiations of pregnancy *fitness* and good mothering identities through physical activity, under the theme of *'negotiating the "gym sphere"',* participants did so with the articulated intention of *'becoming fit for birth'*. Media representations have also been instrumental in accounting for a *fitness* status in mothering. In McGannon et al's (2017) study exploring news media constructions of a female tennis player returning to competitive play after pregnancy, the media positioned her within a *'super mum identity…compatible with sport within the 'fairy tale come true' narrative'*. This discursive construction of the *'super mum identity'* is exemplary of the *incorporating physical activity into motherhood* discourse in the current study. ***Reframing motherhood*** is thus a discursive resource deployed to render the *fitness* or athlete *'identity dimensionality [as] compatible with motherhood'* (see McGannon et al., 2017:126). Furthermore, in McGannon et al's (2012) study, where media representations of Paula Radcliffe's pregnancies and athlete status were explored, the identity of *'athlete and mother as one'* highlights the unification of these identities; thereby *incorporating physical activity into pregnancy* or motherhood, in a manner that is **Rebellious** against the dominant discourses on *'gendered ideologies'* defining appropriate maternal behaviour and body.

***Reframing motherhood*** discourses in the current study often facilitated the navigation of a **Rebellious** and a concomitant **Empowered** position, through discursively resisting and ***reframing*** dominant discourses and constructing physical activity as a conduit to *'empowerment'*. Similar to the current study, Nash's (2011:56) findings highlight how *'empowerment'* is the product of a physical activity relationship/identity: *'exercise engendered feelings of empowerment in preparing…for enduring the experience of birth'.* Interestingly, in light of McGannon et al's studies discussed above,

where there appears to be a media exhibition of the mother-athlete identity, the pursuance of a proactive approach by discursively ***Reframing motherhood*** creates a new societal expectation that ultimately neutralises the **Rebellious** position into an **Empowered** one. That is, if society is convinced of *incorporating physical activity into motherhood*. Indeed, while physical activity may be a gateway to *'empowerment'*, it is also an enabling factor to an aspect of the *'neo-liberal, social-political and economic'* expectation that women should/could simultaneously embody and exhibit multiple features of femininity (Nash, 2011:51). This expectation positions women as maternal/caregivers, yet also workers who financially contribute to and/or domestically govern the household; to be the producers of life through an uncontrolled body, yet to exhibit a disciplined, taut body that indicates survival and health. Women's bodies must therefore be strong, but they must also be feminine, submissive and meet patriarchal, heterosexual ideals of sexual attractiveness (Nash, 2011). It is interesting to consider therefore, that as a **Rebellious** position (by ***Reframing motherhood***) ultimately works to navigate an **Empowered** one, society (as seen in media depictions) may discursively construct a new societal expectation of the *'super mum'*; as *incorporating physical activity into motherhood* does not necessarily mean to the expulsion of other duties and roles constructed through *'gendered ideologies'*.

*Defending intentions* discourse also sought to navigate an **Empowered** position from occupying a **Rebellious** one. This was achieved by resisting socially derived discourses that constructed the proactive stance as one of extremity or self-interested pursuit. Resisting discourses by *defending intentions* and thus *incorporating physical activity into* a discursively ***Reframed motherhood*** has been identified elsewhere. Wigginton and LaFrance (2014:17) found that some pregnant women participants discursively accounted for smoking in pregnancy as *'healthier and safer'* for the baby than the stress associated with stopping smoking: *'women articulate and defend against being positioned by others as a 'bad mother''* (p.42). Similar and translatable to the current study, these findings support the discursive navigation of mutually *defending* and *incorporating* their *intention* around smoking in utero into a ***Reframed motherhood*** to account for their smoking behaviour. In a later study, Wigginton and LaFrance (2016) highlighted how some pregnant women participants discursively distanced themselves from a smoker identity or downplayed their involvement in this behaviour; a finding which is supported in the current study, where proactive pregnant women downplay their proactive identity by distancing themselves from an *'extreme'* exerciser identity. Although in contrast to smoking in utero, physical activity is a reportedly beneficial behaviour for both mother and gestating baby, the fact that these discursive navigations of proactive pregnant women are deployed to account for their physical activity under ***Reframing motherhood*** discourses are comparable to those identified in smoking behaviour, implies a self-consciousness on pregnant women's part, that *'extreme'* or proactive physical activity is perceived by others to present harm. This finding is also telling of the dominant social discourses on antenatal physical activity that proactive

pregnant women may resist discursively, by assuming an **Empowered** position to protect a semblance of their physical activity identities and relationships.

### 9.2.b Retaining autonomy discourse

Similar to the ***Reframing motherhood*** discourses, ***Retaining autonomy*** discourse was commonly drawn upon to support an **Empowered** position, which was also accessed through a **Rebellious** position due to the act of discursive *'resistance'* precipitating a sense of *'empowerment'*. Indeed, the relationship *between 'resistance'* and *'empowerment'* concerning the bifurcated *'good mother'* and *'good runner'* identity has been well described by McGannon, McMahon and Gonsalves (2017) in their discursive study of mother runners virtual identities: *'blog posting [amongst participants] as a tool of empowerment, allowing women to resist gender ideologies that position them primarily as caregivers who place family above their own running'*.

The ***Retaining autonomy*** discourses shared a common ground of vying for identity through physical activity, with physical activity constructed as simulating *control, self-connection* and *independence*. The discursive significance of an **Empowered** position underpinning these ***Retaining autonomy*** discourses are mirrored elsewhere more broadly in the context of motherhood and running, including allusions to discourses of *self-connection* (through *'self-care'*), *independence* (via *'autonomy'*) and *'self-determined' control* (through established *'normalcy'*), in the form of *'running (re)connect me to myself'* (McGannon et al., 2017; McGannon and McMahon, 2021:10-11): *'The 'running (re)connects me to myself' vignette uniquely shows women's competitive running identity was negotiated as a self-determined embodied practice of self-care'*. ***Retaining autonomy*** discourses pertain to exclusive autonomy-giving features of engaging in physical activity during pregnancy. For example, physical activity was discursively constructed as a means of *having control* during a time where bodily *control* seemed increasingly inviable. This has been highlighted in other studies, such as Nash's (2011:56) longitudinal study with mothers, where *'exercise was the means by which [participants] attempted to maintain some recognisable semblance of their pre-pregnant identities'*. The *connection with self* discourse through physical activity is also supported by a non-discursive study, exploring the experiences of pregnant women with risk of gestational diabetes mellitus when negotiating physical activity. Wagnild and Pollard (2020) indeed highlight the positive internal *'feeling'* pregnant women cited when offering a *'reason'* for engaging in physical activity.

Interweaving ***Retaining autonomy*** discourses of *Independence* and *Handling social judgement* pertain to the **Rebellious** subject-position, again as a stepping-stone to an **Empowered** one, as such discourses enable pregnant women to resist and disengage from dominant social discourses, both through autonomously choosing to exercise (*Independence*) and by challenging others (*Handling social judgement*). Amongst the literature however, these types of ***Retaining autonomy*** discourses

are expressly linked to positions of **Empowerment.** For example, in McGannon et al's (2017) study exploring discursive navigations of athlete-mother identities, they highlighted how mother-runner bloggers resisted discourses antithetical to their runner identities and in doing so experienced 'empowerment': *'empowerment was further accompanied by resisting cultural norms that typically position running as a way to shape women's bodies into a limited version of femininity'* (p.129). Although one can associate the *handling social judgement* discourse in the current study, as supported amongst the literature more broadly as a navigation piece towards an **Empowered** position, it can be argued that the use of words *'resist', 'resistance'* or *'resisting'* implies an initial **Rebellious** position.

As mentioned earlier, the interconnected positions of **Rebellious** and **Empowered** in the current study were underpinned by *'empowerment'* discourses of ***Retaining autonomy***, as well as the discourse of ***Reframing motherhood***, which *'resisted'* traditional dominant discourses and constructed more favourable archetypes of the exercising or proactive pregnant woman. The dual discursive navigation of ***Reframing motherhood*** to *incorporate physical activity* in efforts to ***Retain autonomy*** (e.g., through *Connection with self* discourse) has also been illustrated elsewhere. For example, in McGannon and McMahon's (2021) study exploring mother runner's identities, findings revealed that in preservation of such identities (which theoretically conflict with a sole prioritisation of caregiver duties): *'mother runners conformed to 'good mother ideals' striving to be role models, but also claimed running as a practice that allowed for self-care and advocacy for others'* [p.3]. In relation to the current study both overarching discourses are key discursive tools to account and appropriate societal discourses on antenatal physical activity.

**9.2.c Physical activity motivational discourse**

Predominantly, ***Physical activity motivational*** discourse enabled the navigation of an **Advocate** position to account for a proactive-leaning approach on physical activity. Discursive manifestations of an **Advocatory** position included *championing/campaigning* for the active pregnancy, reinforcing this position with *factual/medical* discourse, while continuing to exhibit a *competing/achieving* identity; particularly by *comparing* themselves to others, which further positioned them as an exception to the *'good mothering'* stereotype laboured under sedentary-like behaviour. The discursive navigation of an **Advocate** position has been identified elsewhere in relation, again, to *'good mothering'* ideals. In McGannon et al's (2017) study exploring the construction of recreational athlete mother runner identities through online *'blogging'*, the *'role mother/advocate'* subject-position featured as a means to *'resist good mother ideals that often constrain exercise'* (p.125). Also consistent with the findings of the current study, is the notion of how navigating an **Advocate** position ultimately reinforces an **Empowered** position or state of *'empowerment'* (albeit through 'resistance', which is also linked to a

**Rebellious** position). Again, this demonstrates the navigation of multiple positions by discursively ***Reframing*** conflicting stereotypical discourses on ***motherhood*** and physical activity:

> *'The subject position of 'role mother and advocate' reinforced the meaning of running as a practice that transforms self-identities, further enhancing women's empowerment through the portrayal of mother runner identities as melded and inextricably linked…with women positioned as serving as role mothers for the family, thus enhancing their good mother status through exercise, but also as advocates for other mothers'* (2017:131).

***Physical activity motivational*** discourse also included a *competing/achieving in pregnancy* to account for physical activity that reflected discourses reminiscent of the fitness industry. Indeed, some of the participants in the current study considered themselves to be either an athlete, working in the athlete industry or in possession of an athletic body type, which appeared significant to their discursive constructions of their physical activity identity and relationship. A study that eloquently illustrates fitness constructions of the transformed and disciplined post-maternal athlete body, is Hodler and Lucas-Carr's (2016) discursive exploration of media representations and the *'constructed narrative'* of swimmer Dara Torre's return to competitive sport in the 2008 Beijing Olympics. The current study's findings of ***physical activity motivational*** discourse navigated in favour of antenatal physical activity, translates well to Holder and Lucas-Carr's exploration of the term *'fitspirational'* as important in *'reframing what a woman's ideal body is and how it is achieved'* [p.442]. In the current study, **Physical activity motivational** discourse promote a sense of continued *competing/achieving* in pregnancy terms of fitness, a finding which is supported in Hodler and Lucas-Carr's study:

> *'Fitspiration simultaneously conflates the appearance of fitness with health and objectifies the body as something to be worked on. It is a discourse that targets woman and encourages individual women to take "control" of their bodies by undertaking regimes of physical maintenance…fitspiration encourages taking "ownership" of one's own body…to achieve a body that signals achievement and the strength of the individual will. Torres's comeback narrative achievement of hardening her body'* (p.454).

The navigation of ***Physical activity motivational*** discourse, through a self-imposed pressure to still be *competing/achieving* a disciplined body through physical activity has been identified elsewhere. Indeed, Nash (2011) alludes to this in identifying moralistic language and statuses women attribute to a perceived failure to continue exercising. For example, under the theme of *'the moral dimensions of exercise: the language of "badness" and "goodness"'*, Nash (2011:58) highlights how *'badness was a failure to exercise. Twelve informants directly connected their intrinsic bodily and/or moral goodness with the amount of exercise or bodily discipline performed'*. In the current study, ***Physical activity motivational*** discourse drew upon slogans or sound-bites indicative of the fitness industry, ones which subscribed to a *'no excuses'* culture of continuing to be *competing/achieving* a disciplined body. This allusion to ***physical activity motivational*** discourse can also be supported in Nash's (2011)

study where a degree of *'responsibility'* and indeed *'blame'* is assumed in meeting the disciplined body expectation, without exception or excuse*:*

> *'These informants accepted that the onus to engage in "body work" was placed squarely on their shoulders. Body work was their responsibility, and, as such, if they did not conform to stereotypically middle-class feminine modes of bodily discipline they had only themselves to blame'* (p.58).

***Physical activity motivational*** discourse automatically evinces an **Advocate** position. For example, constructing a pregnant woman who, by *competing/achieving* in spite of social normative expectations of a pregnant body, is also *campaigning/championing* a more disciplined pregnant body by *comparison* to others. The pregnant woman **Advocate** is indeed acknowledged as *achieving* outside of the normative standards of pregnancy and perhaps motherhood.

In relation to the deployment of *factual/medical* discourse to account for a proactive-leaning approach to physical activity under an **Advocate** position, there is little direct support for this discourse, which is likely due to the paucity of discursive research in this area. However, the use of *factual* speak has been identified in a study exploring how pregnant women discursively account for smoking; a behaviour carrying greater social stigma. In Wigginton and LaFrance's (2014) study, pregnant women drew upon a '*stacking the facts'* discourse to circumambulate the indictability of medical discourses pertaining to the risks of smoking in pregnancy, as they considered themselves to have *'fortuitously evaded'* these consequences. In contrast, although in the current study *factual/medical* discourse actually comprised *medical* knowledge as opposed to an argued case for exemption from social judgement, it did however serve a similar purpose of arguing, and thus **Advocating,** pregnant women's entitlement to physical activity as a recreational behaviour.

### 9.3 Protective positions and discourses

#### 9.3.a Protecting body discourse

The protective-leaning end of the antenatal physical activity continuum revealed three subject-positions of **Vulnerable, Restricted** and **Fortunate**. Varying discourses underpinned these protective-leaning positions, with a **Vulnerable** position being the corner stone for navigating other positions. Indeed, a **Vulnerable** position, alongside a **Restricted** one, was securely navigated by the ***Protecting body*** discourses, which hinged on risk and safety concerns. These included a didactic tone of *rest and relax* for an *encumbered body*, necessitating a *rejection of proactive positions* for *liability/fear* of introducing risk or harm. Research exploring discursive constructions of pregnancy and motherhood have identified the deployment of *'risk'* perceptions and narratives concerning physical activity (Bennett, 2017; Ekelin et al., 2018; Nash, 2011), as well as transitionary experiences to

motherhood more broadly (Chadwick and Foster, 2014; Hallgrimsdottir and Benner 2014, Jette, Vertinsky and Ng, 2014), including decision-making in pregnancy. In a study exploring pregnant women's negotiating of risk in deciding and electing for birth plans, using social constructionist discourse analysis, Chadwick and Foster (2014:68) found that risk constructions of birthing plans included conceptions around *'vulnerable bodies'*. In particular, *'the birthing body was constructed as vulnerable to objectification, loss of dignity and shaming'*. In translating such findings to the results of the current study, it supports the notion that decision-making or accounting for activities in pregnancy that involve bodily-exertion or a *'biomedical risk'* (e.g., giving birth or physical activity), may produce risk discourses, which engender a *'vulnerable'* subject-position. Indeed, when accounting for decisions that seek to avoid this potential for risk, pregnant women may align themselves to a **Restricted** position more willingly. Varying discourses underpinned these protective positions, with a **Vulnerable** position. Veritably, Chadwick and Foster's (2014) finding of risk discourses concerning *'vulnerable bodies'* translates to discursive constructions in the current study underpinning a **Vulnerable** position, navigated via ***Protecting body*** discourses of an *encumbered body* and navigating *liability/fear* in accounting for a reduction or cessation in physical activity.

***Protecting body*** discourses, which intersect with social discourses cautioning against physical activity, have been identified as a rationale or explanation for pregnant women ceasing/reducing their physical activity. For example, in Wagnild and Pollard's (2020:1076) non-discursive study exploring how pregnant women (with gestational diabetes mellitus) negotiate physical activity, the theme *'negotiating expectations that pregnant women should sit down'* supports the discourses of *rest and relax*, as well as *liability and fear* when encountering discouraging comments from partner, family and exercising professionals displaying *liability* concerns for pregnant women exercisers: *'Participants also reported being discouraged from physical activity. In the most extreme cases, several women described being barred from the gym because of their pregnant status'*. Such findings also overlap with and reinforce the ***Relinquishing control*** discourse of physical activity being constructed as a behaviour that pregnant women *shouldn't/prohibited* from engaging. Indeed, engaging in physical activity with caution was recently identified in a study exploring pregnant women's physical activity experiences and decision-making; with this finding being linked to 'pressure from others' (Chadwick and Foster, 2014). This supports the supposition in the current study that ***Protecting body*** and ***Relinquishing control*** discourses may be responsive to social constructions of appropriate behaviour in pregnancy.

***Protecting body*** discourses are common amongst the discursive literature concerning pregnancy and motherhood for various reasons. Such reasons underpin a perception of pregnancy as a *'medicalized'* phenomenon, where discourses across generations have interpolated pregnant women between the discursive position of *'patient'* (Fox, Heffernan, Nicholson, 2009; Johnson et al., 2004) to

*'not an illness'* state – yet still requiring medical surveillance (Hinton et al., 2021). Indeed, in the latter study, which discursively explored how *'self-responsibilization'* concerning preeclampsia is reflected in information sources. Applying a Foucauldian lens of interrelated discourse: knowledge and power, a paternalistic discourse of *"relax, be assured"* resonated, highlighting the proliferation of protective discursive messages amongst both the pre-emptive and actual risk management for pregnancy complications (e.g., preeclampsia). Although this study explores informative language pertaining to a complication of pregnancy, the fact that *rest and relax* discourses also manifest in discussions concerning physical activity reinforce discursive constructions of pregnancy as a potential *'patient'* or near-illness state, wherein ***Protecting body*** discourses are drawn upon to precede risk aversion and ensure harm preclusion. Indeed, the ***Protecting body*** discourses of *rest and relax* and *liability/fear* are key examples of pregnancy being discursively constructed as a near-illness state or condition.

#### 9.3.b Relinquishing control discourse

In contrast to the proactive discourse ***Retaining autonomy***, where physical activity is constructed as an enabler of *control* and ***autonomy***; contrastingly protective-leaning positions downplay or dispel the role of physical activity in pregnancy under ***Relinquishing of control*** discourses; precipitating a **Restricted** position. Indeed, ***Relinquishing control*** discourse appeals to a more traditional discursive rendition of appropriate behaviour in pregnancy and motherhood. Underpinning discourses include the need for *obtaining permission* in exercising and avoiding *prohibited* physical activity, which indicates a conformity to or congruence with dominant social discourses precluding physical activity. Although not discursively identified, these findings are reinforced amongst literature exploring interpersonal factors influencing engagement in physical activity during pregnancy, with family and partner defining the narrative on appropriate and inappropriate physical activity behaviour in pregnancy (Fathnezhad-Kazemi and Haijan, 2019; Muzigaba et al., 2014). However, the discursive notion of avoiding *shouldn't/prohibited* behaviour under the surveillance and 'gaze' of society, with the *maternal body* interpolated as a *public body,* has been identified in other discursive studies concerning motherhood and maternal behaviour (Miller, 2005; Harper and Rail, 2012). For example, in Fox, Heffernan, Nicolson's (2009) Foucauldian discourse analysis into the changing cross-generational experiences/perceptions of pregnancy, their findings garnered from interviews with recent mothers and their mothers, highlight how increased information sources and reporting of the pregnant body in the media, reinforce the societal surveillance and policing of pregnant women. This was highlighted through the discursive theme of *'public surveillance and control: constructing the 'foetal person'*, which demonstrated how the *'medicalisation'* of pregnancy prompts an obligation from others to survey and police pregnant women's behaviour in advocation of the constructed *'foetal person'*. Similar to the current study, policing can include discourses both deterring pregnant women from and defining a catalogue of *shouldn't/prohibited* behaviour:

> *'Foucauldian self-governance can be seen in action, with Lola restricting her own behaviour in accordance with accepted norms of 'doing' pregnancy, despite her knowledge that such 'facts' may be based upon dubious scientific authority. This governance operates not only in relation to the gaze of others, but on a more personal level, with women subjecting themselves to private guilt if they stray from such recommendations'* (p.599).

Finally, the use of the ***Relinquishing control*** discourse: *temporary opportunity,* indicates a silencing discourse (see Wigginton and LaFrance, 2016), having the effect of silencing any inner desire to ***Retain control***. Indeed, a *temporary opportunity* discourse discursively necessitates a **Fortunate** position in readiness for pregnancy and birth, perhaps to account for a **Restricted** one. The construction of pregnancy within discourses of time is common amongst media and indeed medical guidance, with both mediums acknowledging *opportune times* for pregnancy. In Shaw and Giles' (2009) study, their exploration of news media content identified constructions of *opportune time* for motherhood. *Opportune time* was constructed through supporting socio-cultural and medical discourses, which framed younger and older mother pregnancies as residing outside the norm. With time therefore being an important factor in accounting for opportune moments for pregnancy, temporality discourse may also be significant in accounting for a protective-leaning position, where ***control*** is discursively ***Relinquished*** for a **Fortunate** position.

**9.3.c Embracing motherhood discourse**

An overarching ***Embracing motherhood*** discourse, which often enabled pregnant women to assume a **Fortunate** position, involved a *reprioritisation* of physical activity relationships and identity in elevation of *'good mothering'* or good motherhood-related roles and objectives. A finding also identified amongst studies exploring women's experiences and views of engaging in physical activity in pregnancy (Ekelin et al., 2018; Nash, 2011), and in motherhood (Spotswood, Nobles, Armstrong, 2020; Wittels, Kay, Mansfield, 2022). In Hodgett and Crabb's (2018) discursive examination of Australian media personality Chrissie Swan's accounting for smoking during pregnancy, being solely responsible for foetal health in pregnancy was discursively constructed as a key tenet of the *'good motherhood'* identity. Indeed, ***Embracing motherhood*** discourses epitomise this notion of obligation and duty to abstain from behaviours that conflict with protective positions on pregnancy, through *reprioritising* and *sacrificing* discourses. This very notion of *'good mothering'* defined by a *reprioritising/sacrificing* of-the-self discourse, appears to be a pervasive moral discourse throughout the relevant motherhood literature: *'goodness was represented by self-sacrifice'* (Nash, 2011:58).

Interestingly, in contrast to the proactive ***Retaining autonomy*** discourse of *connection with self* through physical activity, the protective ***Embracing motherhood*** discourse, fostered a *reprioritisation* of *maternal body connection* through pregnancy embodiment. Notably, with the embodied experience of pregnancy being discursively constructed as a hindrance or driver to navigating health behaviours,

it is logical that fostering a maternal body connection in contravention of exercising a disciplined body, would be discursively navigated to account for a marked reduction or cessation in physical activity behaviour. For example, in Harper and Rail's (2012) feminist poststructuralist discourse analysis of pregnant women's construction of their subjectivities within dominant discourse on health and obesity; under the theme of *'contradicting the dominant pregnancy discourse: embodied and individual experiences'*, pregnant women participants navigated *'embodied urges'* and *'embodied experiences'* in framing a lack of control over dietary choices:

> *'participants often discuss the ways in which they experience a lack of control and feelings of powerlessness in the face of increased expectations. Much of this lack of control stems from their embodied experiences (e.g., cravings, aches, tiredness, nausea). For example, many of the women discuss the need to 'give into cravings'. They deeply feel these embodied urges at the same time as they are interpellated by dominant obesity and pregnancy discourses surrounding the importance of resisting 'bad' foods and controlling calories'* (p.8).

***Embracing motherhood*** discourse typically positioned pregnant women as **Fortunate** when accounting for a reduction in or cessation of physical activity. Outside the context of physical activity directly, **Fortunate** positions through ***Embracing motherhood*** discourses of *grateful/thankful* and indeed *acceptance* of the mutable bodily experience of pregnancy, are supported by experiential literature depicting the transition to motherhood and embodiment of pregnancy. For example, in Tina Miller's (2005) chapter: *'anticipating motherhood: the antenatal period'* in *'Making sense of motherhood'*, pregnant women discursively position themselves within a narrative of being hopeful or anticipatory of a *'good (easy) birth'.* Such a position assisted their *acceptance* of advice and intervention from the *'medical professional and technology'* (p.76). Indeed, the perceived and perhaps socially anticipated *'risk and uncertainty'* of pregnancy as an embodied experience, may automatically position pregnant women as **Vulnerable**. Therefore, in discursively navigating protective positions, an abstinence from physical activity may sensibly be constructed as a preferable option in exchange for being *grateful/thankful* and reaching *acceptance*.

## 9.4 Middle-ground positions and discourses

### 9.4.a Compromised but Contented positions

#### 9.4.a(i) Adaptation discourse

**Compromised but Contented** positions, enable the navigation of a physically active pregnant woman identity that supports her transition to motherhood through discursive ***adaptation***, acceptance of ***damage limitation*** and assumed ***optimistic*** mindset towards regaining her pre-pregnancy physical activity relationship and body. Studies exploring pregnant women's and exercising mother's views and experiences, identify discursive manifestations of adjustment compatible with the findings

of the current study, namely the socially informed directive of *listening to body*; an ***Adaptation*** discourse identified in the current study. Other studies have described similar discourses and non-discursive themes relating to intuitive experiential knowledge of *'listening to body'* directly (Currie et al., 2016; Findley et al., 2020; McGannon and McMahon, 2021; Wagnild and Pollard, 2020), as well as *'listening to themselves'* (van Mulken et al., 2016) concerning antenatal physical activity. McGannon and McMahon (2021) in their study exploring mother runners embodied subjectivity, they allude to a *'narrative'* of ***Adaptation*** in favour of a balanced coexistence (or a **Compromised but Contented** position) between exercising and motherhood, through the theme:

> *'Listening to, and learning from, my post-pregnant body': 'Women 'do pregnancy' by adjusting their behaviours (e.g., running frequency, intensity, distance) to bodily sensations (e.g., fatigue, energy), in order to perform good motherhood to centralize the baby's health'* (2021:08).

Furthermore, although not specifically a discursive study, Wagnild and Pollard (2020) identified a *'listening to body'* theme as prominent amongst pregnant women with gestational diabetes mellitus, when negotiating physical activity. Particularly when resisting *'surveillance'* and social expectations for pregnant women to *'sit down and slow down'.* In the current study, *listening to body* discourse, which underpinned a wider ***Adaptation*** discourse, contained a conscious element of pregnant women engaging in physical activity using their body as a proxy indicator of their physical limit. This discourse necessitates a **Compromised** position, wherein physical activity is enacted relative to the cues of bodily limitation. Yet at the same time it reveals a **Contented** position, as *listening to [one's] body* ultimately discounts the judgement of others. This ***Adaptation*** discourse therefore reflects a pragmatic move towards autonomy and agency without refuting or dismissing the reservations of others. Although not expressly identified in the discursive literature concerning motherhood, underpinning ***Adaptation*** discourse in the current study (e.g., *tailoring/modification* and *tempering/rethinking* physical activity) are ancillary products of *listening to body*, which is emerging as a socially approved mantra for pregnant women to reassure others of their exercising safely and appropriately.

Interestingly, ***Adaptation*** discourse thematically features in other studies exploring transition to motherhood. For example, in Miller's (2007) longitudinal study, the theme *'preparing appropriately and "doing things right"'* implies a degree of ***adaptation*** as an *'appropriate'* transition to motherhood amongst participants: *'Rebecca…has previously emphasized the process of learning and adapting involved in becoming a mother stating that: "you don't suddenly become a good mother"'* (p.347). Transition requires a degree of 'learning' and adopting information or advice to transition appropriately. This can be likened to ***Adaptation*** discourses of *tempering/rethinking, listening to body/advice* aligning to *'good mother'* ideals appropriate to the context of physical activity. In addition,

the theme of *'preparing appropriately'* also links to the overarching discourse of ***Damage limitation***, which discursively constructs adapted and appropriate physical activity as a means of *helping and preparedness* for pregnancy and delivery. Although Miller's (2007) study relates to transition to motherhood as opposed to antenatal physical activity, together the ***Adaptations*** and ***Damage Limitation*** discourses along with this theme of *'preparing appropriately',* supports the navigation of **Compromised but Contented** positions when transitioning towards birth and motherhood.

#### 9.4.a(ii) Damage limitation discourse

***Damage Limitation*** discourses hinged on the notion of *maintenance and carrying on* exercising a body that had increasing limitations. Physical activity was constructed as a means to *help* or engage in *preparedness* for a pregnant body; yet doing so was made difficult due to *managing bodily changes*. Discursive notions of *maintenance and carrying on* is supported in the following finding from Wagnild and Pollard's (2020) study involving pregnant women with risk of gestational diabetes mellitus, under the theme *'negotiating physical activity capability'*:

> *'women talked about the ways in which their physical feelings interfered with their physical activity: the constantly impending sickness or extreme tiredness…In these instances, the intensity of these feelings was enough to make physical activity of any kind unmanageable. At other times, however, when the physical feelings were less severe (although still present), physical activity provided some relief'* (pp.1077-8).

Such findings reinforce and support the current study's proposal of how pregnant women's navigation of a **Compromised** position in terms of ***damage limitation,*** ultimately enables a coupling with a **Contented** position. Similarly, Wagnild and Pollard (2020) above, in *managing bodily changes* through *maintenance and carrying on* discourses, which interpolate physical activity as a means to *help and prepare* for such ***damage limitation***, imbues a degree of active acceptance, productivity or **Contentedness** in accounting for a **Compromised** physical activity identity and relationship (i.e., working with their body through physical activity). Furthermore, other research exploring physical activity experiences amongst pregnant women thematically cites maintaining fitness as a rationale in physical activity decision-making (Findley et al., 2020).

#### 9.4.a(iii) Optimistic discourse

In the current study, a **Contented** position, whilst being **Compromised** is discursively achieved through the deployment of ***Optimistic*** discourses. In navigating this position, pregnant women also drew upon ***Optimistic*** discourses, which enabled them to make short-term **compromise**s to their physical activity identities and relationships. Although not specifically discursive, thematically the notion of accepting **compromise** or ***adaptation*** through the hope of recommencing physical activities in the future, is a common finding amongst both pregnant women who reduce or postpone certain

physical activity (Ekelin et al., 2018). Furthermore, seeking/obtaining *support from others* discourse to navigate **Compromised** yet **Contented** positions, is another discourse which can be reinforced by the literature. For example, in Wagnild and Pollard's (2020:1078) study, negotiating a physical activity relationship was achieved by *'delegating tasks or accepting help form others'*, which implies that a **Contented** approach to a **Compromised** position may require discursively ***Optimistic*** perspectives (i.e., *hope to reclaim/return to physical activity/body* and *good all things considered*) as well as ***Optimistic*** discourses through social interaction (i.e., *others support me*).

### 9.4.b Tentative and Conflicted Positions

Although a **Tentative** or **Conflicted** position has not been expressly identified amongst motherhood and physical activity related research, there have been numerous allusions to the existence of these positions when discussing embodiment. For example, in evaluating the literature, leading researchers in discursive constructions of motherhood and physical activity particularly amongst athletes, McGannon and McMahon (2021) highlight the *'tensions'* and *'dualism'* mothers navigate in essentially balancing their need for corporeal practice whilst fulfilling *'good mother ideals'*:

> *'The advantage of studying motherhood, physical activity and embodiment has been demonstrated in a small number of studies using the work of Foucault to theorize body-self relationships. Such work has drawn on Foucault's concept of diffuse power which is regulated through the body, and the panopticon which serves as a form of self-surveillance whereby people draw on certain discourses and practices to regulate behaviour. Within this research, mothers have been shown to be subjected to gendered forms of power through surveilling body performances, resulting in tensions concerning self-presentation (e.g., appearance) and perceptions of (in)ability to care for children'* (p.2).

Thus, discursively traversing **conflicted** positions is not an uncommon occurrence amongst the relevant literature concerning pregnancy, maternal behaviour and extrinsic ideals. Indeed, **conflicted** positions or discursive *'tensions'* have been identified in related contexts, such as pregnancy transgressing feminine aesthetic ideals (Johnson et al., 2004), tensions in transitioning to motherhood more broadly (Miller, 2007), as well as tensions in maintaining an athlete identity in motherhood (McGannon et al., 2015). In particular McGannon et al's (2015) study (albeit within the context of motherhood as opposed to pregnancy), is highly pertinent to the current study in terms of the ***Inner battle*** discourse, which highlights pregnant women's incompatibility and uncertainty in uniting a physical activity identity/relationship with an ever-progressing pregnant body and identity. This is clear where McGannon et al., (2015:51) discuss the potential tensions experienced by athlete mothers in reconciling a perceived *'incompatible'* and *'conflicted identity'* of athlete and motherhood, coined *'athlete and mother in conflict'* (also McGannon et al., 2017:216). Furthermore, non-discursive manifestations of 'tensions' pertaining to an ***Inner battle*** discourse in the current study are evident in the extant literature. In Findley et al's (2020:06) study exploring pregnant women's experiences of

decision-making using thematic analysis, the ‘unknown territory’ theme conveyed ‘conflict’ deciding or negotiating between a physical activity identity alongside their maternal role: *‘Most participants felt that they entering unknown territory, as they were experiencing a conflict between wanting to be physically active, but also wanting reassurance that the baby was healthy’*.

Discursive and non-discursive manifestations of *guilt* is a common finding amongst the literature on motherhood. Indeed, discursive manifestations of *guilt* have been identified in other studies exploring motherhood (Miller, 2007) and health behaviour. For example: women discursively navigating *guilt* when discussing their stigmatised behaviour of smoking during pregnancy (Irwin, 2005; Wigginton and LaFrance, 2016) or obesity and health (Harper and Rail, 2012), as well as physical activity in motherhood (McGannon and McMahon, 2021), including *guilt* amongst mothers accounting for their disengagement in physical activity to prioritise *‘good mother ideals’* (McGannon and Schinke, 2013). In the current study, *guilt* for both engaging and not engaging in physical activity whilst pregnant was identified within the overarching ***Inner battle*** discourse, which underpinned **Tentative and Conflicted** positions. Thus, numerous studies consider **Conflicted** positions and inadvertently touch upon such discourses that reinforce an ***Inner battle*** discursive navigation of potential obligations they should or should not be performing in pregnancy and femininity, such as Nash’s (2011:50) study, exploring *‘negotiations around the performance of pregnancy “fitness” and “good” mothering through exercise’*.

**Tentative and Conflicted** positions have been alluded to in other studies concerning transition to motherhood more broadly, such as Miller’s (2007:02) study using qualitative longitudinal data on transition to first-time motherhood to explore*: ‘the different ways a group of women draw on, weave together, and/or reject aspects of the dominant discourses that configure contemporary constructions of “good mothering” and motherhood’*. Although not specifically about antenatal physical activity, Miller’s study intricately highlights contentions pregnant women experience similar to some of the discourses identified in the current study. For example, Miller highlights contentions under the theme of *‘leaving it to nature – or not’*, in particular one participant discursively traversed lamenting a sense of bodily control and enjoyment of individualised liberties or *‘many of the expected conventions of selfishness’* (p.346), before assuming a more appropriate position of anticipating a *‘bundle of joy’*. This self-negotiation aligns with features of ***Inner battle*** discourses of *bargaining/negotiating*, as well as ***At a loss/adrift*** discourse through *contending with loss*. These latter discourses, within the context of physical activity (a practice of bodily control and expression), highlight a pervasive **Conflicted** experience of pregnancy discursively navigated, perhaps rendering pregnant women **Tentative** about pursuing socially perceived *‘selfish’* endeavours in preservation of a nobler pursuit of producing life.

The discourses underpinning **Tentative** and **Conflicted** positions offer a novel observation of discursive resistance and tensions pregnant women may navigate when negotiating a position on

antenatal physical activity. While some ***Inner battle*** and ***At a loss/adrift*** discourses have found support amongst discursive literature relating to motherhood and yet less so for ***On the back-foot*** discourse, both discursive and non-discursive literature depicting social interactions, could benefit from an understanding of this discourse, which concerns a *retreating from social judgement* as well as a *hands-off approach* on advocating the active pregnancy generally. For example, where pregnant women participants have described social interactions advising against physical activity (Muzigaba et al., 2014), such interactions could feasibly elicit a discursive *retreating* of one's position on physical activity in compliance with advice. This discourse therefore usefully articulates a pre-empting of a subject-position navigation in response to one's social environment.

### 9.5 Study Two Limitations

A limitation of this study is the sample characteristics, as although 12 participants is a size typical of qualitative and/or discursive research, as the study findings traverse feminine discourses, a sample of broader characteristics would add richness to the data, such as pregnant women participants with no physical activity experience/relationship. For example, it has been argued that obtaining data from participants in partnered relationships, amongst other typified characteristics of White, middle-class, may constrict findings to stereotypical archetypes of motherhood (Miller, 2005:24; Nash, 2011:56). However, although all participants in the current study were in partnered, heterosexual relationships, there was representation from a range of ethnicities, social classes and geographical areas in the UK. This variety in sample characteristics is owed to the snowball sampling strategy used and the fact that more potential participants were using and therefore reachable via social media due to the pandemic. Yet for future research, it would contribute greatly to gendered discourse and ideology literature, if sample population included non-partnered and non-heterosexual relationship statuses, as well as non-gendered or multi-gendered identities.

In relation to extending the findings of the current study to the literature, there is much support for proactive and protective-leaning positions, with similar discourses having been identified in relevant discursive and non-discursive studies concerning maternal health behaviour and motherhood generally. Similarly, there appears to be adequate support for discourses navigated under the middle-ground dual-position of **Compromised and Contented**, yet less so on some of the discourses underpinning **Tentative and Conflicted** positions. This may relate to there, perhaps, being less of a focus on the navigation of alterations in subject-position (i.e., ***On the back-foot*** discourse) or how pregnant women avoid accounting for a **Tentative** physical activity relationship/identity (i.e., ***At a loss/adrift*** discourse). Owing to the interview schedule for this study, which prompted description and reflection, pregnant women participants were supported to deeply explore their physical activity relationships and identities, which enabled them to discursively traverse **Tentative and Conflicted** subject-positions that would otherwise remain untrodden without inquiry.

### 9.6 Study Two Conclusion[31]

This study uniquely highlights novel findings of ten subject-positions accompanied by twelve discourses that pregnant women may navigate to account for their physical activity relationship and/or identity. The ten subject-positions reflect not only strategic mechanisms available to pregnant women to navigate their stance on antenatal physical activity, but they also indicate societal constructions of this phenomenon, which pregnant women must navigate and consider when accounting for their physical activity identity and relationship. To aid conceptualisation of the multiplicity of positions and discourses available, these subject-positions and accompanying discourses have been assigned to a discursive navigation model (chapter 7), which uniquely depicts this in a visual format to support the conceptualisation of this complex navigation of agency and autonomy. The model illustrates how discursive navigations of antenatal physical activity reside along a continuum of oppositional stances and how each of the defining subject-positions may be traversed at any time to account for physical activity. Understanding and recognising these discourses and subject-positions by using this discursive navigation model may assist healthcare and exercise professionals in consultations with pregnant women. For example, if a pregnant woman discursively navigates a **Rebellious** position concerning her physical activity relationship, this may indicate that she anticipates stigma or judgement for her proactive physical activity stance. Equally, a pregnant woman who feels pressured to engage in physical activity, but if concerned about *liability* and safety/risk, may navigate both **Restricted** and **Vulnerable** positions under a ***Protecting body*** discourse. Equally *middle-ground* positions may be navigated as conduits between the opposing proactive and protective stances.

The findings of this study highlight the utility in recognising subject-positions and accompanying discourses as a tool to support constructive conversations that enable pregnant women to discursively explore the types of physical activity identity and relationships they want and can preserve. Indeed, the benefits of a discursive model to inform professionals has been alluded to elsewhere in relevant discursive research. In a study titled: 'a discursive approach to analysing the social construction of exercise during pregnancy', Kerstein (2022) states how *'it is important that health professionals…address harmful dominant discourses in patient encounters'* (p.1111). To our knowledge, this is the first study that describes a discursive navigation model available that outlines the subject-positions and accompanying discourses specific for antenatal physical activity. It is hoped that such a model could be used to inform a liaison guide for health and exercise professionals in an intervention aimed at supporting pregnant women to retain their physical activity identities and relationships in a manner that is compatible with their transition to motherhood.

[31] All study reflections and recommendations are in Chapter 15: Thesis Discussion.

# Chapter 10 Study Three: Social Experience Background and Methods

**Study Title:** A longitudinal interpretative phenomenological analysis of pregnant women's social experiences concerning their physical activity.

## 10.1 Background

The preliminary results of study one (chapters 2-6) highlight that throughout pregnancy, pregnant women experience multiple social interactions that have the potential to influence their physical activity both positively and negatively. Indeed, health professionals, dependents, family and partner were identified most frequently, before objective information sources (such as the internet) and exercise companions (comprising exercising friends and pregnant women). Yet, the time at which such individuals have greater or lesser influence throughout pregnancy and the form this social influence takes remain under-explored. Extraneous to the findings of study one, there is little research that exclusively explores the detail and nuance of social influence on antenatal physical activity; detail which is likely to be obtained from multiple interactions with pregnant women throughout their pregnancies. In support of this, there is some research to suggest that pregnant women migrate to certain individuals at different stages of pregnancy concerning their health behaviours. For example, Clarke and Gross (2004) highlight that pregnant women's information seeking beliefs and behaviour, concerning exercise, changes throughout pregnancy; with some pregnant women reportedly seeking the expertise of health professionals and objective information sources in the earlier stages of pregnancy, but then referring more readily to advice from family and friends towards the later stages. This could indicate that some individuals within pregnant women's social networks have comparatively greater influence at different stages of pregnancy, or perhaps that pregnant women seek different types of social support at different stages. For example, in early pregnancy, objective informational support may be sought to understand how to engage in physical activity safely, whereas in later pregnancy, with physical activity becoming more challenging, experiential-based informational as well as emotional support may be more useful to enable an adapted physical activity relationship.

A perceived shift in social interactions throughout pregnancy has also been demonstrated elsewhere in qualitative longitudinal research. In Smith (1999), four pregnant women's experiences of childbirth preparation and transition to motherhood were explored at varying time points of three-, six- and nine-months' gestation and at 5 months postpartum. Smith (1999) identified that *'[a]s pregnancy progresses, women gradually withdraw from the public world, becoming more closely involved in their familial world, but then turn outwards again expressing ambivalence towards the birth as the time approaches'* (Farr and Nizza, 2019:205-6). This again, indicates that selected social interactions are

mutable to the stages of pregnancy, particularly where changes in perceptions and preparedness for the transition of pregnancy and motherhood are felt.

In another longitudinal qualitative study involving a discursive approach, van Mulken, McAllister, Lowe (2016:921) used a feminist standpoint methodology to explore how pregnant women's physical activity experiences were 'formed, supported and/or opposed by their social environment'. This study identified three major tensions throughout pregnancy, which highlighted dominant social discourses concerning antenatal physical activity. These comprised engaging in physical activity and keeping the baby safe, engaging in physical activity and obtaining social approval and listening to oneself and to others. Although it is clear from this study that pregnant women tend to reduce their physical activity throughout pregnancy and that they receive an array of social responses, some of which they resist or conform to; it does not specify the temporality and relative 'changes' of these experiences concerning the phenomena of pregnancy, which is important for qualitative longitudinal research.

In study two of this thesis (chapters 7-9), a discursive study exploring how pregnant women account for their physical activity identities and relationships illustrated how social discourses are navigated by drawing upon a range of subject-positions (and vice-versa). For example, pregnant women participants who sought to preserve their physical activity identities and relationships throughout pregnancy, without adaptation, would often navigate Rebellious and Advocatory positions. Conversely, pregnant women who sought to pause or significantly decrease their physical activity identities and relationships assumed protective positions of Vulnerable, Restricted and Fortunate to negotiate their stance. This study highlighted not only how social discourse constructs motherhood and pregnant women identities and relationships, but that pregnant women may assume a degree of agency through discourse to account for their stance on physical activity. These notions of social support transactions (study one) and agency in navigating social discourses to aid, resist or account for physical activity identities and relationships (study two), underpin a motivation to further explore 'what' pregnant women's social experiences are and 'how' they navigate or make sense of them throughout pregnancy; as temporality appears to be a key factor compounding the influence of social experience on pregnant women's physical activity identities and relationships.

Indeed, there is, to our knowledge, no research that examines the role of social influence and indeed the sense-making of social experiences specifically throughout different stages of pregnancy, with a deliberate focus on whether pregnant women's migration to certain individuals changes over time.[32] Longitudinal interpretative phenomenological analysis (LIPA) enables the researcher to explore

[32] Although Clarke and Gross (2004) explored pregnant women's information seeking behaviour of physical activity throughout pregnancy, which naturally captured social interactions and individuals; this study was not focused on sense-making or social experiences specifically.

participants' experiences temporally; throughout a time period that is contextually significant to the phenomena. The three tenets of longitudinal qualitative analysis consist of research that is structured by time, focused upon change and which both explore and present findings in an iterative manner (McCoy, 2017; Farr and Nizza, 2019). According to Farr and Nizza (2019), the three tenets of LIPA are compatible with interpretative phenomenological analysis (IPA), an approach which aims to capture and reflect participants' experiences and in turn, endeavours to make sense of these experiences through 'offering an interpretation' (Larkin and Thompson, 2012:101). Introducing a longitudinal dimension to the analysis of phenomena therefore facilitates an exploration of the phenomena across time.

IPA is also firmly committed to the endeavour of exploring participants sense-making of experiences. Given the importance of agency and autonomy in pregnant women's navigation of and accounting for physical activity, exploring how pregnant women make-sense of their social experiences concerning their physical activity throughout pregnancy, neatly blends the findings and focus areas of the preceding studies (study one and study two). Thus, the systematic review identified who appeared to be influential and 'what' social support types they appeared to provide or make available, and the discursive study explored 'how' pregnant women account for and negotiate their physical activity identities and relationships relative to 'what' dominant social discourses. Study three, expands upon the who and 'what' social support and 'how' physical activity identities/relationships are accounted for, by exploring 'what' social interactions pregnant women experience throughout pregnancy and 'how' they make sense of them. In this way, the 'what' question appeals to the external experiences of study one and the 'how' question links firmly to the agency and autonomy focus of study two.

In order to explore the role of social influence on pregnant women's physical activity throughout their pregnancy, a LIPA study was conducted. To date, LIPA has not been used to examine pregnant women's sense-making and social experiences concerning their physical activity. Using LIPA will enable an exploration and description of the social experiences pregnant women encounter and how pregnant women make sense of their social experiences throughout pregnancy.

## 10.2 Methods

### 10.2.a Aim

To explore pregnant women's sense-making of their social experiences concerning their physical activity identities and relationships throughout pregnancy.

| *Table 10.1: Study three objectives and research questions* |
| --- |
| ✓ What are pregnant women's social experiences concerning their physical activity identities and relationships throughout pregnancy? |
| ✓ How do pregnant women make sense of their social experiences concerning their physical activity identities and relationships? |
| ✓ Does pregnant women's social experiences and sense-making concerning their physical activity identities and relationships change throughout pregnancy? |

### 10.2.b Design

This study aimed to explore pregnant women's sense-making of the social experiences (i.e., the social interactions and social material sources) they encountered concerning their physical activity at different time points. Due to the experiential focus of the study, a qualitative methodology deploying a longitudinal interpretative phenomenological analysis (LIPA) approach were used.

### 10.2.c Setting

Pregnant women were recruited from the social media platform 'Instagram' and were interviewed at a setting of their choice, which included both telephone and video calls.

### 10.2.d Ethics

This study was conducted as part of a research sponsored studentship from Aston University, which required ethical approval before proceeding with participant recruitment and data collection (REC REF: #1645).[33]

### 10.2.e Target Population

Participants eligible for inclusion in the study comprised pregnant women within their second trimester (13≥26 weeks' gestation) who were physically active (i.e., performing physical activity for fitness/leisure). (See *Table 10.2*).

| ***Table 10.2: Study three participant inclusion criteria***[34] |
| --- |
| ✓ Pregnant women who were within their second trimester (13≥26 weeks' gestation). |
| ✓ Who were engaging in physical activity for fitness and/or leisure during pregnancy, which they were willing to talk about and record data according to the remit of the proposed study |
| ✓ Who had access to either email or a mobile phone with the use of the WhatsApp application, whereby they can utilise the typing and/or digitation facilities |
| ✓ Who had a sufficient understanding of English language in order to give informed consent |

[33] REC = Research Ethics Committee; REF: Reference number.

[34] The exclusion criteria comprised non-pregnant women participants and non-English speaking participants.

**10.2.f Recruitment**

A snowball sampling strategy was used to recruit pregnant women participants. A study advert (*Image 10.1*), which communicated the nature, purpose and scope of the study, was posted on social media platforms (Instagram, Twitter, Facebook). Interested participants discovered the study via Instagram, after viewing the study advert in a 'story' posted by the principal researcher's professional Instagram account, and from other Instagram accounts, which voluntarily chose to share the study advert as a story of their own. The contact details of the principal researcher were provided in the study advert and interested participants were encouraged to make contact for more information.

***Image 10.1: Study Three Advert***

Once an expression of interest was made to the principal researcher and participant eligibility were assessed, pregnant women were formally introduced to the study and provided with written information via email, including: [i] a participant information sheet (Appendix I), describing the nature and scope of the study, data protection, consent requirements and implications, [ii] a consent form (Appendix J), and [iii] a physical activity diary and interview guidance sheet (Appendix K). Interested participants were informed that for their participation in the study, they would receive a voucher to the value of £20 after the first interview, and a gift for each participant and their expectant baby after interview three. Participants who then wished to participate in the study agreed a time, date and mode

for interview and data collection. Informed written consent was obtained before commencing the first interview and reviewed verbally thereafter.[35]

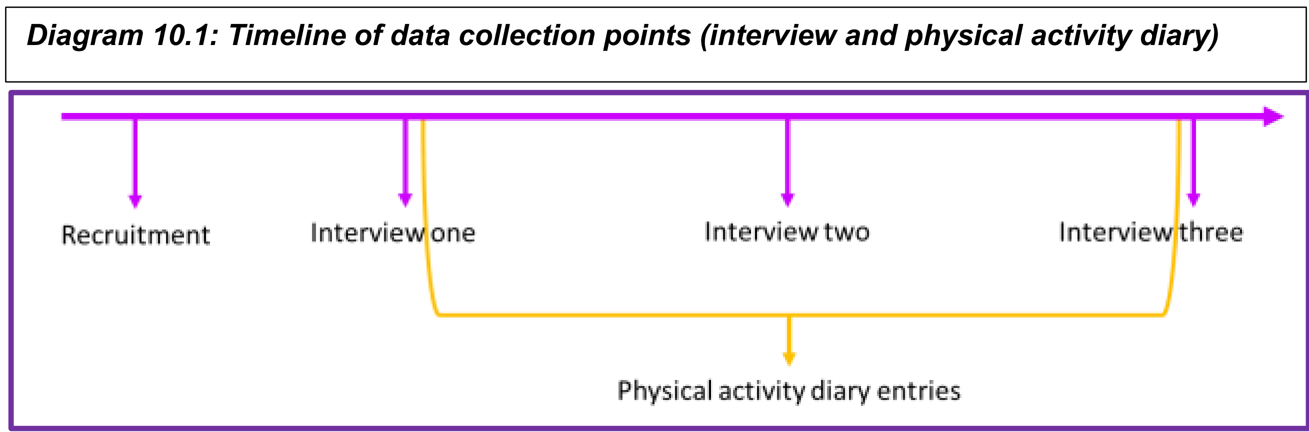
**10.2.g Participants**

Four participants were recruited to the study at trimester two. Two participants were recruited at early trimester two (15 and 16 weeks) and two participants were recruited at late trimester two (26 weeks). After discussions with the supervisory team, recruitment ceased at four participants for three reasons: (1) The large volume of longitudinal data (i.e., interviews and diaries) warranted a conservative sample size. (2) A conservative number of participants would be practical for the principal researcher to maintain contact and build meaningful connections with participants. (3) This population size is comparative to other longitudinal IPA or phenomenological studies. (e.g., Smith's (1999) study explored transitions to motherhood amongst four pregnant women from three months' gestation up to five months' postpartum; Shaw et al's study (2016) exploring, over an 18-month period, six participants' experiences of living in extra care housing).

**10.2.h Data collection**

For each participant, data were collected through (i) three interviews, spread across trimester two and trimester three and (ii) physical activity diary entries on WhatsApp messenger, from end of interview one up to the beginning of interview three (*Diagram 10.1*). The study was conducted over a five-month period from August 2020 to January 2021.[36]

***Diagram 10.1: Timeline of data collection points (interview and physical activity diary)***




[35] In acknowledgement of the social distancing restrictions imposed upon the general public in the UK concerning the COVID-19 pandemic, which assigned pregnant women to a high-risk group; all correspondence with participants were conducted remotely and digitally. To support participants to both provide written informed consent safely, three options were made available, all of which involved participants emailing a copy of the consent form to the Researcher. Participants were provided with the options to provide written, informed consent: (1) print, sign and scan the consent form; or (2) ascribe an electronic signature to a digital copy of the consent; or (3) provide a typed signature to a digital copy of the consent form.

[36] It was calculated that a maximum time of 23 weeks was required to follow participants from 13 to 36 weeks, which equated to approximately seven months.

The rationale for a pluralist approach to data collection, (i.e., collecting data via different sources, see Crozier and Cassell, 2016) was to widen the scope of recall for participants, enabling them to consider their social experiences more deeply and diversely throughout their pregnancy. Using different sources of data can also provide richness, by enabling the researcher to observe 'different facets of the subject matter' (Bennett, 2017:440). For instance, 'interviews' provide a safe setting for participants to independently recall social experiences. However, participants are under perceived time-limited conditions, which can affect their recall. The physical activity diaries in contrast, provide an opportunity for participants to either describe or collect items in their own time. The content captured in diaries can also complement and strengthen the data garnered through interview (e.g., participants could describe and collect social materials and detail it more lucidly in a diary entry).

**10.2.h(i) Physical activity diary**

During recruitment, pregnant women were given a physical activity and interview guidance sheet (Appendix K), which explained how they may diarise their social experiences concerning their physical activity throughout the study.[37] Pregnant women participants were asked to use email and/or the WhatsApp function on their mobile phones to share data with the researcher in real-time. All participants used the typed WhatsApp function on their mobile phones as physical activity diaries, consisting of WhatsApp messages, photographs, articles and screenshots of social media pages.

WhatsApp was selected as an option because it is (i) one of the most widely used social media platforms, (ii) free to download and use, and (iii) provides a secure encrypted network connection between participant and researcher to generate and collect data. Collecting data in this way was proposed as it creates a live and editable transcript between the participant and researcher, which the former can amend and update, and the latter can use as a prompt or discussion point during interview. Essentially, both researcher and participant are implicated in a live, sense-making exercise of the social experience data exchanged. Furthermore, collecting and sharing data with the researcher in real-time provides an opportunity for participants to reflect on their social experiences as close as possible to the point in which they are experiencing the phenomenon; thereby a near-experience sense making exercise (Crozier and Cassell, 2016).

During interview one, participants were asked to commence diarising their social experiences and to submit at least two diary entries a month. Participants were informed that they will receive

[37] Examples included, direct interactions, such as discussions about their physical activity with other people, as well as indirect interactions, such as looks or comments from other people about their physical activity (see Appendix K). Participants were also asked to diarise any social material sources about either their personal physical activity or antenatal physical activity in general. Examples included, direct media, such as comments or postings from others on social media or indirect media, such as advertisements or stories about antenatal physical activity. Participants were also encouraged to record their thoughts and feelings of these social experiences.

(approximately) bi-weekly prompts from the researcher through their chosen diary option to support them in making diary entries and to check-in on participant's well-being. [38]

#### 10.2.h(ii) Interviews

Due to the social distancing restrictions in force at the time, participants were required to conduct their interviews remotely. Participants were however given a choice of conducting the interview either via telephone or through online platforms.[39]

All participants completed three interviews, each of which lasted approximately one-hour and were conducted remotely using telephone/WhatsApp call. The interviews consisted of a one-to-one, semi-structured interview format, which were recorded via an encrypted digital audio device.

At each interview participants were asked to describe and reflect on their social experiences concerning their physical activity. During interviews two and three, participants were encouraged to refer to their physical activity diaries. This was to ensure that a joined-up approach towards data collection was used to focus on 'change' (one of the tenets of LIPA) in social experiences, physical activity and sense making throughout pregnancy.

A semi-structured interview guide was used (*Table 10.3*), comprising a small number of open-ended questions focused on pregnant women's physical activity and social experiences. These questions broadly remained the same for each interview, with the addition of some questions to help participants reflect on previous interviews and their physical activity diary data. These additional questions enabled a recursive interviewing technique to facilitate a longitudinal design, as recursive interviewing supports both the joint exploration of subject matter and relative changes at varying stages of temporal lens available (Neale, (2021). The format of the questions comprised description and reflection, which supported participants to describe their social experiences before reflecting on how they felt about this experience, what it meant to them and whether a change in their views or behaviour concerning their physical activity had occurred.

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[38] Approximately two months prior to the full LIPA study, ethical approval was obtained from Aston University (REC REF: #1645) to conduct a mini-pilot study with a pregnant woman participant to trial the physical activity diary, interview schedule and information sheets over a two-week period. The participant found the interview schedule and information sheets to be acceptable and preferred WhatsApp for data collection and contact, with bi-weekly data submissions and bi-weekly prompts also preferred. (Appendix L Participant Information Sheet; Appendix J Consent form; Appendix M Physical Activity Diary and Interview Guidance Sheet; Appendix N Interview schedule).

[39] The interviews were spaced with sufficient time in-between to allow for new social experiences to have occurred and been recorded by participants to capture change across trimestral periods.

| *Table 10.3: Study Three Interview Schedule* | | |
|---|---|---|
| **Topic** | **Question** | **Prompt** |
| Opening question | Can you tell me a bit about your pregnancy so far? | How are you?<br>How far along are you in your pregnancy? (eg., week/trimester) |
| Physical activity | Can you tell me a bit about your physical activities at the moment? | What physical activities do you do?<br>What physical activities are you doing now?<br>How do you feel about them?<br>Are they important to you?<br>How have you come to that view?<br>What does physical activity mean to you? |
| Social experiences | Can you tell me about any talks, chats or interactions you have had about your physical activity during your pregnancy? | e.g., at work, home, the gym etc.,<br>What did you think about that?<br>How did you feel about that?<br>Has anything about your physical activity changed since then?<br>How so?<br>How do you feel about that? |
| | Have you come across any materials (e.g., posters, adverts, stories) about physical activity during your pregnancy? | What did you think about that?<br>How did you feel about that?<br>Has anything about your physical activity changed since then?<br>How so?<br>How do you feel about that? |
| | Have you come across anything on the internet about physical activity during your pregnancy? | This can include social media<br>What did you think about that?<br>How did you feel about that?<br>Has anything about your physical activity changed since then?<br>How so?<br>How do you feel about that? |
| Previous interviews | In our last interview, if you recall we talked about … has anything changed since then? | What do you think about this now?<br>How do you feel about this now? |
| Physical activity diary | Is there anything from your physical activity diary/journal that you would like to talk about? | What did you think about it at the time?<br>How did you feel about it at the time?<br>What do you think about this now?<br>How do you feel about this now? |

**10.2.i Researcher notes**

The principal researcher made detailed notes throughout data collection, including after interviews and during data analysis. This was undertaken as part of a reflective process to both enable the ‘bracketing’ of presuppositions and to enhance transparency amongst the research team in discussing themes (see *Image 10.2*).

**10.2.j Data storage**

An electronic folder was created for each participant to store their data, which was stored securely on the University server. Each folder and all documents stored within participant folders (audio

recordings, interview transcripts, physical activity diaries, researcher notes and participants documents) were assigned a unique reference number for each participant, who was also assigned a pseudonym to ensure anonymity.

During interviews, audio recording data were collected using an encrypted digital audio device and all physical activity diary entries were captured via WhatsApp (an encrypted social media service between the participant and the principal researcher). Before each interview, all physical activity diary data were copied and extracted from WhatsApp into a document and stored securely in the electronic folder. Following each interview, the audio recording data were immediately uploaded to the secure University server to the participant's folder and then deleted from the audio device. All audio interview recordings and physical activity diary entries were uploaded to and stored electronically on the secure University server, before typed-up verbatim into electronic word documents. During transcription, all participant-identifiable information in the data were anonymised.

Participants were provided with a timescale of two weeks after each interview to withdraw their data from the study. All data will continue to be stored securely up until the successful passing of the PhD.

**10.2.k Data analysis**

Prior to analysis, interview transcripts and diary entries for each participant were slotted together and organised chronologically. The following steps of Larkin and Thompson (2012:105) were considered when applying longitudinal IPA:

1. Transcripts were read to ensure familiarity with the data.

2. A further reading involved coding of the 'experiential claims, concerns and understandings'. This involved contextual coding, where the data were chunked by categories of phenomenological significance to the study aim and questions (i.e., social experience, sense-making and physical activity identity and relationship) (Appendix O).

3. The data were re-read to identify 'emergent themes', before a 'dialogue' was developed between the themes and the researcher's knowledge. This dialogue formed the sense making process integral to the IPA approach. In practice, this involved semantic coding of the categories of phenomenological significance, with the researcher using an interpretative lens of (i) 'what' social experiences concerning pregnant women's physical activity were manifest and (ii) 'how' participants were making sense of these social experiences relative to their physical activity identifies and relationships; (e.g., participants describing their responses to other pregnant women's social media content and how this made them feel about their own physical activity

identities and relationships) (Appendix O). Semantic coding implicated the researcher's interpretation or sense-making of participant's sense-making. To distinguish these triple hermeneutic interpretative levels, 'researcher notes' were used in a 'bracketing' of presuppositions and interpretations exercise (*see Image 9.2*).

4. A structure for each transcript were canvassed to identify and establish relationships between themes. Each thematic structure was then organised into a complex format, which allowed for 'thematic development' as part of a 'final structure of themes' in a synthesis process of participant data. In practice, themes identified through semantic coding were organised into a precursory blueprint of the overarching themes. To conclude on overarching themes that depicted participants sense-making of their social experiences relative to their physical activity identities and relationships, sub-themes were analysed (i) within single and multiple timeframes for each participant and (ii) within and across cases. Each overarching theme addressed the following focal-points through the lens of a different theme-led sense-making behaviour: (i) 'what' social experiences pregnant women encountered concerning their physical activity at different time-points and (ii) 'how' they made-sense of these social experiences relative to their physical activity identities and relationships.

5. This final structure was then reviewed in consultation with other members of the supervisory team, whose feedback was used to inform the development of a 'narrative'. This aimed to provide a comprehensive interpretation of the data through the combination of themes and a 'detailed commentary on data extracts'. Through various meetings, themes in their complexity were extended to members of the supervisory team, which assisted with a refinement process. This involved clarifying the sub-themes, which capture the complexities of overarching themes, and summarising 'what' and 'how' pregnant women navigate social experiences in sense-making, often, in preservation of their physical activity identities and relationships.

6. The researcher's interpretation of final themes was refined through careful and systematic reflection of their 'perceptions, conceptions and processes'. In practice, this was the most complex part in applying IPA to a longitudinal model of analysis. In accordance with longitudinal IPA guidance (McCoy, 2017; Farr and Nizza, 2019; Neale, 2021), as this study was also concerned with reflecting 'change' throughout sense-making and social experiences, this involved recursively retracing steps and re-applying themes (including sub-themes) in an iterative manner to ensure not only the robustness of themes and the accuracy of situating themes in time across cases, but in ensuring that the researcher had applied a consistent interpretative approach throughout. The researcher therefore considered their own presuppositions via reflective journaling. These were

bracketed at stages three and four, when interpreting the data and progressing from semantic coding to theme canvassing (*Image 10.2*).

***Image 10.2: Example of reflective journaling of pre-suppositions***

Firstly, I have an active physical activity identity and relationship that I have sought to preserve throughout multiple times in my life; it has helped me cope with situations and regulate my mood. Using physical activity as a coping mechanism may have influenced my interpretation of participants sense-making of their own physical activity identity and relationship, as something which they too wished to preserve in pregnancy.

Secondly, I am not a parent; this may have informed my perception of coding pregnancy as a time where bodily control and physical activity are altered or compromised. Indeed, I was able to relate to pregnant women's accounts of bodily transition and how this affected their identity. This may have also influenced and directed my focus on autonomy and thus how participants navigate social experiences through sense-making.

Thirdly, data were collected during a global pandemic, where both I and participants were experiencing an unprecedented degree of social restriction, which may cause one to lament and vie ever stronger for a sense of bodily control and autonomy. In recognising these presuppositions however, it is felt that I held a unique position to empathise, interpret and tell the story of participants, who were willing to share their views and experiences of transitioning to mother- and multi-para-hood, whilst limited and constrained by the social media world available to them and trying to preserve their physical activity identities and relationships. Indeed, there was a whole new sense-making to social experience mutually and simultaneously shared between I and my participants, with our virtual interaction being perceived as a foreshadow of the new normal.

# Chapter 11 Study Three: Social Experience Results

## 11.1 Results Introduction

### *11.1.a Study participants*

Altogether, four pregnant women participants took part in the study from start to completion (i.e., interview one to three, including up to three diary data entries). For the mode of interview, all participants opted for a WhatsApp or telephone call (without using video call). Interviews lasted approximately one hour. All participants selected 'WhatsApp' messages, including text and picture messages of relevant content, as a medium for the physical activity diary.

All participants were aged in their thirties. Two participants were employed full-time and two participants were self-employed/part time. All participants were in heterosexual, partnered relationships. Three participants were White, British and one participant was Black, British. Three participants resided in the UK, including Scotland (n=2) and England (n=1), and one participant resided in Spain, having emigrated from the UK some years ago.

All participants were recruited in their second trimester. At the first interview, participants ranged from early (16 weeks, n=2) to late trimester two (26-27 weeks, n=2). At the final interview, participants ranged from 33 weeks to 36 weeks gestation. Most participants were multiparas with their second pregnancy (n=3), (although one multiparas participant had reported previous miscarriages following their first child), and one participant was primiparous.

All participants had an active social media profile on 'Instagram', which they used to both access and share physical activity content during pregnancy to varying degrees. In terms of physical activity, two participants (Ruby and Kelly) were exercise professionals, with Ruby having pre- and postnatal training delivering classes to pregnant and postnatal women, and Kelly being a qualified Pilates Instructor delivering classes online. Scarlett and Melanie were not exercise professionals, nevertheless they were equally active both before and during pregnancy. Scarlett commonly took part in group exercise classes at a gym before pregnancy and participated in online pregnancy HIIT-type exercises classes via Instagram during pregnancy. Melanie enjoyed swimming (both open water and at swimming baths) and worked with a personal trainer to remain fit and active during pregnancy.

***Table 11.1: Study participant characteristics***

| Participant pseudonym | Pregnancy stage (weeks) | | | | Pregnancy status | Pre-pregnancy Physical Activity (PA) | Pregnancy PA |
|---|---|---|---|---|---|---|---|
| | Recruitment | Interview one | Interview two | Interview three | | | |
| Scarlett | 26 weeks | 27 weeks | 31 weeks | 36 weeks | Primiparas | Gym classes (HIIT) | Pre- & postnatal exercise classes via 'Instagram' (HIIT for pregnancy), Prenatal Yoga, Walking |
| Kelly | 15 weeks | 16 weeks | 25 weeks | 33 weeks | Multiparas (second pregnancy) | Yoga, Pilates | Yoga, Pilates, walking/hiking |
| Melanie | 26 weeks | 26 weeks | 32 weeks | 36 weeks | Multiparas (second pregnancy) | Swimming | Exercises with personal trainer both in person and remotely, Swimming |
| Ruby | 16 weeks | 16 weeks | 24 weeks | 34 weeks | Multiparas (second pregnancy) | Running, cycling | Running, cycling, prenatal exercises, walking/hiking |

### *11.1.b Overarching themes*

In describing 'what' social experiences pregnant women encountered and 'how' they made sense of these experiences concerning their physical activity identities and relationships, three overarching themes were identified. These themes were defined by three social experience behaviours of social comparison, social selection and social contrivance. Through social comparison, participants were *following and observing others whilst navigating the social 'comparison game'*, through social selection, participants were *grading and cherry-picking my social experiences in search of the 'like-minded' people'*, and finally via social contrivance, participants were *sharing and concealing my physical activity because 'people comment when you're pregnant'.*

***Diagram 11.1: Three overarching themes describe pregnant women's social experiences and sense-making concerning their physical activity***

**Social comparison**

Following and observing others while navigating the social *'comparison game'*

**Social selection**

Grading and cherry-picking my social experiences in search of the *'like-minded'* people

**Social contrivance**

Sharing and concealing my physical activity because *'people comment when you're pregnant'*

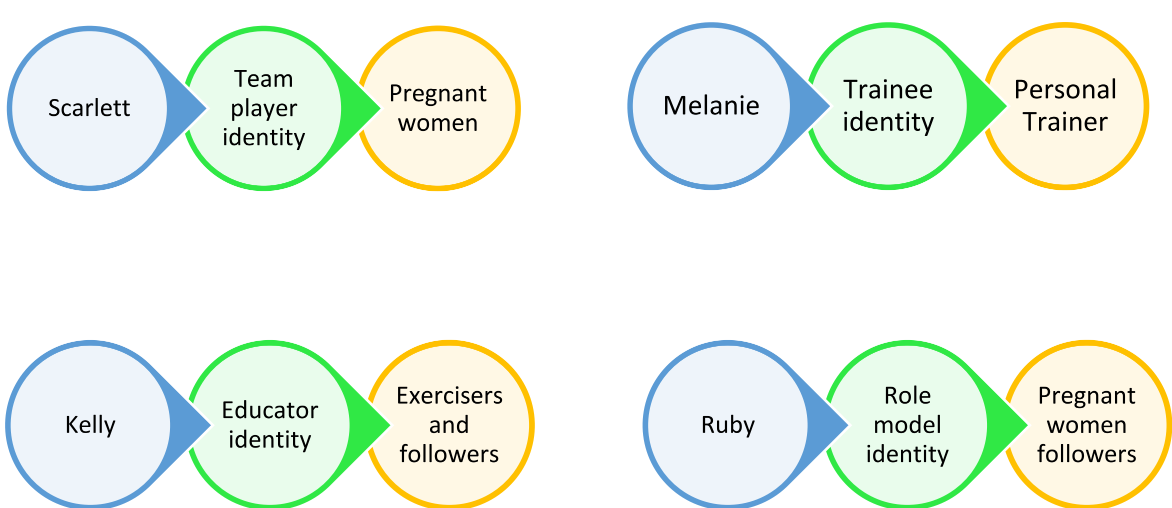
These overarching themes are interwoven, working together to help pregnant women preserve and make sense of a physical activity identity and relationship. Participants engaged in social (and self) comparison when following and observing others concerning antenatal physical activity; in turn they graded and selected certain social experiences over others (social selection) to maintain their physical activity relationship and they actively contrived or curated their identities (social contrivance) to manage or control the impact of their social experiences on their physical activity identities and relationships.

#### *11.1.c Participant physical activity identities*

In response to their social worlds, participants navigated various physical activity identities throughout the study in preservation of their physical activity relationships, these included a team player identity (Scarlett), an educator/being educated identity (predominantly navigated by Kelly), a trainee/mentee identity (Melanie) and an oscillated campaigner-to-reluctant role model identity for the active pregnancy (Ruby) (see *Diagram 11.2*).[40]

[40] Physical activity identities are discussed in more detail throughout Chapters 12-14, but particularly in Chapter 13, 13.2 Social Selection Discussion.

**Diagram 11.2 Participants (predominant) physical activity identities**




Ultimately, pregnant women searched for social experiences with *'like-minded'* others, whilst managing their social comparative responses and their projected social image. All of this occurred during their transition to motherhood or multipara-hood. Indeed, pervasive throughout the findings is the notion of change relative to temporality. Notably, pregnant women altered these social experience behaviours relative to their stage of pregnancy, with changes in social comparison, social selection and social contrivance evident not only within and between cases, but also over time.

### *11.1.d Format for presenting themes*

In presenting the findings, a theme-led format was selected. This presents participant data by theme (at the sub-theme level) across three time points, illustrating changes in social experience and sense-making over time both within and across cases.

| ***Table 11.2: The format for the presentation of themes*** | | | |
|---|---|---|---|
| Theme one of three (e.g., social comparison) | | | |
| Participant (e.g., Kelly) | Interview one | Interview two | Interview three |

This structure attends to the tenets of longitudinal IPA, by maintaining a focus on time, change and iterative analysis (Far and Nizza, 2019). Showing **change across time** requires the description of nuance and complexity at both the within- and across-case level. The nuance of participant sense-making and social experience **across time** is thus encapsulated in an **idiographic** case-analysis

approach, before **iteratively** advancing to the next participant case. This idiographic approach not only reveals the nuance of participant sense-making and social experience, but also the complexity and idiosyncratic capability of the overarching theme – by examining it at the sub-theme level for each participant. Examining both within and across case application of overarching themes at the sub-theme level indicates **a robust overarching theme,** that captures both concurrence and divergence of sense-making and social experience both within and across cases. This approach is also consistent with the overarching purpose of this thesis (demonstrated in approaches of other studies), which is to explore the nuance and detail of findings at the granular level, so that overarching themes and findings can be used in future research to inform nuanced and bespoke intervention design. This uniform approach across the thesis enables the illumination, conceptualisation and articulation of complex, detailed data specific to social influence concerning antenatal physical activity.

**Please note:** For the purposes of brevity in presenting these complex and nuanced idiographic findings, for each theme one/two participants findings have been presented, with other participant data available in full (Appendices P-R). Each theme is described by an example of one-two participant's data, followed by a discussion section, which reviews all participant data. This allows for a presentation of how the theme works in operation, through participant data, as well as how it applies across cases and to the extant literature in the discussion sections for each theme.

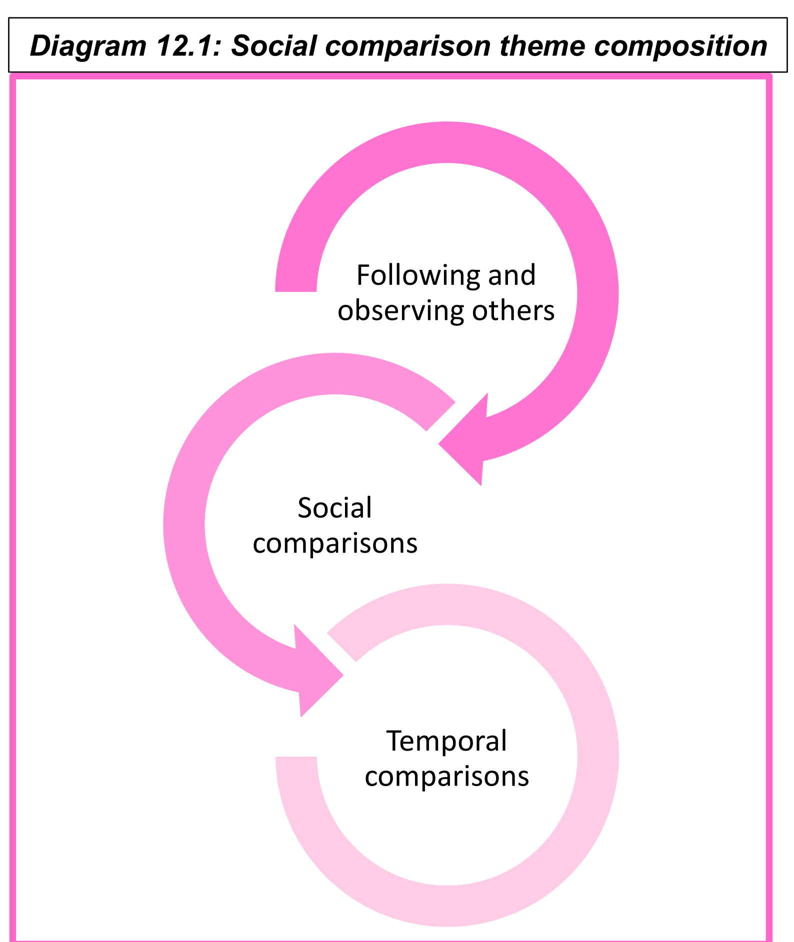
## Chapter 12: Social Comparison Theme Results and Discussion

### 12.1 Social Comparison Results

**12.1.a Social comparison theme:** *Following and observing others while navigating the social 'comparison game'*

*Following and observing* others was a common behaviour exhibited by participants, which inevitably resulted in different types of *social comparison*, including upward, downward and lateral. Some participants also engaged in comparing and competing with themselves via *temporal comparison*. In this way, both social and temporal comparisons were drawn upon by participants to make sense of their own physical activity identities and relationships in response to their experiences of *following and observing* others. With social comparison being, at times, a negatively experienced phenomenon, this theme also included participants reflections on, responses to and coping strategies for utilising, managing and at times avoiding engaging in social comparative exercises.

***Diagram 12.1: Social comparison theme composition***




**Please note:** Participants Scarlett, Kelly and Ruby social comparison data is available in Appendix P.

### 12.1.b Participant Melanie

#### 12.1.b(i) Interview one *(26 weeks)*

##### *12.1.b(i)a Following and observing*

Melanie described *following and observing* maternal and pregnancy-fitness related content on social media: *'I follow quite a lot of – quite a few kind of pregnancy fitnessy type people on Instagram'*. Despite conceding social media to be useful, Melanie revealed a fractious relationship where she was uncomfortable with her *'follower'* status, as social media monitors '*follower'* behaviour to identify and *'serve'* followers with content to *'feed'* or sustain a consumer relationship. Though aware of this cyclical follower-server dynamic, it seems the toxicity of this interface is a trade-off for the *observation* and insight social media provides into the world of pregnancy-fitness individuals. Indeed, Melanie described how *following and observing* others negatively impacted her self-esteem, with it inevitably leading to upward social comparisons:

> *'the kind of less positive side of it is that like with all social media, you're looking at people whose job it is to be fit and look great…following any of those influencers kind of makes you feel slightly more rubbish about your own life…it's like: "I should be doing more. I could be doing this class that they're advertising or this live workout that they're doing on Instagram Live", and then sort of feeling slightly gutted that you're not doing it'*.

##### *12.1.b(i)b Detrimental upward social comparison*

Melanie moderated the negative affect of social comparison by interposing it with a sprinkle of realism and relativity to her own situation. This was achieved by *'reminding'* herself about the synthetic properties of social media:

> *'How do I manage it?...I think it's just the kind of constantly sort of reminding yourself that social media is fake…if it was my job to look fantastic on Instagram and I could afford the time and the money to have a personal trainer come in, then I would probably look like that…that's never going to happen…it's just kind of reminding myself that and telling myself that…I know it's not real'*.

This deliberate act of reminding herself, suggests a cognitive dissonance response to these particular social experiences, where she reconciles her view that: following/observing such content is necessary, alongside a conflicting view that: the content is counterproductive and precipitates negative upward comparisons. It seems this conflict is resolved by *'reminding'* herself against a virtual symbiosis, where she recognises or experiences the social media world as one which fails to reflect her reality.

*__12.1.b(i)c Beneficial lateral social comparison__*

Despite perceiving social comparisons as a negative exercise, particularly within the abstract and curated realm of social media, owing perhaps to her stage of pregnancy and sense of bodily control, Melanie appeared to frame lateral comparisons positively, seeing group physical activity at Pilates class, as an opportunity to identify her abilities. Indeed, lateral comparison amongst peers allowed Melanie to both individuate and deindividuate herself by comparing herself to the *'differing abilities'* of the pregnant women in the group. This occurred as she could identify her abilities amongst pregnant women exercisers, thereby finding a belonging place within the group (deindividuate). Yet at the same time, her contrasting abilities with others, also served to distinguish her as an exception; thereby evincing and enabling a retention of her idiosyncratic attributes (individuate): *'last time I did Pilates…you're in a room with lots of other pregnant women of all different shapes and sizes and abilities, and something you find difficult, they find easy, something you find easy, they find difficult'*. Melanie thus positioned lateral comparison with other pregnant women exercisers as a healthy and motivating pursuit.

*__12.1.b(i)d Fruitless temporal comparison__*

Melanie expressed difficulty when engaging in self-comparisons however, concerning her present abilities. Although self-comparison can be anaphorically informative in showing how she is more active in her current pregnancy than previously: *'I didn't do any training in my first pregnancy'*. Melanie suggests self-comparison is largely unhelpful in revealing meaningful progress, as a competitive element is required in order to feel a sense of achievement: *'when you're just on your own, you've only got yourself to compare yourself to'*. Melanie explains how fruitless self-comparison inevitably leads her to engage in upward comparisons with her exercise professional, who is purposefully positioned to exceed her abilities: *'you are kind of looking at – the people who are delivering the classes are, obviously, very fit and look fantastic and are really, really good at everything'*. Perhaps, this emphasises the necessity for only certain social comparisons, as Melanie welcomes comparisons that position her as achieving above (downward) or equally with (lateral) others.

*__12.1.b(i)e Avoiding negative affect from upward social comparison__*

The avoidance of an inevitable upward comparison with someone who exceeds her own abilities, speaks to a competitive element. Melanie may be more willing perhaps for physical ability and aesthetics to be assessed via social comparison, if she can identify herself as exceeding others: *'But if you're on your own, you are. You're both the best and the worst person in the room'*. For example, the *'differing abilities'* (physical abilities) and *'different shapes and sizes'* (aesthetics) amongst the multitude of pregnant women exercisers, allows Melanie to engage in a more fluid social comparative exercise, whereby she can identify herself on a spectrum of abilities and aesthetics that fluctuate: *'Another nice thing about being in a class with other people is that there's differing abilities and you're*

*always going to be better than some people at some things and worse than some people at some things…but you rarely feel like you're the worst person in the room at everything'*. It seems that social comparison is an inevitability of group physical activity, and in order to avoid allocating herself to the *'worst'* position along the social comparison continuum, *'differing abilities'* are required amongst the group, and a middle-ground position can be assumed with some flexibility.

**12.1.b(ii) Interview two *(32 weeks)***

***12.1.b(ii)a Following and observing***

Melanie continued to *follow and observe* content on social media, including Instagram classes provided by exercise professionals and pregnant women/mums: *'She's been doing them on her Instagram channel…it's quite nice having someone who's pregnant running the class'*. An advantage of the online class was the ability to take part in group physical activity without being able to see or be seen by other pregnant women exercisers. Melanie could thus *follow and observe* the exercise instructor, without being observed herself: *'you couldn't see any other people doing it…the Instagram Live, you can comment any thoughts and reactions…she would ask questions, and people were answering them…you do sort of feel like you're doing it with other people even if you can't see them'*.

***12.1.b(ii)b Beneficial lateral and upward social comparison (when one cannot be observed)***

This is somewhat of a shift from interview one, where Melanie avoided upward comparisons. Perhaps the relatability between Melanie and the exercise professional both being pregnant, afforded her a dual lateral and upward comparison, which rendered the physical capabilities of the Instructor possible for Melanie too. Furthermore, the fact that she could not be observed by others meant that she could not be judged in downward comparisons from either the Instructor or pregnant women exercisers. This speaks to a need of Melanie's, to *observe and follow* the Instructor, without being *followed or observed* by others (e.g., *'no can see you'*). Indeed, Melanie appreciates group physical activity that is virtual over face-to-face, as the latter seems to require an observation of and engagement with other exercisers that precipitates social comparison. Therefore, being unable to observe and compare herself with other exercisers, means she is unable to conclude that she is the *'worst'* exerciser in the group, and it reduces the opportunity for others to make downward comparisons about her:

> *'there have definitely been moments in the past when I've done classes like that where I have felt self-conscious…I did a Zumba class, and I was so bad at it…I had no coordination, kept going the wrong way…it's awful being the worst person in the class, having 70-year-old women who were doing everything right and I was just flailing around'*.

Here, Melanie compared herself to groups of individuals, whom she expects herself to be more capable when conducting these exercises: *'the comparison thing. Because I think I don't like feeling like I'm the worst at something in the room…I want to be good in a class, and if I'm not, I think I find it a bit frustrating'*. In interview one, it was highlighted that Melanie attempted to reject the deindividuating experience of group physical activity, but it appears in interview two, that in fact it is the negative individuating experience of group physical activity, where she identifies herself as the *'worst'*, which is the social comparative experience she seeks to avoid.

#### 12.1.b(iii) Interview three *(36 weeks)*

##### *12.1.b(iii)a Following and observing*

Although Melanie continued to *follow and observe* pregnancy/fitness-related content on social media, positioning it as an *'influence'*, she shrouded this description with tentative language (e.g., *'I suppose'* and *'I guess'*), which suggests her *following and observing* behaviour may be implicit/passive: *'I suppose some of the people that I follow on social media…I guess that's been an important influence'*. This passive *following and observing* again seemed to be attributed to social media algorithms: *'Still getting served the same adverts, getting more adverts now for new-born stuff…so obviously, the internet knows that I'm nearing my due date, which is scary'*.

##### *12.1.b(iii)b Beneficial social comparison (when feeling accomplished)*

Unlike interview one, Melanie seemed more able to utilise social comparison to benefit her self-esteem, having remained physically active and therefore in control of her body in this pregnancy. For example, Melanie seemed more willing and able to converse with pregnant women she encountered. This is because, as a multiparous pregnant woman, having successfully completed an active pregnancy program, so to speak, Melanie was able to assume an educator role, where primiparas pregnant women will engage in upward comparisons with her, as a source of knowledge and inspiration:

> *'The fact that you can't have prenatal appointments and stuff, for me, that's okay because I know what's going on. I think it would be horrendous if you're a first-timer and you have to do it all on your own. I think that's really hard…I do really feel for moms in that situation. I think it must be really hard'*.

##### *12.1.b(iii)c Beneficial temporal comparison (when feeling accomplished)*

Naturally, as Melanie felt accomplished in her active pregnancy achievement, she valued self-comparison as a way to recognise her progress. Indeed, temporal comparison enabled her to assume a knowledgeable and fortunate position compared to primiparas pregnant women. This, in turn, prevented her from being subject to their downward comparisons, because they could learn from her experience in an upward comparison:

> *'I think because I've got a direct comparison, because I did it before…I don't know if they know that I'm doing personal training…I suppose we haven't been able to chat that much, because…it's not the same as sort of arriving at a class and having a bit of a chat. We kind of have a little few minutes to chat before the class'*.

#### *11.1.b(iii)d Temporal comparison reinforced by social comparison*

Interestingly, Melanie seemed more willing to engage in self-comparison with her previous pregnancy than in other interviews, perhaps now that progress and a sense of bodily achievement was more perceivable at this later stage of pregnancy: *'I can see the difference this time of the fact that I've been more physically active this pregnancy. I don't think I've put on much weight…I feel like I'm sort of fitter and stronger than I was last time'*. This self-comparison seems to have been reinforced by a particular social interaction, where she was complimented by an exercise professional/friend on her bodily control: *'I went to see my friend who's a physio…she was like: "Oh my God, it looks like you've got a beach ball up your jumper" because she saw me quite a bit in my last pregnancy…and she was like: "God, you look so different from last time". It's really nice to hear'*. Indeed, with only a *'bump'* to evidence her progressing pregnancy and being praised for this modest indication of motherhood, this seems to indicate that she circumvented a complete bodily transition to the maternal body. In this way, Melanie maintained her individuality, meaning she need not join the bodily collective of the pregnant women community; sporting only a modest *'bump'* compared to other pregnant bodies indicates she avoided this deindividuating experience of pregnancy.

## 12.2 Social comparison discussion

### *12.2.a Social comparison theme summary*

The social comparison theme of *following and observing others while navigating the social 'comparison game'*, describes the observatory behaviour of pregnant women throughout their pregnancies and the interconnected responses of social and temporal comparisons, as a sense-making experience of their social worlds.

### *12.2.b Social comparison theory*

The manifestation of a social comparison theme prompts the discussion of social comparison theory, which descends from the work of Festinger (1954) and posits that humans have an innate need for self-evaluation: *'There exists, in the human organism, a drive to evaluate his opinions and his abilities'* (cited in Stapel, Blanton, 2007:29). Social comparison attends to this need by acting as a leveller of one's 'opinions' or 'abilities' relative to another (Goethals and Darley, 2007). Self-evaluation is thus an intrinsic feature of the human condition: to explore one's *'opinions'* and *'abilities'* relative to comparators. According to Festinger (1954), in the absence of an objective, physical comparator,

parallels are drawn with other people. It is proposed in the current study, that social comparison operates as a sense-making exercise of participants' physical activity identities and relationships relative to others in their social worlds. This premise is supported not only by the findings of the current study, but also by research. Indeed, numerous studies exploring social media use amongst pregnant and postpartum populations, deploy Festinger's (1954) social comparison theory to explain participants engagement with such content (Adomaitis and Kim, 2019; Chae, 2014, 2015; Szwajcer et al., 2005).

#### *12.2.c Social comparison, social media and following and observing behaviour*

Social comparison is facilitated through social media platforms, as it invariably promotes the evaluation of self and others through its exhibition of digitised social worlds for social media users to follow and observe. This is reflected in the current study, where participants' *following and observing* behaviour of others, was predominantly conducted via social media. This coincides with the fact that social media appeared to be a more readily accessible and easier-to-use resource for social experience, given the restrictions imposed on participants during the COVID-19 pandemic. In this way, social media offered a simulated virtual world, in which they could interact with others and re-establish their pre-pregnancy and pre-COVID physical activity relationships and identities.

Participants commonly followed, observed and inevitably engaged in comparisons with individuals who they considered either to parallel, in a lateral manner, their own identities (such as pregnant women, mothers, exercisers). Engaging in social comparison with pregnant women or mother peers via social media has indeed been reported elsewhere, with the social media subscription providing a platform for surveillance, comparison and judgement (Orton-Johnson, 2017). Amongst participants, Ruby and Kelly, being exercise professionals, they engaged in lateral comparison with those who mirrored their exercise-related identity, knowledge and achievement (i.e., exercise professionals, athletes, celebrities). However, the extent to which participants positioned themselves as lateral, upward or downward in their comparisons to these social media players, depended very much on the way that participants perceived themselves. This included their internal nature (e.g., being competitive, non-competitive or seeking inclusivity) and especially, their sense of identity and the egoic version of themselves. Indeed, the egoic identity appeared to be a socially projected entity, which they wished to reinforce and preserve; not only in spite of the decline in bodily control associated with their transition to primiparas and multiparous motherhood, but also under the knowing observation of other followers and individuals, especially those via social media platforms.

#### *12.2.d Social comparison and sense-making*

Whilst preserving this identity, social comparisons were thus drawn upon seemingly to make-sense of their social experiences and their relation to others. Lateral social comparison could be used to

reassure them of their safe practice of an active pregnancy, as well as establishing a group identity and sense of belonging amongst *'like-minded'* or same-situation individuals. This combined notion of belonging support from social comparison amongst *'like-minded'* others, has been alluded to elsewhere amongst pregnant women populations. In Szwajcer et al's (2005:58) study exploring prospective and current pregnant women's information-seeking behaviour concerning nutrition, theoretical underpinnings of the study united these two constructs:

> *'According to the Social Support Theory (Sarason and Sarason, 1985), social support can provide a sense of belonging…Applying the Social Comparison Theory (Festinger, 1954), pregnant women are likely to evaluate themselves by comparing their ideas, opinions and feelings with people in a similar situation who have the same values*'.

Coupling social support and social comparison theories, highlights the utility of social comparison as a sense-making experience of not only one's social world (in this case the active pregnancy world), but also one's place within it relative to a sense of belonging with others: *'pregnant women are more likely to communicate about the pregnancy with other pregnant women or those who have (recently) been pregnant'* (Swajcer et al., 2005:58). This is in line with Festinger's supposition that human beings have a proclivity towards using social comparison as a means for self-evaluation, which reflects the actuation (in the current study) of purposefully engaging in lateral comparison to obtain belonging and membership (as was demonstrated by participant Scarlett).

***12.2.e Social comparison and navigating physical activity identities and relationships***

In-keeping with the preservation of a physical activity identity/relationship relative to their internal nature (as mentioned earlier), social comparison could also be used quite competitively, notably in downward and upward comparisons. Indeed, downward comparisons enabled participants to assume an educated, knowledgeable or more capable position in terms of physical activity knowledge, as well as retaining bodily control throughout pregnancy relative to others. This was demonstrated by Ruby, Kelly, but particularly Melanie in a progressive manner throughout pregnancy. Indeed, having been satisfied at her level of bodily control by the end of her pregnancy, Melanie was more willing to engage with other pregnant women in an educational manner, where she was experienced by others in an upward comparison of inspiration and bodily achievement. Thus, in response she could comfortably relate with her competitors in a downward comparison fashion. Downward comparison theory (Wills, 1981) supports this notion of subjects experiencing *'self-enhancement'* from engaging in self-evaluative social comparison with others. For example, downward comparisons have been identified as a coping mechanism for people with health conditions, including mental and physical health comorbidities (Wilson, Gil, Raezer, 1997). While pregnancy is not a health condition in the same context, it is an embodied experience that weighs the possibility of physical and psychological

health risks for multiple persons, which can be subjectively experienced as a test of endurance, as well as an (bodily) achievement. Indeed, where a sense of achievement is possible from an experience, competition with others (which naturally precedes comparison) may ensue. For example, Chae (2015) theorised how a sense of *'achievement'* through pregnancy was used to explain the association identified between participant mothers exposure to celebrity depictions of idealised motherhood and their quantitative scores for *'social comparison competitiveness orientation or competitiveness'*: *'Douglas and Michales (2004) argued that motherhood has become a kind of competition because it is considered as an individual achievement'* (2015:509).

### *12.2.f Upward comparison and competitiveness*

Upward comparisons, which were also linked to a sense of competitiveness in the current study, were mentioned by all participants with varying responses. Indeed, upward comparisons with social media projections of celebrities in motherhood have been found to be associated with competitiveness amongst other mothers (Chae, 2015). In the current study, some upward comparisons were drawn upon for inspiration, particularly by Kelly who followed other celebrities and admired their retention of bodily control in pregnancy and beyond. However, upward comparisons that represented an unobtainable goal were experienced negatively; this was expressed by Melanie in relation to other exercisers who generated better exercise-competence than her and, at times, by viewing celebrities exhibiting their bodies and fitness in motherhood. A number of studies support and/or allude to the negative affect experienced by pregnant and postpartum women in response to viewing body-image related content on social media, such as body image dissatisfaction, a motivation for 'thinness' and negative social comparison (Adomaitis and Kim, 2019; Chae, 2014; Coyne, et al., 2018; Hicks and Brown, 2016; Lev-Ari, Baumgarten-Katz, Zohar, 2014; Nagl et al., 2021; Nippert et al., 2020; Zeeni, Kharma, Mattar, 2022). Notably, Chae (2014) highlighted how viewing social media content exhibiting celebrities' postpartum bodies was positively linked to social comparison behaviour and body dissatisfaction as well as a motivation for a thinner body amongst 345 women social media users. Similar findings have also been described amongst purely pregnant women populations, with social media posting and dependence being associated with increased social comparison relative to appearance and body image dissatisfaction (Zeeni et al., 2022). Thus, social comparison (upward in particular) has the potential to generate negative affect concerning body image in response to viewing such social media content.

### *12.2.g Coping strategies to navigate the (upward) 'comparison game'*

Strategies used to avoid or manage upward comparisons that produced negative feelings amongst participants was evident in the current study. Typically, participants would engage in: [1] reframing their perspective of the upward comparison, or [2] choosing to focus on temporal-comparison (or

comparison with the self 'in relation to time' (Watt & Konnert, 2020:797), including the *'listening to body'* mantra.

***12.2g.(i) Reframing the upward comparison***

Reframing was demonstrated by Kelly and Melanie, who acknowledged that celebrities exhibiting bodily control on social media were enabled by their comparative wealth and lifestyle. This reframing technique enabled participants to conclude that such media content was purposed to be inspirational yet obviously unobtainable; meaning that they should relax any expectation of themselves to emulate these depictions of motherhood and bodily control. In addition, Kelly described how following celebrities and drawing comparisons with them as quite a normative behaviour. Despite being mildly self-conscious about observing celebrities, reframing this behaviour as normative enabled Kelly to justify following such content. In a study by Adomaitis and Kim (2019:01), exploring the influence of postpartum celebrity online images on self-thoughts and appearance management of 35 postpartum women, it was reported that *'most participants engaged in social comparison'*, which *'stirred up emotions of jealousy, anxiety and frustration'*. Similar to the reframing coping strategy identified in the current study, Adomaitis and Kim (2019) remarked on how participants, in addition to *'envy',* provided statements of *'justification'* for following such content; ones which related to those offered by Kelly, that viewing celebrity content was similar to reading celebrity-focused magazines, rendering it a normative behaviour that is *'part of society'* (p.14).

***12.2.g(ii) Focusing on temporal rather than social comparison***

Choosing to focus on temporal comparisons was common amongst the multiparous participants, particularly at the later stages of pregnancy. Temporal comparisons enabled participants to indulge or focus on their own sense of progression and achievement, while avoiding comparisons with others. For example, Ruby discontinued following another exercise professional whose content caused her to experience a negative upward comparison. For Melanie, engaging in exercise with other exercisers prompted negative affect from varying comparisons, which she felt highlighted her poor coordination and incompetency in group exercise. Interestingly, while it appeared that in order to avoid social comparison, participants tried to engage in temporal comparison, this was of course more possible for multiparous participants. For example, Scarlett, being the only primiparous participant of the sample, opted for a different approach to managing the negative affect of social comparison, by deploying the *'listening to body'* mantra. Indeed, where self-comparison was not possible, Scarlett acknowledged individual differences of her lateral comparators and accepted that while social comparison was inevitable, it was nevertheless futile as a sense-making experience for recognising her progression throughout pregnancy. Interestingly, *'listening to body'* is a common theme amongst the relevant literature, often described as a form of advice imparted to pregnant women informing their navigation of (Wagnild and Pollard, 2020; Currie et al., 2016) and decision-making (Findley et al., 2020)

concerning physical activity in pregnancy. Uniquely, in this study, it's application also provides a coping mechanism for navigating social comparison, particularly where temporal comparison was not possible.

### *12.2.h Temporal comparison theory*

Temporal comparison theory posits that individuals may be more likely to engage in self-comparison process for various reasons: to evaluate and cope with *'times of rapid change',* while in negative present states, where *'evidence of maturation, progress or growth'* can be identified, or to create predictions about the future (Albert, 1977:499). In the current study, multiparous participants seemingly used temporal comparison as a way to locate *'progress'* and accomplishment of self-mastery goals during a period of *'rapid change'*. Self-mastery goals predominantly included retaining bodily control more so than in previous pregnancy. Indeed, temporal comparison has been associated with improved wellbeing and may function as a 'coping mechanism' (Madi et al., 2022), particularly when bereft of other 'psychological resources' (Ben-Zur, 2016). Temporal comparisons were rendered more possible or perhaps more rewarding for multiparous participants who had a previous pregnancy to compare. For example, Kelly, Ruby and Melanie all focused on temporal comparisons increasingly throughout their pregnancies, feeling perhaps that downward comparison with their previous pregnant selves was a safer marker to indicate progress than to compare themselves with others.

### *12.2.i Social media and temporal comparison*

Using social media, particularly Instagram, to exhibit visual content that enables and prompts a self-evaluation exercise through temporal comparison, is increasingly being identified as a utility of social media for its users, even amongst pregnant and postpartum populations. In Mayoh's (2019) discursive analysis into pregnant women's self-presentation on Instagram, this study highlights the enabling properties of social media as an exhibition tool, describing how *'pregnant women are increasingly engaging with social media as a form of digital leisure…Instagram is a culturally communicative and visual platform and a pervasive context in which to explore body discipline and regulation'* (p.204). In using social media for this purpose, Mayoh (2019) identified the temporal comparisons engaged in by participants through visual chronicles of bodily transition; concluding on how such *'comparison'* begets *'self-surveillance'*: *'Further posts by @happijan1 show comparison pictures of her body at different sizes…These posts demonstrate obsessive self-surveillance, policing, monitoring and re-shaping of the body through digital leisure'* (p.212). Acquainting these concepts of social media providing tools that beget *'self-surveillance'* in the endeavour to meet the innate human need for *'self-evaluation'* (i.e., Festinger's social comparison theory), highlights the dangers of temporal comparison through social media. That while it enables an individual to avoid the negative affect from sense-making through social comparison, it nevertheless lays the foundations for a

panopticized society (Foucault, 1975), whereby self-surveillance in this manner for self-evaluation, may feed into a larger window of societal evaluation through mutualised social comparison.

### *12.2.j The begetting nexus between temporal and social comparison*

Interestingly, although social and temporal comparisons are theoretically and operationally distinct self-evaluating practices, findings in the current study showed how they were inevitably interlinked, with one often proliferating and informing the other. For example, it seems that for the achievements and progress of temporal comparisons to be truly experienced, participants would often engage observation and comparison from others that further validated their progress. This was quite well demonstrated by Ruby, who despite using social media to evidence or *'document'* her bodily voyage through pregnancy and postpartum, she nevertheless beckoned the observation and inevitable comparative responses of others, thus proliferating social comparison. Inviting upward comparison from others, enabled participants to make downward comparisons with pregnant women exercisers, which distinguished them as more knowledgeable about their active pregnancy and commendable for retaining bodily control.

### *12.2.k Social comparison final thoughts*

Overall, participants seemingly engaged in social comparison in an automated manner relative to their following and observing of others via social media. Social comparisons of all directions (upward, lateral and downward) had varying positive and negative implications on pregnant women's physical activity identities and relationships, with cognitive reframing, unfollowing, temporal comparisons and 'listening to body' mantras drawn upon as coping mechanisms for the *'downside'* of a social media inspired *'comparison game'.*

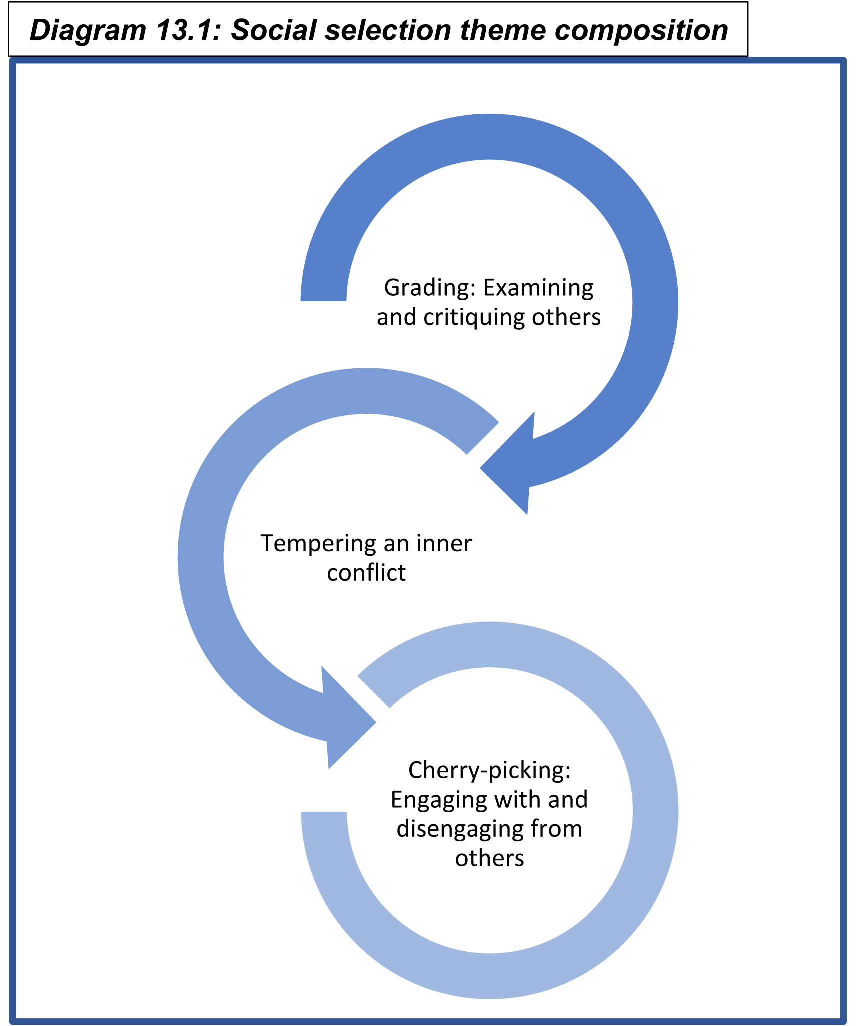
## Chapter 13: Social Selection Theme Results and Discussion

### 13.1 Social Selection Results

**13.1.a Social selection theme:** *Grading and cherry-picking my social experiences in search of the 'like-minded' people.*

This theme concerned the preferred social experiences that participants selected throughout their pregnancies. *Selecting preferred social experiences* was therefore an express or deliberative and evaluative theme that occurred through a grading and cherry-picking exercise, underpinned by the themes: *(grading) examining and critiquing,* whilst *tempering an inner conflict,* before *(cherry-picking) engaging with and disengaging from experiences. 'Like-minded'* people was a recurrent quote, amongst participants mutable to their preferred support needs relative to their stage of pregnancy.

***Diagram 13.1: Social selection theme composition***




**Please note:** Participants Melanie and Ruby social selection data is available in Appendix Q.

#### 13.1.b Participant Scarlett

#### 13.1.b(i) Interview one *(27 weeks)*

#### *13.1.b(i)a Grading and cherry-picking – examining and engaging with ‘pro-exercise’ content online*

Overall, Scarlett tended to source *‘positive’*, *‘pro-exercise’* social materials online, particularly from Instagram, as it provided reassurance and guidance about being active: *‘it’s all been pretty positive…It’s all been really sort of encouraging. I think that’s just because of the types of accounts that I’m following. They’re all sort of pro-exercise and trying to educate people and get pregnant people moving more and not to be scared to do it’*. Deliberately sourcing information from *‘pro-exercise’* social materials enabled Scarlett to avoid weighing-up conflicting information, which would otherwise leave her *‘confused’* or *‘doubting’*: *‘I tend to try and keep to the same sources. But just hearing from the people that support you through your pregnancy from a health perspective say that that’s okay and that they don’t see it as a problem, it just helps with that whole thing of not doubting yourself’*. Consistency in social experiences was therefore key for Scarlett in her grading and cherry-picking process, because consistent social experiences led to consistent messages about the active pregnancy:

> *‘I try to stick to NHS websites or websites I know that other people have used or recommended. I try not to just do general google searches where so many things will come up…you just come off more confused…just try to keep to the sources that I know or I feel are reliable and will give kind of consistent advice’*.

Thus, information that framed a *‘consistent’ ‘pro-exercise’* message were deemed *‘reliable’*, particularly if *‘used or recommended’* by others with expertise, such as healthcare professionals: *‘things that kind of reassure you as well that exercise is promoted, encouraged. And I think through all the health professionals – because I have been kind of seeing consultants as well. And they’ve encouraged it all the way through’*.

#### *13.1.b(i)b Cherry-picking the ‘Insta Live’ community*

Scarlett esteemed above all other social interactions, the importance of those she had with the exercise professionals and pregnant women exercisers within the ‘Insta Live’ community, as it essentially simulated her pre-pregnancy physical activity experiences – a sense of membership and belongingness: *‘You normally have a bit of a chat before and after your workouts. But yeah, it kind of replicates a bit of that…we all had a good workout together, even though we weren’t together. It’s quite funny’*. Indeed, social interactions that were *‘replicating going to a gym’*, highlight the importance

of Scarlett's pre-pregnancy physical activity social experiences for her motivation; experiences of which she was otherwise deprived due to the pandemic:

> *'if I didn't have that network of pregnant women, a pregnancy specialist doing the instructing, I would've just been worrying all the time that, what if I've done something I shouldn't have done, or have done it too much...I know if that was taken away from me now…then I would be lost'*.

In addition to belonging support, emotional support in the form of encouragement and informational support from exercise professionals and pregnant women exercisers in the 'Insta Live' network, made her feel confident, unafraid and permitted to engage in physical activity:

> *'Knowing that you're doing it in a safe way is really important during pregnancy especially. And you know you're being instructed by somebody that's qualified in giving that specialist advice. I think if I was left to try and do it on my own, I'd have been a lot more doubtful about what I was doing'*.

***13.1.b(i)c Cherry-picking 'pro-exercise' interactions***

Indeed, encouragement in the form of proactive discussions from professionals was a key social interaction and one which she could not find amongst healthcare professionals: *'when I had my midwife appointments or whatever, at the start I would always like to ask them…"Am I alright to kind of pretty much continue doing the type of exercise I enjoy?" And we kind of had that conversation'*. This further positioned the 'Insta Live' community as the most esteemed social interaction source for Scarlett, as she was engaging in physical activity with individuals who shared her experience in a *'pro-exercise'* pregnancy: *'a lot of the trainers are either pregnant or have had children recently. So they're sort of in it with you, in a way, but they've also got the expert knowledge'*.

**13.1.b(ii) Interview two *(31 weeks)***

***13.1.b(ii)a Continuing to cherry-pick the 'Insta Live' community***

Scarlett continued to engage with the 'Insta Live' community as her preferred social experience, as it not only continued to best simulate her pre-pregnancy physical activity relationship and interactions with exercise professionals and exercisers, but it almost appeared to replace it altogether:

> *'I don't feel that urge [to go the gym], like I need it because I've built up this exercise routine, without needing to go, that I'm comfortable with and I know is safe…I'm actually amazed, to be honest, by the social element I've been able to get…I've been surprised actually at how much of that social interaction there has been and how it's motivated me'*.

Similar to interview one, there remained a preference for 'Insta Live' classes to be led by persons with prenatal expertise, as this made Scarlett feel safe and reassured about her active pregnancy: *'It gives*

*me confidence. Again, what I'm doing is supported from, some of these people are midwives, they are professionals as well'*.

***13.1.b(ii)b Grading and cherry-picking objective and experiential content***

Scarlett continued to also prefer a combination of advice that was both expert and experiential, as she began to use a prenatal yoga DVD given by her friend who possessed both qualities: *'my friend who sent it to me is studying as a yoga instructor, so she's very much into it …I think I definitely needed the recommendation to even have thought about it'*.

Outside of objective and experiential knowledge, Scarlett also highly valued the sense of emotional and belonging support she obtained from being 'connected' to other pregnant women exercisers who shared her situation. This established a sense of group membership to a virtual world; a world in which became ever more important because of the social restrictions of the pandemic:

> *'You still feel connected in a way because you know you're all in the same boat…you're all being in a lockdown and having the same challenges around being pregnant in lockdown and trying to keep active. And you still feel that connection which I find amazing. And you think automatically that you would lose that because you're not seeing people face to face'*.

Again, forging connections with pregnant women exercisers who are *'all in the same boat'* seemed to be a key social interaction to not only facilitate her physical activity relationship, but to foster a team player identity during a time where she could easily feel alone.

**13.1.b(iii) Interview three *(36 weeks)***

***13.1.b(iii)a Grading and cherry-picking – continuing to engage with 'pro-exercise' content that reinforced her physical activity identity and relationship***

By interview three, Scarlett was expressly clear how she preferred social interactions that *'reinforced'* her physical activity relationship and identity relative to her stage of pregnancy through emotional or appraisal support (e.g., *'encouragement'* or '*feedback'*). Although Scarlett appreciated reinforcement from all individuals within her network, she most valued reinforcement from *'like-minded'* people, who were in the same situation as her and who thus had experiential knowledge:

> *'I'm looking for those like-minded – or those people that are in similar situations to me to kind of help reassure me that one: I'm not alone, and two: I am doing my best …I've been seeking out people that are in the third trimester or that might be in similar stages of pregnancy and wanting to get their feedback, because I feel like they'll understand more so than anyone else'*.

Scarlett therefore was always seeking membership amongst a group of individuals who represented her stage of pregnancy and physical activity relationship. Indeed, membership to such a group of pregnant women, who share her situation meant that Scarlett need *'not feel alone': 'when I had that discussion with them last night, it just made me feel so much better because I just thought: "I'm not alone." I knew that anyway but just having an open conversation and just hearing that they were feeling similar frustrations that just really helped, just talking about it'*.

***13.1.b(iii)b Cherry-picking – disengaging from the 'Insta Live community and engaging with same-situation pregnant women group***

In previous interviews, this membership had been to an 'Insta Live' community of pregnant women exercisers and exercise professionals. However by late trimester three, where her physical activity had significantly reduced, Scarlett selected a community that shared her decline in physical activity and who also offered the prospect of sustained bonds and group membership into postpartum: *'it's nice to almost start making friends with these people…when we've all had our babies and stuff, we'll all meet up…this has given me access to a more local community where at some point we'll meet face to face. So for me, that's what kind of stood out about it'*. Scarlett thus migrated away from the 'Insta Live' community and towards a group of pregnant women who equally reflected her changed experience and could offer the support she needed presently. This new group shared: [1] a reduction in physical activity, [2] at the same/similar stage of pregnancy, and [3] were also 'local' enough for her to eventually meet face-to-face: *'having that community of people that are kind of going through something similar to you and going through similar changes'*.

Scarlett also explained how she had turned to other people in her social network, such as her husband and friends to substitute the 'Insta Live' interactions:

> *'I've probably been having more conversations with friends and family because I've not been doing as much of the Instagram stuff. It's probably put me more in the realm of chatting about my exercise with friends and family. 'But yeah, the [pregnant women same-situation] app has probably been the most significant'*.

Yet at the same time, individuals other than pregnant women were unable to provide the type of support and level of experiential knowledge that she was seeking from her social experiences:

> *'I'm not, necessarily, looking for someone to make me feel better about it…As much as it's all coming from love and a good place, I just wanted someone to say: "Oh, I totally understand that would be frustrating." But only somebody that's going through it or gone through it can really do that. And I think that's again why I've been quite attracted to, whether it's been Insta Lives where it's with other pregnant women…I think that's, obviously, what I've been looking for, that group of people that can really understand'*.

Scarlett described the depth of understanding she obtained from same-situation or *'like-minded'* persons on an instinctive and visceral level, by depicting the certainty and empathy she experienced through their reception, their gaze and even in their intonation:

> *'I could see in their face and I could hear it in their voice, that they could really understand it. And they said it without me saying anything. They were saying it. It wasn't prompted by me sort of saying: "Well, I'm feeling really frustrated by this". They kind of said it first as well, and then I was kind of like: "Yeah, that's exactly how I'm feeling"'*.

Scarlett sought social experiences that provided a level of almost instinctual, automatic and unspoken understanding of Scarlett's experience in pregnancy, including the adjustment she had made to her physical activity relationship. In consolidation, Scarlett established a new team-player identity amongst a group of *'like-minded'* or like-situated pregnant women.

**13.1.c Participant Kelly**

**13.1.c(i) Interview one *(16 weeks)***

***13.1.c(i)a Grading and cherry-picking social media content as an information source***

Kelly selectively garnered active pregnancy information online, including from Instagram, as well as from podcasts, which she esteemed highly: *'I listen to really good podcasts, actually. I listen to quite a lot of podcasts. I listened to a running one, and it had an interview, I think, with [celebrity]. She does some pregnancy stuff, and she was speaking about it'*. Yet interestingly, Kelly felt at times compelled to defend and explain her selection of these resources, perhaps in apprehension of appearing to have graded a material source as more credible than its worth: *'I don't want to sound naïve and say like: "Oh, I turn to a podcast". No. I try and turn to reputable stuff'*. Kelly also conveyed mild embarrassment with her selection of celebrity experiences from Instagram as an information source: *'I mean, it's silly…I don't know. Just celebrities. It feels weird, being in your 30s…I don't feel completely comfortable with like: "Oh yeah, I like that celebrity"'*. Altogether, defending and explaining her selection of social materials betrayed a vulnerability concerning her physical activity knowledge, or perhaps an inner conflict as to the type of information sources she felt she ought to select as an exercise professional.

***13.1.c(i)b Grading social resources and tempering an inner conflict***

By evaluating the type and nature of her information sources, Kelly was therefore cautious about social experiences and parsimonious in her selection of them. Such stringent grading further betrayed an inner conflict, as Kelly seemed to engage and then disengage from interactions relative to her desire to connect or disconnect from her own motivation to be active. For example, Kelly described an

inconsistent relationship with her own physical activity pursuits (e.g., running); as despite wanting to run, she at times lacked motivation. A social experience of seeing someone who exemplified motivation for running was therefore selected to help her overcome an inner conflict concerning her own motivation: *'it does have a positive effect, like if I haven't been running for a few days…I just find that it's quite a bit of a motivation if you see someone doing a 5K or something. You think: "Oh yeah, I should get up and go for a run tomorrow"'*.

Inner conflict also arose in response to maintaining social experiences that fuelled her physical activity motivation. This occurred when Kelly reflected on her obligations to the Pilates students who took her class. Kelly esteemed the students as being a source of physical activity motivation for her and therefore a degree of inner conflict occurred, when deciding to reduce her Pilates classes: *'without that group, it would have definitely been harder to be motivated to do as much as I do. But I want to do more, and I don't want to – because they've all done so well since I started teaching them all, and I feel obligated to keep teaching…it's a good motivation for me'*. Despite wanting to reduce teaching for her pregnancy Kelly seemed conflicted, as she wanted to maintain that educator role, as a source of physical activity motivation for the students and herself. This highlights the importance of reciprocal relationships wherein Kelly both motivates and is motivated by other exercisers.

#### *13.1.c(i)c Grading – critiquing health care professionals*

In grading social experiences, Kelly criticised healthcare professionals for three reasons: (1) Having insufficient knowledge of antenatal physical activity: *'I haven't found that obstetricians or the midwives to be that knowledgeable'*. (2) Their lack of proactive initiation of physical activity discussions: *'I think it's quite funny that they don't mention it when you go to the doctors. They don't really ask: "Oh, are you active?" – it's not really in their vocabulary…they're not that bothered about what you do'*. (3) Their lack of praise or reinforcement for being active in pregnancy: *'when I've mentioned it as well, it hasn't been something that's been praised for doing as well'*; implying an expectation that healthcare professionals should proactively reinforce antenatal physical activity: *'it should be encouraged when it is being done'*.

### 13.1.c(ii) Interview two *(25 weeks)*

#### *13.1.c(ii)a Continuing to grade and cherry-pick social media content as an information source (but with caution)*

Kelly continued to use the internet to source information. Yet in contrast to interview one, Kelly spoke less about sourcing celebrity-based information and more about *'reputable',* medically approved information; as the latter seemed to inspire greater trust: *'I'm kind of a believer – I do believe what they say…it's always advancing, medicine and just medical knowledge'*. At the same time, Kelly

continued to source all information with caution, disengaging readily; seemingly to protect her wellbeing: *'I kind of take things with a pinch of salt as well. I don't stress about it'*.

***13.1.c(ii)b Grading and cherry-picking – critiquing and disengaging from social media***

Although Kelly still esteemed Instagram as a tool to garner information from exercising mums and celebrities, but with some uncomfortableness (*see social comparison*); Kelly also started to critique the vacuity of social media as a poor substitute for face-to-face contact. Indeed, Kelly explained how virtual platforms like Instagram, can only offer a simulated *'sense'* of a social experience while attempting to foster a worthwhile community:

> *'you do get a sense of that on the internet and through Instagram and stuff like that. There's a lot that say, we're in it together…But then at the end of the day, they're not physically there…It is nice to have the support and stuff like that on the internet, but I think you can't really beat someone physically being there for you'*.

This comparison between face-to-face interactions and virtual ones, showed a shift in Kelly's engagement with social media platforms and their curated reality. Indeed, such platforms were no longer an empowering surveillance tool, shining a light on the lives of people whom she wished to follow, they were now more of a substitutional aid to connecting with individuals with whom she would prefer to establish tangible bonds:

> *'I teach classes on Zoom…And it does help, it's okay, we have a WhatsApp group and that kind of thing. That is really nice. But I think in this sense, it is just nice just to see someone face-to-face…You can extend it from just the class as well. You can go on a dog walk with someone and have a chat with them, or you can make a playdate for your older children together…I feel like it's more supportive'*.

Indeed, the demoted social utility of virtual platforms revealed a degree of dissatisfaction with the synthetic or vacuous feedback from virtual interactions: *'it's a little bit harder to kind of communicate that kind of thing sometimes. Sometimes it's nice just to actually have someone there…It's effortless and it's more real. It's not curated'*. A yearning for face-to-face connections and a refutation of virtual ones, was a perspective exacerbated by the pandemic. Kelly expressed the loss of face-to-face social interactions concerning her physical activity, positioning this interaction as her preferred one.

***13.1.c(ii)c Grading and cherry-picking – disengaging from social media and engaging a preference for face-to-face interactions with pregnant women***

Notably, Kelly spoke frequently about seeking social interactions with other pregnant women exercisers/mums, namely from her face-to-face pregnancy yoga group. This interaction offered the prospect of establishing enduring bonds and sharing *'ideas'* with other *'like-minded'* women who mirrored her multiparous lifestyle and her physical activity interests:

> *'It's just nice to share that experience and just to knock ideas off of each other…a few of us go to the same health centre so you can talk about the midwife, just little things like that really …nice way to meet people – like-minded. I guess if you're doing a similar type of activity, you're going to be similar'*.

#### *13.1.c(ii)d Grading – no longer critiquing health care professionals*

Interestingly, Kelly no longer critiqued the lack of prompted or unprompted interest amongst healthcare professionals concerning her physical activity as she did in interview one, now that she had established a bond with a private midwife who not only initiated discussion about physical activity, but who seemingly encouraged her to be active: *'She is encouraging. She's quite relaxed about it. She's not like: "You must do this or that", she's not fazed. If you say: "Oh, yeah. I went to this mountain" or something. She's like: "Oh, that's really nice. Did you enjoy it?"'*.

### 13.1.c(iii) Interview three *(33 weeks)*

#### *13.1.c(iii)a Continuing to grade and cherry-pick social media content as an information source (but with caution)*

Although Kelly continued to use social media for up-to-date active pregnancy information, caution was increasingly practiced due to the mutable nature of guidance, which stemmed from social media users posting incorrect information: *'again, the information's changed already so that's a thing that you've got to be really careful with, like to keep updating information. That's why I think…if you follow the right people on social media, I think that's even better'*. Therefore, *'trust'* in the information source continued to be a key pre-requisite underpinning her grading and selection of social experiences: *'There's a few people that I feel like I trust a bit more…I guess I've got good knowledge of what's good and what's bad, and there are some things that I wouldn't do'*. Despite this, Kelly described a deliberative and progressive disconnect from social media relative to trimester:

> *'I have been a bit more disconnected from a lot of it actually…I think this is a normal phase to go through in this pregnancy that towards the end of pregnancy, I find it a little bit insular. And I think the need to follow as much information does not seem like what's right for me…they call it nesting, I guess when you start to not feel like you need to be connected with the outside world as much'*.

Kelly's use of the word *'disconnected'* is synonymous with virtual behaviour (i.e., turning off the power); this is quite indicative of the tenuous links of virtual interactions perhaps, as it is harder to disconnect from face-to-face interactions than it is virtually. To account for disconnecting, Kelly levels herself with normative maternal behaviour, therefore implying that an increased or sustained virtual interaction for the purposes of gaining information or making bonds/connections, conflicts with the

*'normal'* maternal behaviour that is *'nesting'*; to provide an environment for her family in preparation of the multiparous lifestyle, which seems central to her social experiences.

#### *13.1.c(iii)b Grading and cherry-picking – engaging with healthcare professionals*

In seeking advice that related to a reduction in her physical activity, Kelly showed a progressive shift towards healthcare professional interactions, particularly from interview one where healthcare professionals were critiqued for their lack of knowledge and interest in the active pregnancy. By interview two, Kelly esteemed the advice of her amicable private midwife, who supported her physical activity. By interview three, Kelly seemed to be accepting of advice from any midwife, even without a close personal connection, which advised moderation around the active pregnancy: *'Just through the conversation with a midwife this week when I had a scan. She was just saying: "yeah" – what I said to you earlier on – "pregnancy isn't the time to try and further your physical activity. It's kind of a time to…keep active if you want to keep active for you and for your baby'*. This could suggest that as Kelly progressed to the more limiting stages of pregnancy, where she accepted a reduction in physical activity, she more readily esteemed healthcare professional advice that spoke to bodily changes.

#### *13.1.c(iii)c Cherry-picking – disengaging from physical activity classes*

Kelly also started to disconnect from social experiences requiring a physical activity level that conflicted with her current stage of pregnancy, such as teaching students in her Pilates class: *'I stopped teaching…Stopping teaching is good because now I don't have to demonstrate anything that's not really pregnancy-specific'*. Yet disconnecting from certain physical activity-related social experiences nevertheless prompted an inner struggle, where she felt she was disappointing others by disconnecting from interactions: *'I think the first few days I felt a bit like I'm letting people down, letting my class down and stuff by stopping early'*.

#### *13.1.c(iii)d Grading and cherry-picking – continuing to show a preference for face-to-face interactions with pregnant women*

Kelly continued to lament interacting with pregnant women exercisers, highlighting the necessity of being supported by a group of *'like-mind'* or same-situated persons as a preferred social interaction concerning her physical activity and wellbeing: *'I've really missed the interaction of going to yoga as I haven't felt great these last few weeks and really missed a female support network, but hopefully I can join again this week'*. An interaction that she forwent in credence of cautionary concerns posed by the pandemic: *'The cases of COVID…have started to rise again, so…I don't want to go to the yoga classes anymore because I just feel like this late in pregnancy…I don't want to jeopardize my health or the health of the baby'*.

## 13.2 Social Selection Discussion

### *13.2.a Social selection theme summary*

The social selection theme of: *Grading and cherry-picking my social experiences in search of the 'like-minded' people,* comprised *examining and critiquing others (grading)*, *tempering an inner conflict* and *engaging with and disengaging from social experiences (cherry-picking).* Social selection represented the most individualised of themes, with participants migrating towards different groups/individuals at varying stages of pregnancy.

### *13.2.b Social selection and social comparison – a theoretical and thematic nexus*

Before progressing, it is important to highlight that both thematically and behaviourally social selection and social comparison are linked, as both themes address different reactive behaviours and motivations concerning social experiences. Social selection and social comparison both involve selecting social experiences, however the former is more express and direct by *grading and cherry-picking,* whereas the latter is more passive through *following and observing* behaviour. Nevertheless, both following and unfollowing behaviour relate to engaging and disengaging, with negative affect from social comparison being a potential reason for disengagement. Despite this, social selection represents a different motivation in navigating social experiences generally, that being an express, conscious or rationale-informed motivation to ***select, critique, grade*** and ***examine*** social experiences and opting for a preference. Conversely, the social comparison theme in this study, relates to a more innocuous, passive and almost unconscious interaction with social experiences that relate to a behavioural compulsion to follow and observe, with comparisons being reactionary. In light of this, it makes sense how theoretically the precursor to Festinger's (1954) social comparison theory, finds a place in the social selection theme. Indeed, Festinger's (1950) social communication theory *'focused attention on reference groups'* (Stapel and Blanton, 2007:13), with the view that people naturally migrate towards referent others; people with whom they share a likeness. Festinger's social comparison theory transcended this notion of referent others into similar others (Stapel and Blanton, 2007:15), both of which offer a theoretical kinship to the findings in the current study, with the search for *'like-minded'* others being a key objective for seeking and selecting social experiences, particularly prominent in both social selection and social comparison themes.

### *13.2.c Social selection and social media*

Social selection thematically captured pregnant women's express selection of preferred social experiences. Pertinently, participants selected social experiences that reinforced their active pregnancy support needs relative to pregnancy stage, which for some participants, manifested a shift in selected social interactions. However, it is clear to see that throughout pregnancy, the interactions that sustained an esteemed position, were the ones that not only encouraged or reinforced their

active pregnancy goals, achievements, relationships, identity etc., but ones that relayed a level of *'like-minded'* understanding. Social media enabled the selection of preferred social experiences, with it providing a forum for *'like-minded'* communities to convene and exist, meaning gravitation to these individuals who share a similar interest or situation is a facilitatory feature of social media and online communities (Dungay, Garcia, Elbeltagi, 2015). Seeking *'like-minded'* individuals online can also be indicative of trying to identify *'possible'* or *"ideal selves"* that may be more easily curated digitally then projected in real life; a notion conveyed by Haimson et al., (2015:3809).

### *13.2.d Cherry-picking – engaging with 'like-minded' others*

All participants showed behaviours of intermittently ***engaging with and disengaging*** from social experiences via a cherry-picking exercise in search of the *'like-minded'* people, which predominantly comprised pregnant women or prenatal exercise professionals. For Scarlett, *'like-minded'* individuals were often pregnant women who shared her situation and thus conveyed a deep understanding of pregnancy experiences within a group setting, in which she could establish a team-player identity. Depending on her physical capability for exercise and her emotional needs for connecting with others who shared her precise situation, Scarlett migrated towards pregnant women who mirrored her relationship with physical activity and transition to motherhood. Thus, where Scarlett engaged with pregnant women exercisers during interviews one and two, by late trimester three in the final interview, Scarlett migrated towards a different online community of pregnant women. This community were characterised by also being in the progressed stages of pregnancy and offered the prospect of face-to-face support in postpartum. This prospect of establishing tangible bonds with pregnant women into postpartum was also a preferred social experience of Kelly, which became increasingly common in the latter stages of pregnancy. For Melanie, unlike other participants, her preferred social interaction featured a one-to-one coaching dynamic with an exercise professional who was not only pre- and postnatally trained, but who understood the purpose of Melanie's active pregnancy and was able to support her throughout in an almost trainer-trainee dynamic. However, at the final interview, while Melanie seemed more willing to engage in interactions with other pregnant women, she purposefully embraced interactions with exercisers, namely other swimmers, which suggests that her *'like-minded'* others, were those who shared her activity rather than her situation. For Ruby and Kelly, who shared a physical activity identity of exercise professional, while they both esteemed the support of their partners for their active pregnancies, they both demonstrated a draw to other *'like-minded'* individuals, including health and exercise professionals or reputable information sources advocating the active pregnancy and other maternal behaviours. They also expressed a draw towards pregnant women/mum exercisers who they could continue to teach and who also shared their enthusiasm for the active pregnancy or physical activity generally. The preferred social experiences of professionals and other exercisers shared in common the obtainment of guidance and inspiration, with both Kelly and Ruby wishing to be a source of such qualities for others too. Altogether, such experiences

perhaps reinforced their inherent role as an exercise professional who is still teaching and yet always learning (Kelly) or campaigning for the active pregnancy (Ruby). By the final interview however, while both Kelly and Ruby lamented the social interactions with professionals, pregnant women and exercisers, with a progression towards multipara-hood they expressed some decline in their ability to maintain these preferred social experiences. In particular, Kelly voiced a deliberate disengagement from social media towards the end of her pregnancy to harness her 'nesting' instincts in preparation for multipara-hood; a retreating behaviour to family life that has been reported elsewhere in the longitudinal work of Smith (1999) concerning transition to motherhood.

#### *13.2.e Cherry-picking – disengaging from social experiences*

Disengagement from social experiences was common amongst participants, some of which seemed related to their stage of pregnancy, such as not needing as much information or to engage with a particular group for various social support, but also to protect oneself from negative affect. Under the social comparison theme, Ruby remarked on *'unfollowing'* another pregnant woman/mum exerciser simply because the reason for unfollowing content was attributed to experiencing a negative upward comparison. Although this finding in the current study was mentioned under the social comparison theme, Ruby's unfollowing of this person represented a digital disengagement, a unique feature of social media platforms to protect oneself against experiencing negative affect from content. In Buss and Haimson's (2022) study exploring how 20 transgender people managed their transgender identity over time on social media, findings highlighted how participants would use restrictive settings of unfollowing and blocking accounts that proliferated content they experienced as invalidating or negative. These restrictive features or behaviours however are self-insulating for social media users who wish to continue interacting with a particular platform. Indeed, some participants, particularly Melanie, acknowledged the dangers of algorithms and the surveillance properties of social media, which made it difficult for users to avoid content, inculcating users in sustained social media use. Indeed, users experience of navigating *'toxic content'* online represents a, not uncommon, downside to social media use; an experience that may have been exacerbated by the increased social media use during the pandemic (Greene et al., 2022).

#### *13.2.f Cherry-picking – informational support needs*

Amongst participants, a seemingly common reason for selecting a particular social experience/interaction was the prospect of obtaining valuable information. Given the different informational support needs throughout pregnancy, it was no surprise that selection of social experiences changed. For example, where in earlier interviews Scarlett migrated towards the 'Insta Live' community, by interview three she had replaced this social experience with a community of pregnant women, who were at a similar stage of pregnancy. Notably, a shared situation seemed to denote a *'like-minded'* population. The shared experience amongst *'like-minded'* or like-positioned

individuals generated a greater variety of social support than other social experiences, particularly emotional, informational, as well as belonging support. Research shows how pregnant (Baker and Yang, 2018; Peterson-Besse, Knoll, Horner-Johnson, 2019) and postpartum women populations (Johnson, 2015) utilise social media platforms to obtain social support. At times, social support online is generated by communities of *'like-minded'* or like-situated people. In Peterson-Besse et al's (2019) study, exploring the use of social media as a social support source amongst women with mobility disabilities during pregnancy; findings identified higher scores for both informational and emotional support amongst participants connecting with similar women in online communities, as opposed to connecting with women who had similar disabilities and to healthcare providers in person.

For other participants, such as Kelly, selected materials from social media were primarily sourced because they were considered more likely to provide up-to-date information. Yet, despite heralding social media as an up-to-date information source, interestingly, Kelly's use of social media to obtain information changed relative to cautionary concerns over the safety of information and the credibility of its source. Thus, a reduction in social media mining for content was more apparent towards interview three, coupled with a preference to engage with pregnant women for a sharing of experiential *'ideas'*. Similar changes in selected or preferred information sources have been identified elsewhere. In Clarke and Gross' (2004) qualitative study, some pregnant women showed a migration from objective and health-professional sourced information in early trimesters to experiential knowledge and emotional support from social networks, comprising friends and family, in later pregnancy.

***13.2.g Cherry-picking social experiences for a physical activity identity/relationship***

In the current study, differences in physical activity identities and relationships relative to social experience, such as a team-player identity for Scarlett, a trainee/mentee persona for Melanie, and educator and role model/campaigner roles amongst the exercise professionals Kelly and Ruby, appeared to direct their selection of social experiences. This notion of relationships with a particular phenomenon or alignment to a certain perspective in pregnancy influencing or directing changes in information-seeking behaviour has been reported elsewhere. In Szwajcer et al's (2005) study exploring nutrition information-seeking behaviour amongst prospective and primiparous pregnant women, they identified temporal differences in information-seeking behaviour relative to pregnant women's feelings on motherhood in utero. Essentially, pregnant women *'who feel like a mother from the moment they know that they are pregnant'* displayed higher information-seeking behaviour earlier than pregnant women who were assigned to the group *'women who feel like a mother later in pregnancy'*, who increased information-seeking behaviour in second trimester, compared to the other group who manifested a decline in information-seeking behaviour at this point. In relation to the current study, a pregnant woman's changing relationship with physical activity and subsequent sense

of identity in tandem with a transition to primiparas or multiparous motherhood, may influence her selection of social experiences.

#### *13.2.h Grading – examining and critiquing content*

When selecting social experiences, participants would (in a grading exercise) ***examine and critique*** others and their content. As the exercise professionals of the sample, Ruby and Kelly were at times critical of their information sources, particularly the credibility of information sourced online and the paucity of information available from healthcare professionals. Grading social experiences in this way ultimately reinforced educator and campaigner identities, as they had a professional-informed perspective on the type of content and information that should be available. It was only towards the later stages of pregnancy that both participants demonstrated a decline in actively critiquing information sources, perhaps because they were less active in garnering information from online sources. Critiquing others also seemed to be facilitated by the surveillance features of social media. Instagram for example, enables its users privileged access to others, who complicitly present a window into their lives. Some participants greatly valued such windows as an experiential information source. Indeed, research shows the diverse ways in which social media users utilise such platforms to garner information in a ***critical*** manner, drawing upon a variety of techniques from *'posting, monitoring, commenting and searching'* (Mansour, 2011). In the current study, Kelly in particular felt reassured by and expressed admiration for the celebrity mums she followed who retained bodily control. Using this information source to acquire experiential knowledge has been reported elsewhere. In Orton-Johnson's (2017:06) study exploring representations of motherhood by bloggers and readers responses. Findings highlighted how readers of mummy blogs valued the *'intimate'* detail they obtained from the bloggers lives.

#### *13.2.i Tempering an inner conflict*

Thematically, ***tempering an inner conflict*** occurred in various ways when grading and cherry-picking social experiences, manifesting quite mildly for some participants compared with others. For some, inner conflict concerning social experiences seemed to stem from engaging and disengaging behaviours and the impact this had on their physical activity identity and relationship. Kelly most prominently voiced an inner conflict that related to engaging with and disengaging from the social experiences that reinforced her educator and exerciser identity (i.e., no longer being physically able to instruct exercise classes). Ruby expressed, very infrequently, a similar conflict of having to relinquish a physical activity identity to focus on the impending multiparous lifestyle, which similarly required her to disengage from her exercise instructor identity. Participants who did not have an exercise professional identity manifested comparatively milder inner conflicts. For Scarlett, inner conflict occurred in weighing-up conflicting information sources when selecting social experiences and for Melanie, inner conflict arose when considering the benefits of group exercise. Melanie nevertheless

opted for a one-to-one social interaction with her personal trainer, as this was less of a deindividuating experience where she could be judged by other exercisers as a poor exerciser herself.

#### *13.2.j Social selection final thoughts*

Overall, this theme shows that participants, whether through social media or other social interactions, sourced *'like-minded'* individuals to guide, support and complement their active pregnancy. Genuine and trustworthy connections were increasingly important throughout pregnancy, particularly where physical limitations increasingly impeded their physical activity capabilities. Sourcing the *'like-minded'* people required a *'grading and cherry-picking'* exercise of available social experiences that was facilitated by the curative properties of social media. Mitigating the negatives of social media is a caveat that must be acknowledged in this increasingly digitised social world.

## Chapter 14: Social Contrivance Theme Results and Discussion

### 14.1 Social Contrivance Results

**14.1.a Social contrivance theme:** *Sharing and concealing my physical activity because 'people comment when you're pregnant'*

The social contrivance theme describes the deliberate management and curation of participant's social image concerning their physical activity. This included *sharing and concealing* their physical activity from others, *making sense of and challenging social judgement*, whilst *constructing and managing a projected social image.* Social media was instrumental, and in fact crucial, in curating participants' social image related to their active pregnancies.

***Diagram 14.1: Social contrivance theme composition***

**Please note:** Participants Scarlett, Kelly and Melanie social contrivance data is available in Appendix R.

### 14.1.b Participant Ruby

### 14.1.b(i) Interview one *(16 weeks)*

#### *14.1.b(i)a Sharing an 'authentic' physical activity identity online and creating a projected social image*

At interview one, Ruby began to actively **share** her physical activity online, describing it almost as an exhibition: *'I've only really gone public for the last three or four months'*. When sharing her physical activity content on social media, Ruby felt compelled to assume the role of campaigner or advocate for the active pregnancy message, by *'getting information out there to mums'* and pregnant women exercisers who *'don't know what's safe and what's not safe'*: *'you think sometimes: "you're doing such a great job. You're telling all these people", and then you realise that actually only like 100 of them are reading it. And there's still hundreds of mums out there who are making the same mistakes'*. In spreading this message, Ruby obtained a social media following of mums and pregnant women exercisers, who either wished to be active or to emulate Ruby's active pregnancy. Thus, in both obtaining and retaining a following, Ruby's safe and relatable content also projected a social image of an active pregnancy role model:

> *'I've definitely found now that I'm pregnant and doing the exercise, I've had more pregnant people get in touch with me to see if they can join in, and I don't know whether it's – they think: "Well, she's doing the exercises, so she must deem it safe. And I could always follow what she's doing" because I have taken it right down'*.

In retention of this pregnant women/mum following, Ruby acknowledged the importance of sharing relatable content, that strived to meet the interests and sensibilities of her following: '*I'm trying to take a very sensitive approach to the documentation of my pregnancy and make it very much like active pregnancy related…keep it very non-personal'*. At the same time, Ruby also wished to 'document' and share content on her active pregnancy, which centred on notions of candour:

> *'I'm surprised…how much people can relate when you're actually open and honest about stuff. And I don't paint a pretty picture all the time. Instagram versus reality and all that malarkey. So I think it is key that I document this pregnancy. And I think it will help other people'*.

#### *14.1.b(i)b Managing others' responses through an 'open and honest' projected social image*

In describing herself as *'open and honest'*, Ruby took 'sharing' content to a level of personal responsibility. This is clear through the use of language such as *'document',* which not only implies a degree of accountability for her exhibited active pregnancy, but it tangibly provides an audit trail that evidences the authenticity of her active pregnancy journey: *'I'm just kind of wanting to document it more. And like I documented that last week, I did too much. I'm honest about that'*. Whilst being

accountable for her social image, Ruby also removed the expectation that followers should/could emulate her achievements, by sharing her content with the caveat of: *'knowing what's right for you'*. This inadvertently placed the onus of personal responsibility on to her followers, as they must determine and formulate an appropriate use for her active pregnancy content: *'I obviously tell them – I'm a very honest person. I never kind of sugar-coat stuff or anything. And I say: "Look, just be careful." And then again it's up to them'*.

The exhibition of her pregnancy further positioned her as campaigner of the active pregnancy, as she not only considered how *'important'* it is to provide authentic content to her following, but she also assumed a pressure to maximise the time she had available to produce content (i.e., that *'if'* she does not *'document'* regularly, it will affect how much content she is able to share):

> *'I want to try and make the most of being pregnant because actually – I'll just have to keep – if I've documented it now, then I can keep reposting it later on. But if I don't document it, I can't go and pretend that I'm in my second trimester. So it's showing the exercises, showing they change as the bump grows and as the body is changing, I think, will be really important'*.

***14.1.b(i)c Managing negative social judgement – the insidious effects***

Whilst wishing to proliferate the active pregnancy message, using social media to do so also coincides with a demand to remain relevant to others, by regularly capturing content of her life and exhibiting it to others for information, which inevitably inspired judgement. Indeed, Ruby described receiving negative social judgement concerning her active pregnancy, such as warnings from family members about over-activity: *'My mum and dad…so they don't know what I get up to. But again, my mum, she's [OLDER AGE]. She was like: "be careful". But again, she knows how much I enjoy exercise. But they were very much: "be careful". And as soon as they plant that seed, you're like: "okay, I'll be careful"'*. Interestingly, in response to these warnings of *"be careful"* Ruby draws upon a metaphor, which depicts their influence as deeply impactful – like a planted seed, germinating internally, interpolating her as quite vulnerable to the opinions of others. Indeed, this metaphor depicts an experience of guilt as the catalyst for evaluating her active pregnancy, with this guilt sprouting insidiously in response to the seed of doubt planted by others.

***14.1.b(i)d Concealing physical activity identity/relationship to prevent negative social judgement***

Ruby also reported sterner admonishment from her *'mother-in-law'* against her active pregnancy, who imperatively instructed Ruby on the type of physical activity she was, from her perspective, prohibited from conducting: *'I wasn't allowed to jump'* and *"You're not going to run are you?".* These literal commands were also accompanied by physical gestures of negative social judgement or disapproval (i.e., *'she kinds of roll her eyes at me a little'*. To manage negative social judgement from family

members, particularly her mother-in-law, Ruby would attribute this to age or generational differences (*'so she's of the [OLDER AGE] generation'*), as well as genuine concern for her wellbeing and the pregnancy belying such admonishments (*'she was trying to protect me'*). In acknowledging this, Ruby would pacify family by agreeing with their request before concealing some of her physical activity from them: *'My initial reaction is to not get into an argument with them about it, and just say: "Okay". And then I just don't tell them. I don't tell my mother-in-law what I do'*. For Ruby, concealing her physical activity seemed to be a viable option, when others would not understand or acknowledge the concessions she had made: *'I have slowed down so much, and she would probably still say that I do too much. So really, I have stopped. Like I said: "I've stopped running." And so I think they were quite happy that I just stopped running to be honest'*.

**14.1.b(ii) Interview two *(24 weeks)***

***14.1.b(ii)a Sharing a physical activity identity 'journey' while managing social responses***

Ruby continued to campaign for the active pregnancy by sharing her *'journey'* on social media, expressing an obligation to spread a *'message'* to others: *'it's getting people to see the advantage of strength training. I'm actually going to an Instagram Live just to chat on exercise in pregnancy and things that you can be doing in order to kind of prepare the body, and why it's important to include it'*. Within this campaigner role, Ruby continued to be concerned about the perceived authenticity of her content from those following her. Ruby felt *'guilty'* about sharing content that evidenced her bodily achievements, worrying that this could inadvertently impact her followers self-esteem: *'I do kind of recover quite quickly from it, I almost feel bad about being in that way now because you have all this stuff on social media where it's like we're fed up of seeing people bouncing back…Maybe I overthink a lot though about what people are thinking behind the scenes'*. Indeed, Ruby grappled with a dilemma, as while exhibiting her bodily achievements aligned her closer to retaining the bodily control and *'athlete'* status in which she identified, this content may also deter her following:

> *'I did, again, a post about it the other day. I find talking in that way quite difficult. As an athlete. I grew up with a lot of body image issues and negative views…I still feel a little bit uncomfortable talking about it…people obviously always put on social media that they get annoyed with celebrities who put up pictures of the fact that after six weeks or four weeks, they seem to be back in the clothes that they were wearing before. And I thought: "Oh God. That was actually me the first-time round, and it might well be me this time round." But now I feel almost guilty about the fact that if it was me, then should I share that? Or does nobody want to see that postpartum recovery? They want to see the one where it takes you six months to recover'*.

The curation of her social image whilst wanting to project an authentic one, thus became an increasing concern when considering her following and their response to her content: *'Part of me wants – like, obviously, the first week or so, then I'm still going to have that pregnant belly…But those*

*weeks following, it's like, if I didn't share my journey, then I wouldn't be doing my job as such'*. Ruby concluded that the only way she could project an authentic social image to retain her following, was to appeal to her followers' interpretation of the shared content. Ruby thus continued to share caveats and directives with her followers that pre-emptively steered how they could respond to her content:

> *'you'd like to think that people want to see that postpartum recovery, but you also want to make sure that it's done in a way that's kind of: "This is my journey. This is body. This is the way that my body has reacted." And this is absolutely not saying that if your body hasn't quite reacted in the same way, then you're not doing any good in your postpartum recovery…it's kind of just making sure that it's done in a way that: "This is me. Do not compare yourself"'*.

***14.1.b(ii)b Managing others' responses of a projected social image***

Similar to interview one, Ruby again placed the onus on her followers to regulate their somewhat automated response to her content. These directives now positioned her as the reluctant role model, as followers may emulate her behaviour, but are advised not to credulously anticipate bodily results that emulate her own: *'I can only be open and honest with what my journey is and encourage other people to just focus on them and not really focus on me as such and hope that I might help somebody'*. Despite expressing acceptance of the fact that she cannot control or manage others' responses to her content shared on social media: *'you can't control what people are going to read into it'*, through her disclaimers, Ruby inadvertently attempts to control the response of her following, as she has prescribed the purpose of the shared content and how it should be experienced.

***14.1.b(ii)c Sharing a physical activity identity and the impact on others***

Ruby also reflected on sharing the infamous *'bounced back'* postpartum image (a token of bodily control) and the impact this will have on her following. In doing so, Ruby decried the credibility of *'bouncing back'*, describing it as an illusion one can project through a curated social image via social media: *'you can make it look like you bounced back, but the reality of it is actually quite different'*. Ruby delivers this perspective using second person, which distances the phenomenon from herself, implying that to 'bounce back' is not a reality that she recognises or embraces for herself. Ruby goes on to criticise the projection of *'bounced back'* as a distortion of public view, proliferated by a society that finds it difficult to acquaint itself with and accept the inevitability of some bodily change in pregnancy. Again, using both second- and third-person narrative, Ruby distances herself from this perception, indicating that this is a societal problem, one which she ponders rather than personally experiences:

> *'social media particularly, the filters and how you can edit photographs, it gives a warped opinion or a warped view of bouncing back because our bodies change. I know my boobs will never be the same. I hate them but I can't do anything about it. I'm almost like: "Well, maybe they'll come back." I'm like: "Nah, I think they're gone [laughter]. I think this is a mystery forever." But it's fine. Some people, I guess, find it harder to accept the changes. But I think*

> *we all have parts of our body that we don't like that other people would look at and go: "Yeah, but it looks absolutely fine"'.*

Furthermore, Ruby attributes the proliferation of *'bouncing back'* to the virtual and body-conscious world of social media and celebrity status: *'the phrase 'bouncing back', back to what? I think that's definitely a media thing and a celebrity thing when they write: "Oh, so-and-so has had a baby and six months later she's bounced back"'*. In contrast to this celebrity-fuelled content, Ruby manifests an unmet obligation to be more candid with her followers, by projecting a more authentic social image, showing how she has not achieved the 'bounced back' expectation: *'And yes, women would look at me and say: "You bounced back." And maybe I should be more like: "Yeah, but look at all the skin that I have here." You don't see that when I've got my high-waisted leggings on'*. Altogether, this conveys not only a conflict in how best to project and manage her social image, but also an array of options to consider, which opens the avenue for curating her social image via social media. Nevertheless, because aligning herself to sharing an authentic image is the option that resonates with her followers, this therefore dictates the nature and tone of her projected social image:

> *'99% of the feedback that I get from my social media account is the appreciation of how honest it is and the fact that it doesn't always paint the perfect picture. I think everyone would think that I feel fine about weight gain because I look fine, but actually, I make sure that I tell that: "No, there's a deeper issue there. It's not quite as easy for me as you think it is"'.*

***14.1.b(ii)d Sharing content and managing social judgement (without directly concealing)***

Outside of social media, Ruby continued to share her active pregnancy with friends who, despite being surprised by her sustained physical activity, nevertheless praised her aesthetically and reinforced her active pregnancy: *'there are friends who think I'm a bit mad, really. But they know that…what I'm doing is safe…They've never really said anything other than: "You look great"'*. Ruby however, continued to indirectly conceal her physical activity from her mother, by not proactively sharing content with her. Although Ruby explained that her mother was non-judgemental of her active pregnancy, meaning that sharing content would not cause concern, the idea of doing so prompted Ruby to revisit uncomfortable experiences of miscarriage:

> *'my mom, again…she doesn't really know what I get up to…She would probably just say: "How are you feeling?" And I would then say: "I'm feeling fine"…I think they kind of trust that I know what I'm doing, and that they know that I made the mistakes before, so I'm not going to do the same thing again'.*

For Ruby, her mother-in-law continued to be a source of negative social judgement concerning her physical activity that she had to manage. In interview one, the judgement was predominantly focused on running. By interview two, while Ruby had stopped running, criticism from her mother-in-law was directed towards cycling: *'we cycled down with the trainer…and she said: "Should you be doing*

*that?"…a standard mother-in-law comment about thinking I should be sitting on my backside for the next four months or whatever…she's still of the opinion I do too much'*. In contrast however to interview one, where Ruby would agree and then conceal her physical activity, Ruby now explained (*'I do say to her: "No, it is safe, and I know what I can manage"'*) and then ignored such comments: *'I just kind of ignore her because I know what's good for me and what's not good for me'*. Indeed, Ruby seems to withstand her mother-in-law's comments more openly, perhaps by concluding that such judgement is nothing other than a view, which she cannot change: *'she's fine. It's just her view of things*'.

**14.1.b(iii) Interview three *(34 weeks)***

***14.1.b(iii)a Sharing a physical activity identity to continue campaigning***

By interview three, Ruby maintained her role as campaigner, championing the active pregnancy *'message'*, *'getting the right information and the correct information out there'* by sharing content on social media. Again, spreading this *'message'* seemed to reinforce her role as campaigner more and more: *'So I'm an ambassador for the [an active pregnancy group]'*. This campaigner role extended to other areas of social media, as even into late trimester three Ruby continued to '*document'* her pregnancy and share it with her followers: *'I want to document it all. I'm kind of recording some videos each week about what I've done, how I feel, kind of any advice that I've sought from anybody and really show that you can do it the right way, and it's good to do it the right way'*.

***14.1.b(iii)b Sharing content online for self, while continuing to manage social judgement***

While continuing to share content to advocate the active pregnancy however, in contrast to previous interviews, Ruby made clear how she shared her active pregnancy *'journey'* on social media more for herself by attending less to people's responses. Thus, she seemed to be less focused on curating a social image to influence and/or retain her followers: *'I do a lot more for me now, rather than for anybody else. I don't put the perfect picture up for Instagram'*. Despite a conscious effort to avoid social curation, as Ruby certainly appeared less preoccupied with people's comments (*'I haven't been back and checked the post'*), Ruby still gleamed an impression of people's opinions about her content nonetheless (*'So yeah, it's a positive response'*):

> *'I did a post about it [pregnancy walk challenge]. And it was kind of saying: "Ruby, for example, has managed 140 miles"…it sounds a lot, but actually when you break it down…contributes toward kind of staying active during pregnancy…so that got a few responses. And I haven't been back and checked the post…People check in, and they do say: "Well done. You're doing really well to keep moving". So yeah, it's a positive response'*.

Furthermore, while Ruby continued to uphold her principles of being *'open and honest'* through the content she shared, as a means to practice (thus embody) what she *'preach[ed]'* to others, this principle betrayed not only an awareness of social judgement concerning her content, but perhaps an unbinding objective to manage it[41]:

> *'I do try and create this open and honest kind of platform. And I think that, one that always comes back is how open and honest I am about things. And I've become a lot better at practicing what I preach. I don't just put it up for the sake of it, because I feel like I have to do it because that's what I genuinely believe'*.

Indeed, the sub-theme of managing social judgement is implied through the word *'preach'*, which firmly places her as a campaigner and even within a role model position for the active pregnancy; positions that naturally accrue a following. Similarly, despite consciously wanting to steer away from social curation altogether, the use of the words *'try to create'* implies an intention to curate a message for an anticipated response. This is also reinforced by the fact that Ruby highlights how some of her shared content is subject to *'edits'*; that the curative properties of social media are something she may unwittingly utilise in the proliferation of her social image online:

> *'It's just nice to know that you still kind of look a bit like your old self. And I definitely have – you look in the mirror and think: "Oh you look all right" – and then some days you'll go: "My gosh, I am massive" – But then I see a video, or I'm editing, or whatever, and I'm like: "Oh, actually, no. I don't really look that big, apart from when you go side on, and then there's this huge thing sticking out" – But apart from the front, I still feel like I look – I can still see me. Which is quite nice. Yeah. I still look strong most of the time, which, yeah, it's a nice – I guess it's a nice thing'*.

#### *14.1.b(iii)c Curating a projected physical activity identity and being 'accountable' for preached messages*

The social curative tools of social media platforms not only enable, but somewhat compel, Ruby to project herself as closer to the type of aesthetics or bodily control she esteems at this stage in pregnancy. In turn, projecting such images online also extends an invitation to others to judge and offer approval or disapproval. Thus, managing social judgement is still an inevitable or even a prevalent part of her social experiences; as although Ruby asserts that she is less concerned with curating her social image to retain her following, Ruby becomes more concerned with social judgement by holding herself *'accountable'* for the messages she projects, compelling her to *'practice what I preach'*:

> *'I put it on social media, so that made it a bit more accountable. And then the part of me is like: "Oh my God, the people" – but actually nobody really is going to care. But I felt like I have to say on social media, this is the third day I haven't managed, and actually say why I haven't*

[41] 'unbinding' in the respect that the objective itself causes her to unbind from her principles

> *done it. Because people would continue to push through for the sake of some stuff, when actually: "No, it's okay to listen to your body and to say enough is enough for today" kind of thing. I have to practice what I preach'*.

Yet despite wanting to avoid caring about social judgement concerning her physical activity: *'people must've thought: "Oh my God, she's just nuts." But that was fine for me. I needed to do that'*, as a campaigner and/or a role model, roles which stem from her projected social media image, Ruby is compelled to consider the impact of the content she shares and feels a great sense of accountability whilst navigating this virtual social world:

> *'I'm always conscious…and trying to consider everyone's feelings. And I can't consider everybody's feelings all the time, or everybody's individual situation. It's trying to keep – and I'm a really positive person, and so I do find it quite hard to see the negative, if that makes sense. I'm always trying to focus on the positive side of things'*.

It seems that in order to have a virtual social image – a conflict arises, as while Ruby aims to share an *'open and honest'* image of herself, Ruby's awareness of the inevitable social judgement seems to precipitate a navigation back towards managing and projecting a curated social image, heightened with a sense of accountability and scrutiny: *'I have to practice what I preach'*.

## 14.2 Social Contrivance Discussion

### *14.2.a Social contrivance theme summary*

The social contrivance theme of sharing and concealing *my physical activity because 'people comment when you're pregnant'*, captured pregnant women *sharing and concealing physical activity from others* and *making sense of and challenging social judgement*, whilst *constructing and managing a projected social image*. This thematic notion of sharing and concealing reports a complex, nuanced behaviour (facilitated by social media), undertaken to manage a projected social image that essentially protects a physical activity relationship and identity.

### *14.2.b Social contrivance and social media*

Increasingly, social media promotes the exhibition of self in the form of written prose and visual images that almost testify the authenticity of a projected social image. Through its editing features, social media uniquely enables its users to produce *'carefully curated personal sharing'* of content to depict and project a social image (Duffy and Hund, 2015). Sharing or posting content of bodily achievements (i.e., weight loss or fitness) is an increasingly common trend amongst social media platforms like Instagram, as the modality of picture and multimedia posting is the sole transfer of

communication between an Instagram user and the followers they accrue.[42] Pregnancy is an embodied experience and a time of progressive bodily transformation that engages the surveillance and judgement of society. Research shows how pregnant women undergoing the *'journey'* or experience of pregnancy, share content of their bodily transition and engagement with the pregnancy process on social media. Notably, by exhibiting before, during and after pictures that evidence not only bodily transition, but also movement towards bodily control in the postpartum. Indeed, studies highlight the use of social media by pregnant and postpartum women to exhibit their emotions, life events and bodies at varying stages, including pregnancy (Marshall et al., 2019; Mayoh, 2019; Tinoco & Grajeda, 2021), the postpartum (Liu and Wang, 2022; Zhang et al., 2020) and early motherhood, such as breastfeeding (Tugwell, 2019).

#### *14.2.c Sharing and concealing behaviour*

In the current study, *sharing* physical activity with others was common, particularly via social media. Scarlett and Ruby shared their physical activity behaviour on social media readily, but with different motivations. Where Scarlett shared content with groups of exercisers or pregnant women seemingly to find membership amongst them; Ruby shared content to obtain and retain a following of other exercisers, whilst campaigning for the active pregnancy. Conversely, Melanie mildly shared her physical activity with others virtually, as she expressed concerns over the surveillance powers of social media, which coincided with a self-consciousness over her baby bump. Kelly, though as an exercise professional, also expressed similar concerns of caution and liability in sharing content with others. Yet despite sharing content throughout her pregnancy, Kelly nevertheless did so with reservation. *Concealing* physical activity from others was also common amongst participants; yet conducted diversely: from curating a social media identity whilst trying to remain authentic (Ruby), to refraining from sharing physical activity content online that could be viewed by individuals in their social networks (Scarlett and Kelly). Sharing and concealing also seemed to mirror and beget one another. For example, Melanie who appeared to minorly share content of her active pregnancy online, was also less likely to conceal her physical activity identity and relationship from others. However, this was predominantly attributable to the fact that, unlike other participants, her family and friends were seemingly impartial towards her physical activity.

#### *14.2.d Sharing and concealing behaviour being facilitated by social media*

Concealing behaviour from others to avoid stigmatisation has been qualitatively captured amongst pregnant women populations concerning smoking behaviour (Findley et al., 2022), but less so in terms of online concealing behaviour. Research shows how social contrivance or curation is a

[42] Using social media to exhibit bodily form or achievement, triggers a reward or validation process of expressly 'liking' a person's content, against a passive indication of disapproval or disinterest, which is inferred by followers who have not endorsed user's content by 'liking' it.

common behaviour perpetrated online, often in deliberate efforts to manage one's projected social image to various online populations (Marquez, Lanzeni, Masanet, 2022). This involves purposely sharing content indicative of this projected social image with certain virtual audiences, whilst concealing one's interweaved socio-digital behaviour and identity from others (Buss and Haimson, 2022; Chalmers, et al., 2021). For example, Scarlett highlighted how she would share content on a social media platform that endorsed high-intensity physical activity; yet concealed that content from other social media platforms that contained family and friends. In relation to social media specifically, amongst different subject matters research shows how online users manage multiple social media accounts to share and conceal content relating to their identities and behaviour. For example, in navigating social judgement and stigmatisation, transgender participants have been found to share their transgender identity on platforms under a specific account, using different accounts for presenting their non-transgender identity. Buss and Haimson (2022:28) considered this as an effort to *'strategically curate their social media experiences to work better for them'*, with multiple accounts affording users an ability to project their social image without incurring negative social judgement. This finding has also been identified amongst young people using different social media accounts to manage their youthful *'social'* online identities, which may conflict with a mature *'professional'* one (Brandtzaeg and Chapparro-Dominguez, 2020). Amongst these young people, utilising different accounts enabled participants to exhibit multiple social identities, as different stages of maturity bring different behaviour that may be less socially acceptable for a professional digital identity. Temporality and changes in social norms defining the appropriateness of behaviour for stage in life, also seemed to influence the sharing and concealing of content for teenage participants in another study, which was defined by the theme of deploying such curative devices for *'impression management over time'* (Schoenebeck et al., 2016). This theme compliments findings of the current study, which describe pregnant women sharing and concealing different aspects of their physical activity behaviour at different stages of pregnancy; particularly where audiences seemed more receptive to their comparatively gentler form of physical activity in later pregnancy (e.g., Scarlett and Kelly). Indeed, concealing behaviour seemed to be a mechanism to avoid negative social judgement particularly from family and friends. A further example of concealing one's online content from others, which relates quite well to the findings of the current study, can be found in Hanckel et al., (2019:01). This study highlighted how LGBTQ+ young people participants utilised various privacy settings on social media platforms to *'carefully negotiate and regulate'* the visibility of their shared content from family and friends.

#### *14.2.e Making sense of and managing social judgement through concealing*

Although social media facilitated a discreet physical activity identity for participants in the current study, both online and face-to-face interactions prompted pregnant women to actively manage social judgement; particularly judgement that affronted their physical activity identity and relationship.

Indeed, *making sense of social judgement* was a concern for all participants, from exercising in public and receiving comments (Melanie), to experiencing judgement from family harbouring concern (Scarlett, Kelly and Ruby). As mentioned previously, managing social judgement at times prompted social contrivance through concealing physical activity from family and friends. Yet despite the curative properties of social media, concealing content could not always preclude negative social judgement. In such instances, participants would assume an educator role to manage unwanted or unhelpful responses by challenging misconceptions around antenatal physical activity. Interestingly, manifestation of concealing behaviour and assuming educatory roles has been identified elsewhere, in a study exploring adolescents experiences and perspectives of sharing their type one diabetes diagnosis with others via social media. Similar to participants in the current study, Chalmers et al., (2021) described how some participants concealed their diagnosis from others to avert *'policing behaviour',* whereas other participants assumed an educator role to *'challenge assumptions'* made by others. Amongst some participants, educating others also included the use of directives within the text function alongside the visual content they shared. For example, both Kelly and Ruby (being exercise professionals) described managing social judgement and responses to their social media content., by adding disclaimers to their posted content that directed their followers not to emulate their conduct precisely. Offering disclaimers stemmed from concerns over liability for others safety and conveyed a degree of responsibility over the influence they perceived themselves to have over their other followers. Managing social responses through the use of Instagram's editing functions has been eloquently unpacked in a critical piece by Mahoney (2020), analysing feminist discourse use amongst Instagram accounts. Similar to the findings of the current study, Mahoney (2020:12) noted how the accompanying text assigned to images by Instagram posters/influencers, enabled them to direct their followers to reach an appropriate response to their content: *'One of the main ways in which these users curate their feminist selves on Instagram is through their use of captions to dictate the ways in which their images should be consumed and understood'*. Indeed, the curative properties of social media, affords users the ability to delicately and tactfully manage social judgement in a pre-emptive manner.

### *14.2.f Managing a projected a social image through social media – social judgement and remaining authentic*

In tandem with managing social judgement through the curative properties of social media; such platforms equally facilitated the development of a project social image. Indeed, social media platforms that enable users to share visual or photographic content, such as Instagram, have been described by other researchers as *'self-presentation'* tools (Brandtzaeg and Chapparro-Dominguez, 2020; Marquez et al., 2022; Matley, 2018; Mayoh, 2019; Zhao et al., 2013); as a social curative platform, social media has a unique role in this *'self-presentation…related to impression management and identity'* (Brandtzaeg and Chapparro-Dominguez, 2020:159). Notably, due to its editing properties, social

media facilitates a curative presentation of a *projected social image*, one which therefore may not always be authentic. Authenticity however was a concern voiced by participants, prominently by Ruby who somewhat campaigned for the active pregnancy and in doing so, often pondered whether her content struck the balance between being both authentic and relatable. Amongst the extant literature, concern over ensuring the perceived authenticity of shared content, has been identified amongst social media bloggers (Duffy and Hund, 2015; Orton-Johnson, 2017). Similar to participant Ruby in the current study, concerns over authenticity seemed to stem from worry over deterring their followers, who seek relatable content. For example, in Duffy and Hund's (2015:7-8) study exploring the how 'fashion bloggers' represent themselves online, they summarised that:

> *'Despite their vigilant presentation of "the glam life", most of the bloggers…shared elements of their personal lives with readers, ostensibly an attempt to depict themselves as "authentic"…Behind the scenes, though, bloggers reflected on the challenge of trying to seem "authentic" in the minds of readers…She added that she constantly asks herself: "What's next, what's going to look better? What else can I do with photography? Is my clothing too inaccessible? Am I not affordable, am I not relatable?"'*

It seems that amongst social media users who, like Ruby, consider themselves to have influence over their followers, ensuring their shared content is *'authentic'* or at least true to the preferred social image is thus optimal. This concern indeed seems to underpin the objective of retaining a following, as sharing content that conveys an *'authentic presentation'* of self has also been identified as a *'self-presentation'* goal amongst a sample of journalist Facebook users in another study. Pertinently, Zhao et al., (2013) identified how journalist participants made efforts of *'polishing'* and *'peace-keeping'* to preserve the perception of an authentic self-presentation image on social media over time. In accordance with a previously mentioned finding in the current study, the use of disclaimers and guidance in the captions to Instagram posts, have also been identified in the relevant literature within this context of managing social judgement whilst maintaining the right to exhibit a project social image. In harsher terms than the gentle directives provided by participants in the current study, relevant literature identifies the use of hashtags to ward off or directly challenge negative social judgement in a pre-emptive manner. For example, in Matley's (2018) exploration of social media content as playing *'a key role in the presentation of the self and management of social relationships'* (2018:01), the Instagram hashtag *'sorrynotsorry'* was deployed as a *'non-apology marker in a balancing act of (im-)politeness and self-presentation strategies…allowing them to take both oppositional and complicitous stances on evolving norms of appropriateness online'*, which related to a pre-empting of follower responses. This was certainly demonstrated by Kelly and Ruby, as an occupational hazard of managing social judgement concerning their projected social image. A pre-occupation or concern with how pregnant women are themselves perceived by others as pregnant subjects, has been identified elsewhere. For instance, quite apt to the current study, *'how others*

*seem to see me'* was a thematic focal point identified amongst the content of pregnant women blogs, presenting themselves as overweight or obese (Lingetun et al., 2017).

### *14.2.g Managing a projected social through social media – perpetuating a social pressure*

In managing a projected social image, some participants considered how social media perpetuated a pressure to *'bounce back'* and reclaim their pre-pregnancy body through the proliferation of images championing some women's achievement of retained bodily control. Indeed, this expectation to *'bounce back'* has been thematically reported elsewhere (Roth, Homer, Fenwisk, 2012; Prinds, Nikolajsen, Folmann, 2020), particularly as a form of *'pressure'* imposed upon pregnant women through social media depictions of postpartum body transitions (Findley et al., 2020; Nippert et al., 2020; Becker, Rodgers, Zimmerman, 2022). Amongst participants in the current study, Ruby acknowledged how she too could be instrumental in projecting this social image of having *'bounced back'* and expressed concern over sharing content that invited not only social judgement, but that could trigger negative affect in others. This social pressure experienced in response to social media content depicting the maternal body image, has been reported in studies with pregnant women populations (Mayoh, 2019; Nippert et al., 2020). For example, one study identified an increased risk of experiencing depression amongst postpartum women who shared selfie content online (Zhang et al., 2020). Indeed, such studies often conclude on how such expectations can produce varying negative responses relating to own body image amongst pregnant and postpartum populations (Zeeni, Kharma, Mattar, 2022), including feeling *'ugly', 'awful'* and *'stigmatised'* for not meeting those ideals (Nippert et al., 2020). Anticipated social judgement may therefore influence the degree of sharing and concealing of a projected social image concerning pregnant women's physical activity identities and relationships.

### *14.2.h Changes in social contrivance over time*

In terms of temporality, all participants demonstrated a change in the sharing and concealing of their physical activity identity relative to trimestral stage, with waning physical activity capabilities dictating a retreat from their exhibition of bodily achievements on social media. For example, where Scarlett was able to participate in exercise classes on Instagram, she would share her achievements with other exercisers on social media, whilst concealing it from family and friends. However, this sharing behaviour altered when she became unable to participate in classes. In late trimester three, where Scarlett was engaging in more socially acceptable physical activity (i.e., antenatal yoga), she would readily share this with family and friends. This demonstrates a degree of social contrivance, where Scarlett chooses to share her physical activity achievements with a suitable audience. In the inverse, Melanie, who appeared never to grapple with negative social judgement from her family or friends regarding her physical activity, appeared less concerned with sharing or concealing her physical activity than other participants. Instead, Melanie was more protective over exhibiting her baby bump,

which appeared to represent a relinquish of the bodily control that physical activity helped her maintain. While Melanie showed hesitance in exhibiting her body in early interviews, towards the last interview, having managed to achieve a bump-only appearance, she was more willing to exhibit her pregnant body as a marker of bodily achievement and retaining some bodily control through appropriate physical activity. Indeed, this notion of having a *'belly only pregnancy'* is a prominent trend on social media, notably Instagram as *an 'ideal body type'* or preferred social image exemplifying bodily control in pregnancy (Steube, Lowe, Weigel, 2022:01). Alternatively, both Kelly and Ruby, being exercise professionals, grappled with sharing and concealing behaviours for relatively different reasons, but which both touched on the risk of incurring social judgement. Where Kelly became increasingly resistant to share content concerning her body and physical activity, particularly which framed her as an exercise professional, Ruby continued to share content as an active pregnancy campaigner, but with difficulty. In the content that they did share, Kelly and Ruby increasingly offered caveats and disclaimers as accompaniments to their content, which directed their social media followers away from emulating their behaviour.

### *14.2.i Social contrivance final thoughts*

Overall, participants interchangeably shared and concealed their physical activity relationships and identities, whilst managing social judgement from others to curate and negotiate a preferred social image. One in which physical activity during pregnancy is accepted by loved ones, endorsed by followers or believers of the active pregnancy, as well as protected from negative external observation and scrutiny. Endorsing and protecting this social image, required a degree of social contrivance facilitated by social media; with its curative properties enabling users to carefully share and conceal exhibitions of their physical activity identities and relationships.

## Chapter 15: Social Experience Discussion Summary

### 15.1 Study Three Limitations

Due to the global pandemic, participants had to be recruited online via Instagram and data were collected remotely. However, given that the pandemic was a global phenomenon, this limitation was not only shared by other researchers, but participants were willing to engage remotely, meaning this did not affect the quality of data captured.

Despite succeeding to recruit a good sample size of four participants, a sample size reflected in other qualitative longitudinal research, (see Smith, 1999; Shaw et al., 2016), pregnant women's social experiences were largely limited to virtual social interactions. Nevertheless, this curtailment of social experience produced interesting data and, with an increasing use of virtual platforms for working and socialising, the data informed recommendations for digital interventions.

Although the majority of social experiences were limited to those garnered from social media, the methodology and analytical approach utilised lend themselves to exploring the complexity of experience relative to the interpreted perspective of the participant. Thus, despite a curtailed reservoir of social experiences available to participants, the form of data analysis facilitated richness in interpretative potential. Indeed, in Marcella-Hood's (2021) study exploring the construction of Scottish identity on Instagram using interpretative phenomenological analysis (IPA), Marcella-Hood esteems IPA as appropriate for exploring self-identity within the context of self-curation through social media.

Although social media is still a novel and emerging area in behaviour change intervention design and research, therefore it is useful to build research that explores pregnant women's experiences of navigating their physical activity identities/relationships via social media; future research may wish to explore alternative populations to draw comparisons and obtain alternative experiences using this methodology of LIPA, such as pregnant women who are less/not physically active and/or non-conversant or willing to use social media.

### 15.2 Study Three Conclusion[43]

This study identified three overarching themes, depicting pregnant women's sense-making of their social experiences concerning their physical activity identities and relationships over time. Uniquely this study collected data from pregnant women throughout a period where they had limited social

[43] All study reflections and recommendations are in Chapter 16: Thesis Discussion.

interaction, yet unlimited and increasingly utilised social media experiences, which influenced the type of social experience and sense-making of participants. Sense-making of social experience relative to physical activity identity and relationship therefore included social comparison, social selection and social contrivance. When interacting with others, particularly via social media, the social comparison theme depicted a walking-of-a-tight-rope, so to speak, when *following and observing others while navigating the social 'comparison game'.* Often, following and observing coincided with a deliberate selection of preferred social experiences, which involved *grading and cherry-picking my social experiences in search of the 'like-minded' people.* Selecting and comparing the self with others were also navigated whilst curating a social image through social contrivance, which involved *sharing and concealing my physical activity because 'people comment when you're pregnant'.* Pregnant women thus navigated and made sense of their social experiences through social comparison, social selection and social contrivance in preservation and management of a physical activity identity and relationship.

Study findings also showed that the social comparison, selection and contrivance behaviours changed throughout participants pregnancies, illustrating how social experiences and sense-making change relative to pregnant women's support needs and responses to themselves, their pregnancies and their social environment. Due to the idiographic nature of the approach taken in this study, each participant's unique sense-making experience reveals different support needs for pregnant women and the type of social experiences they require to support their physical activity identities and relationships. Such findings could be of value to health and exercise professionals and behavioural scientists to design and implement a detailed, bespoke intervention, structured according to these themes. For example, understanding how pregnant women make sense of their social experiences highlights the challenges and enablers to preserving their physical activity identity and relationship throughout pregnancy. Furthermore, as the majority of social experiences were obtained via social media, the findings of the study also highlight how social media may be utilised as a prominent platform for supporting pregnant women in remaining physically active throughout pregnancy.

## Chapter 16: Thesis Discussion and Recommendations for Future Research

### 16.1 Thesis Aim

Using various qualitative methodologies this thesis aimed to illuminate, conceptualise and articulate social influence on antenatal physical activity. This thesis attended to the fact that while social or interpersonal factors are increasingly identified as influential on antenatal physical activity, little research offers an in-depth theoretically informed investigation of this outside the realms of generalised social support. This thesis therefore aimed to conceptualise the role of social influence by firstly, investigating the current literature and expanding upon the role of social support in context. Identifying the individuals and the types of social support that have potential influence provided a backdrop to pregnant women's social worlds, where agency and autonomy were considered a relevant and pressing area to explore further. Two other primary research studies followed, focusing on the navigation (discourse) and sense-making (phenomenology) of social or interpersonal factors within this specific context of pregnant women's physical activity identities and relationships. The research question thus comprised: *What are pregnant women's social experiences concerning their physical activity relationships and identities and how do they navigate them?*

### 16.2 Study one: The social players and social support influencing antenatal physical activity

In study one, a systematic review and meta-synthesis exploring the role of social influence on antenatal physical activity, identified 13 groups of individuals and six social support types as potential social influences. Ascending from the extant literature, these findings offer a contextual backdrop to the individuals and types of social interactions pregnant women encounter concerning their physical activity (i.e., the 'what' in social experience pertaining to the thesis question). Coding the data into social support provided a proxy indication of the utility exchanges within social interactions, which have the potential to influence pregnant women's physical activity.

#### 16.2.a Individuals of influence recommendations

In relation to the individuals referenced to most frequently (health professionals, dependents, family, partner), study findings revealed a 'proximity principle' to describe the shared qualities amongst these groups of individuals (see Diagram 16.1). This theory posits that [1] proximity to and [2] investment in the pregnant woman and her pregnancy, which can derive from professional liability and familial connection and responsibility, appear to be factors shared by these groups of individuals with significant influence on pregnant women's physical activity. Amongst these groups those with a professional role tend to offer support that is neutral or positive towards antenatal physical activity,

whereas those who have a familial connection with the pregnant woman tend to provide support that is positive or negative.

***Diagram 16.1 The individuals of influence resident to the proximity principle***

Health professionals

Dependents

**Proximity principle**
[proximity to and professional/familial investment in pregnancy]

Family

Partner

Interestingly, the somewhat equal importance of 'Information sources' and 'Exercise Companion', suggests pregnant women strive for, consciously or not, a balance between personal (exercise companion) and impersonal (information source) support, which possess the potential to enable and inform on physical activity, respectively. This suggests that pregnant women may select social interactions to enable their physical activity, thus implying the importance of agency and autonomy in utilising social interactions. In advance of study three, this finding also supports the idea of exploring social selection behaviours as an area relevant to the 'how' part of the thesis question.

Furthermore, without forgetting the importance of societal expectation (i.e., people, work colleagues, culture) and the potential for social comparison for safer or social normative perceptions of exercise (pregnant women) were also identified. These findings also support the exploration of avenues for pregnant women's agency and autonomy in navigating these social experiences, with the potential

that social comparison amongst pregnant women exercising peers may be important; a finding identified in study three.

### 16.2.b Social support recommendations

Amongst the findings, informational support appeared to be a flexible support type, deployed by all members of pregnant women's social networks, which had the potential to positively or negatively influence their physical activity. The coding in this review highlighted the diversity in informational support, which appeared to be attributed to certain groups of people. For example, where health professionals were commonly linked to objective informational support, family and friends with experience of pregnancy were associated with utilising myths and anecdotes to influence pregnant women's physical activity through experiential informational support. This suggests that despite objective information derived from expert knowledge carrying a specific influence as a 'credible source', the anecdotal information is also not to be underestimated as a rival form of influence, with its ability to foster familial connection or generate sentimental value. In particular, the use of accepted adages and myths hold an allure that may be comforting to pregnant women, with story-type information being more relatable to the unique and difficult to describe embodied experience of pregnancy. Recommendations attend to the cautious use of didactic information and to recognise the importance of anecdotal conduits of information as competitors for greater diffusion and relatability. Pro-physical activity information must be positive, experiential and imparted with care in order to counteract negative information loaded with fear, warnings and disapproval.

Emerging from the data was also the importance of emotional support and belonging support. In particular, the need to follow and model the physical activity culture and behaviours of others. In this way, belonging support highlighted a pressing need for antenatal physical activity to be pervasive throughout pregnant women's social networks, which was supported by the opportunity to emulate other pregnant women exercisers, exercise professionals and family/friends who advocated or demonstrated antenatal physical activity personally. In triangulation with the individuals of influence data, the frequent coding of both informational support and belonging support compliments that of 'information sources' and 'exercise companion' respectively. With a degree of impersonal utility and personal contact being indicative of informational and belonging support as enabling factors. Intervention designers may wish to consider engaging such individuals, including those who reside under the proximity principle to deliver on aspects of informational and belonging support to facilitate physical activity.

At the core of both informational and belonging support, arguably harbours the frequently coded 'encouragement' of emotional support; a pervasive theme that operated in a complex way. On the one hand, emotional support could be utilised to encourage physical activity through reinforcement and

reassurance, a provision which pregnant women attributed to all members of their social network, including health professionals. Indeed, compassion and empathy were coded as important in terms of influence. However, the data also revealed that emotional support could be deployed by pregnant women's partner and family to position pregnant women as in need of care and therefore requiring discouragement from physical activity (strenuous or not). The findings therefore recommend that a narrative of encouragement and interest in pregnant women's physical activity be reinforced amongst the individuals who are resident to the proximity principle, that being health professionals, dependents, family and partner.

In relation to role support, pregnant women's unborn baby and children, as dependents, were coded as both positive and negative influences on pregnant women's physical activity. This suggests that pregnant women's need to accommodate physical activity within their maternal/caregiver role should be addressed so that this group of dependents is a positive influence. Within this concept of role support however, while the data predominantly revealed the horizontal relationship between pregnant women and their dependents in terms of role support influence, it also revealed that vertical relationships between pregnant women and their partner and families may also serve as an ancillary dimension of role support, which reinforces pregnant women's convictions that they are indeed fulfilling their maternal/caregiver role in tandem with their physical activity relationships/identity. It is recommended that role support be considered as a form of both conscious and unconscious influence of dependents and others on pregnant women's physical activity relationship, as maintenance of this relationship and indeed identity must be compatible with a transition to and preservation of motherhood and caregiver roles.

To a lesser extent instrumental/tangible support featured as having potential to influence physical activity, in terms of freeing pregnant women of duties and responsibilities and providing childminding services so that they are practically able to engage in physical activity. Typically, family members and partners were coded alongside this social support type, with some novel and infrequent reference to health professionals providing apps to encourage physical activity, which was met with mixed reviews. Furthermore, recommendations for building physical activity into the antenatal care pathway, including attending to childminding needs within this care package through health or exercise professional facilities, was also a desirable combination of tangible support types.

Monitor/overseer support highlighted how both health and exercise professionals, as well as partner and family members, have the ability to promote antenatal physical activity by assuming surveillance and advocatory behaviours. This form of social support, which was inductively coded, highlights pregnant women's need to be guided by someone with relative expertise and interest in antenatal physical activity. Monitor/overseer support is unique from affirmational/appraisal and esteem support

due to its surveillance properties, including that the provider of this support type assumes responsibility by overseeing and promoting antenatal physical activity progress. Pregnant women considered that monitor/overseer support was something that should and/or could be factored into antenatal care; perceiving health professionals as best positioned to monitor and oversee pregnant women's physical activity. This need or positive experience of health and exercise professionals monitoring/overseeing pregnant women's physical activity, links with informational support needs, which again could be firmly attributed to people with expertise.

**16.2.c Study one recommendations summary**

Addressing each group of individuals in turn (see Diagram 16.2), pregnant women may benefit from drawing upon various social support types. Health professionals and exercise professionals appear to be best positioned to provide informational and monitor/overseer support to both inform, direct and monitor pregnant women's physical activity, particularly if a programme is built into antenatal care; thereby offering tangible support. Yet, the personal delivery of these support types is also important, in the sense that they should be packaged in emotional support, so that pregnant women not only trust the information because of the health and exercise professionals' expertise, but that they are convinced these individuals genuinely care and are therefore invested in the pregnant woman and her baby's health and safety. Equally important is the emotional support provided by pregnant women's partners, who are also able to deliver on monitor/overseer support if directions for this support are designed by professionals. Indeed, the support that health professionals provide may have an improved chance of remaining influential throughout pregnancy, if it is also reinforced by those also relevant to the proximity principle (i.e., dependents, family and partner).

Also important is the belonging support pregnant women obtain from other pregnant women exercisers and peers, as this provides a sense of unity amongst other pregnant women, which can generate feelings of safety and motivation when engaging in physical activity. As mentioned in relation to health professionals, family, friends and even partners can strengthen or reinforce this notion of belonging support derived from external sources, particularly where physical activity during pregnancy is advocated or emulated in pregnant women's social networks and culture. Indeed, pregnant women may seek experiential information from both pregnant women exercisers/peers and female family members; intervention designers may therefore consider both the potential utility and competing influence of anecdotal information sources from these individuals. Finding a way to incorporate both objective and experiential information in an encouraging package of care from a range of sources helps unite the three most frequently coded social support types of informational, belonging and emotional consecutively.

Importantly, pregnant women's maternal and caregiver role must be reinforced through the provision of role support and practically through instrumental/tangible support. Pregnant women need to feel reassured that when engaging in physical activity, they are doing so in a way which benefits their baby, helps them feel connected and does not detract from the caregiver role required by pregnant women's other dependents. In this way pregnant women's unborn baby and dependents feature as providers of role support, however pregnant women really require the comprehensive package of all social support types from health and exercise professionals, partner, family, friends and other pregnant women exercisers in order to positively influence their physical activity.

Diagram 16.2 illustrates the social support types that are engaged by certain individuals of influence, including the combinations that could be targeted for intervention design. For example, Health professionals appear to be best positioned to utilise or have a leading role in delivering different social support types. These combinations highlight the unique positions of influence that individuals both proximal (health professionals, dependents, family and partner) and those more extrinsic or context-specific (i.e., information sources, peer support groups or exercise facilities) can provide to pregnant women to positively support their physical activity. Conceptualising these different social support combinations amongst a range of individuals also supports the design of how such individuals can work together. For example, Health professionals, Partner and Exercise professionals are best positioned to provide proximal and extrinsic forms of Monitor/Overseer support, where pregnant women's physical activity goals are monitored and supported by individuals who have expertise or the ability to meaningfully reinforce pregnant women's physical activity. Layering these combinations of individuals and social support types creates an intervention that reaches the breadth and variety of individuals in pregnant women's social networks, who have a potential role to positively influence pregnant women's physical activity.

***Diagram 16.2 Recommended combinations of individuals of influence and social support types for intervention design***

| Individuals of influence | Social support types | | | | | |
|---|---|---|---|---|---|---|
| | Informational | Belonging | Emotional | Role | Instrumental/ tangible | Monitor/ Overseer |
| **Health professionals** | * | | * | | * | * |
| **Dependents** | | | * | * | | |
| **Family**** | * | * | * | * | * | * |
| **Partner** | | | * | * | * | * |
| **Pregnant women exercisers*** | | * | * | | | |
| **Information sources** | * | | | | | |
| **Exercise professionals** | * | | | | | * |

**From the group of individuals: Exercise Companion*

***Female family members are specific to Belonging support*

## 16.3 Study two: the social positions and discourses

Following on from study one, study two considered agency and autonomy through a discursive psychology methodology, underpinned by positioning theory using a synthetic approach. This study explored the subject-positions and discourses pregnant women deployed to account for their physical activity identities and relationships. This study also captured how antenatal physical activity is constructed and defined by society, revealing social discourses of appropriate antenatal health behaviour, which pregnant women may discursively navigate. In relation to the thesis question, this study was designed to touch upon the 'what' social experiences (indirectly through social discourses encountered), and to directly attend to the 'how' part of the thesis question, by examining how pregnant women discursively account for their physical activity identities and relationships.

Study findings identified ten subject-positions and twelve discourses that pregnant women may draw upon when negotiating their physical activity identities and relationships. Positions include proactive-leaning positions of Rebellious, Advocate and Empowered and discourses of *Reframing Motherhood, Retaining autonomy* and *Physical activity motivational.* In the inverse, protective-leaning discourses include the subject-positions of Vulnerable, Restricted and Fortunate, with discourses of *Embracing motherhood, Relinquishing control* and *Protecting body.* Interestingly there were four clustered middle-ground positions of Compromised but Contented, with discourses of *Adaptation, Damaged limitations* and *Optimistic*; as well as Tentative and Conflicted positions, with accompanying discourses of *Inner battle, At a loss/adrift* and *On the back-foot.*

Uniquely, subject-positions and accompanying discourses were plotted along a physical activity continuum under a discursive navigation model. This discursive model is a novel construct demonstrating how pregnant women negotiate their physical activity identities and relationship through drawing upon these discourses and navigating these subject-positions. This provides an indication of motivation underlying subject-position navigation, which implies both explicit and implicit reasoning in accounting for changes in physical activity relationship and identity. Furthermore, navigating on multiple positions illustrates the complexities involved in negotiating physical activity identities and relationships in pregnancy amongst the dominant discourses pregnant women encounter, which can both challenge and re-enforce (i.e., influence) antenatal physical activity. Using the discursive navigation model to understand these subject-positions and accompanying discourses and acknowledging how multiple positions can be discursively navigated to account for physical activity identities and relationships, may be a useful tool for health and exercise professionals to utilise when conversing with pregnant women about their physical activity.

**16.3.a Study two recommendations – a discursive navigation model for professional-led discussions**

The discursive navigation model provides a visual display of the vying and varying subject-positions and discourses available to pregnant women when navigating and accounting for their physical activity identity and relationship. Understanding and locating how pregnant women talk about and discursively construct their physical activity identities and relationships reveals not only the subject-positions they may navigate to account for or justify their physical activity, but also how it is socially constructed and constituted as a potential influence.

The model lays the foundations for the development of a discursive navigation model ‘toolkit’ to assist health and exercise professional in their consultations with pregnant women. The developed ‘toolkit’ would enable health and exercise professionals to recognise the multiplicity of subject-positions available to pregnant women and to support them to navigate a tailored and individualised physical activity identity and relationship within their social environment. As understanding and recognising these subject-positions supports professionals to conceptualise not only the subjective and idiosyncratic meaning of a physical activity identity and relationship in utero, but also the social interactions and discourses that may support or challenge pregnant women’s preservation of such identities and relationships. Thus, helping health and exercise professionals locate potential social barriers and enablers to pregnant women assuming and navigating the physical activity identity and relationship that is important to them. For example, the assumption of a rebellious position through retaining autonomy discourse may highlight social discourses pregnant women are compelled to handle or challenge in retention of their physical activity identity and relationship. Equally, assuming a tentative and conflicted dual-position under an inner battle discourse, may reveal a default

contentious relationship with physical activity or a perceived barrier to engaging in the level or form of exercise important to their pre-physical activity identity/relationship. Essentially, understanding how pregnant women talk about their physical activity enables health and exercise professionals to support pregnant women to flexibly navigate a physical activity identity and relationship that is important for them at varying stages of pregnancy, thus supporting their agency and autonomy.

### 16.4 Study three: sense-making of social experiences across time

In relation to the thesis question, study three offered the most complete evaluation by identifying themes that explored 'what' social experiences pregnant women encountered, and 'how' they made sense of these social experiences concerning their physical activity identity and relationship throughout pregnancy. Using interpretative phenomenological analysis, the findings revealed four distinct physical activity identities/personas amongst pregnant women participants relative to their social experiences, meaning physical activity identities and relationships were both contingent on and managed relative to their social experiences. These included Scarlett as the team player, Kelly as the educator, Melanie as the mentee and Ruby as the advocate or reluctant role model. These physical activity identities served as markers or profiles, constructed through hermeneutic interpretation, to enable the researcher to conceptualise and make sense of participants sense-making of their social experiences. They also assisted the researcher in navigating change in the three thematised behaviours throughout pregnancy. Indeed, with these physical activity relationships and identities being contingent on their social worlds, participants sense-making manifested three themes: (1) *social comparison: following and observing others while navigating the social 'comparison game'*, (2) *social selection: grading and cherry-picking my social experiences in search of the 'like-minded' people* and finally, (3) *social contrivance: sharing and concealing my physical activity because 'people comment when you're pregnant'*. These themes encapsulate the social experiences pregnant women encountered relative to their physical activity identities and relationships and their sense-making throughout pregnancy of their social worlds. Each theme was structured in a manner to enable the reader to observe changes in social experiences and sense-making throughout participants' pregnancies. A temporal lens enabled the researcher to interpret not only the utility of these three themes as coping mechanisms and self-navigation tools, deployed often in preservation of the active pregnancy, but how this can be facilitated through social media, as participants were more able to garner social experiences to project a preferred social image. Thus, these themes detail how participants, using social media may achieve this, as well as the social experiences they must navigate and make sense of along the way. This study ultimately illuminates a unique window into the lives of four pregnant women, who utilise their social experiences to make sense of and preserve their physical activity identities and relationships through a blended digital and non-virtual world of social experiences.

**16.4.a Study three recommendations – a hybrid digital and face-to-face intervention**

The findings revealed a population of pregnant women who are digitally adept, who proactively follow, observe, select and negotiate their social image amongst a plethora of virtual social experiences, necessitating a sense of agency and autonomy that will be relevant to future research considering behavioural interventions. Indeed, participants predominantly utilised and made sense of virtual social experiences to preserve and protect their physical activity identities and relationships throughout pregnancy, showing how social media provides social avenues for pregnant women to obtain the social experiences facilitatory of their support needs. Relevant literature concerning pregnant women's health behaviours online and the scope for digitised interventions recommend behavioural scientists/researchers consider the use of social media platforms to reach pregnant women populations (Atkinson et al., 2020; Bonnevie et al., 2021; Baker & Yang, 2018). This progressive shift towards the utility of social media or indeed digital interventions in health behaviour is perhaps accelerated in the post-COVID-19 era, as *'the COVID-19 pandemic may be changing the ways that pregnant women access information'* (Bonnevie et al., 2021:01). Yet in relation to digital interventions targeting health behaviours amongst pregnant women, more research is required to *'understand how to use advancing technologies to enhance user engagement and improve effectiveness'* (Rhodes et al., 2020:01). For future research, particularly intervention design, this study recommends the themes be considered in the ways outlined below.

**Social comparison** is a key sense-making exercise of one's experience relative to others, undertaken, according to Festinger (1954), in the absence of tangible/material experience. Lateral social comparison, where pregnant women feel equivocal in ability to their exercising peers, may be beneficial to their physical activity identity and relationship. With lateral comparison being a marker of group membership in a reciprocal community of belonging support. Interestingly, social comparison appears to be an instinctive and automated response to social experience that helps one locate their importance and position in a group or ability, such as physical activity. This is notable with downward comparisons, as these automatically elevated some pregnant women's perceived physical activity performance or achievements, enabling them to feel secure in this identity and relationship. However, upward comparisons, which commonly rendered participants feeling inept by contrast to others, may generate negative sense-making of one's physical activity identity and relationship, prompting pregnant women to migrate away from physical activity groups. Coping mechanisms that enable pregnant women to avoid the negative repercussions of upward social comparison and empower them to embrace their own limits and abilities through *'listening to body'* advice, appeared to help some pregnant women circumvent the *'comparison game'*. Furthermore, upward comparisons appeared to be less of a concern for participants who 'reframed' their perspective of others, choosing not to pursue the goals exemplified by these individuals, which may be another useful coping mechanism in addition to the *'listening to body'* mantra. Temporal or self-comparisons also appear to

be a useful strategy deployed by multiparous pregnant women to help them avoid engaging in comparison with others. Encouraging pregnant women to diarise and recognise self-mastery goals may be recommendable, however the extent to which they then share their achievement of such goals amongst other pregnant women may be self-defeating, with its risk of inspiring negative upward comparisons amongst other pregnant women. Indeed, this was a concern shared by one participant quite vociferously under the social contrivance theme. It may be recommendable that lateral social comparison is forged as best as possible, where pregnant women can safely share their physical activity achievements with pregnant women peers who reflect their stage of pregnancy, support needs and physical activity relationships and identities (e.g., physical activity groups stratified by trimestral stage).

Belonging to a group and sharing content with others dovetails with the **social contrivance** theme, which highlighted how pregnant women exercisers may use social media to engage with networks by sharing their physical activity content with *'like-minded'* groups. Indeed, supporting participants to share their physical activity identities online seems important, as findings showed that managing a projected social image akin to a physical activity identity and relationship was a means for participants to obtain the type of encouraging social experiences they required for motivation, information and a sense of belonging. However, there were two concerns that arose out of sharing content with others, both of which were responsive to incurring or managing negative social judgement. Indeed, when met with negative social judgement, some participants chose to [i] conceal their physical activities from judging audiences (e.g., family and friends) indirectly, by not sharing content on social media platforms used by these individuals. Although, some participants sought to educate others when challenged, educating others became tiring and futile when repeatedly met with intransigence, which led participants to conceal their physical activity identities and relationships. Participants also highlighted the importance of being free to share their physical activity identity in a manner that feels 'authentic' and that resonates with their experience and sense of self, which they felt was compromised when trying to share content without inviting negative judgement. [ii] This compelled some participants to consider curating their social image as one less active or with a less disciplined body. Indeed, in tandem with social comparison (i.e., concerns over perpetuating the *'comparison game'*), some participants struggled with the use of social media's curative tools; with the risk of becoming a cog in the wheel, so to speak, in propelling inauthentic projections of bodily control in pregnancy and postpartum (e.g., bouncing back or bump/belly only body projections). Although research shows that concealing and curating one's digital social image is not uncommon and is perhaps an understandable strategy to avoid negative social judgement, the impact of concealing and curating one's socio-digital identity is unclear and may also produce negative affect. To support pregnant women to share 'authentic' physical activity identities/relationships and to dissuade actively concealing or curating their social image, interventions or future research may consider convening

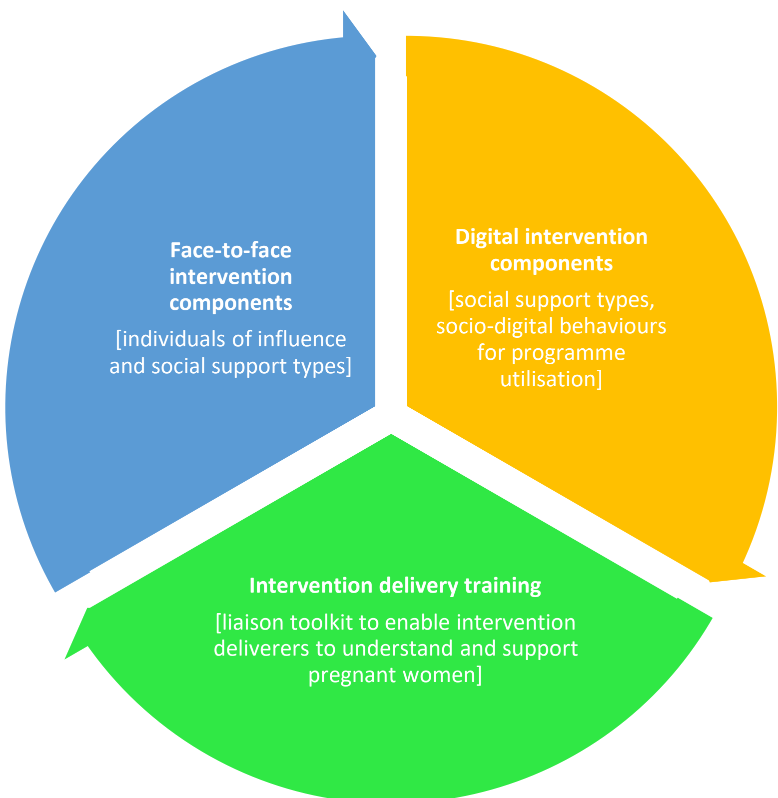
online and offline communities of *'like-minded'* pregnant women exercisers and exercise and health professionals, who reinforce safe antenatal physical activity and support changes in physical activity abilities relative to pregnancy.

Following on from social comparison and contrivance, **social selection** demonstrated how pregnant women seek social experiences amongst *'like-minded'* others, who support and importantly share their situation and the preservation of their physical activity identities and relationship. For example, participants migrated to different *'like-minded'* individuals who essentially reinforced their support needs at varying times in pregnancy. The findings of this study explore a range of individuals who met this *'like-minded'* status, including pregnant women peers (exercisers and non-exercisers), exercise professionals, other exercisers and from supportive health professionals. Social media is a useful tool for pregnant women to access *'like-minded'* exercise professionals and pregnant women who can offer the support they need in a supportive community. However, participants made clear that the prospect of long-lasting bonds and tangible support (a growing need throughout pregnancy) requires a setting for face-to-face interaction. A social media platform may be best suited as an addition to antenatal physical activity clinics that are not only local to pregnant women, but which progressively reflect pregnant women's stage of pregnancy. Offering pregnant women a hybrid person-facing and virtual interaction with *'like-minded'* others, provides a tailored and flexible approach, enabling pregnant women to select the types of social experiences they need for their stage of pregnancy. Indeed, multiparous participants manifested a diversity in the types of social interactions they required, including recognition for their achievements of bodily retention compared to their previous pregnancies (i.e., a way to share their self-mastery goals without propagating or fostering an environment for unhelpful social comparison and social judgement). Equally, both multi- and primiparas participants wanted a sense of belonging and recognition from pregnant women, exercisers or exercise professionals and from supportive health professionals, that they had retained and achieved a physical activity identity and relationship amongst the wonders and vicissitudes of pregnancy.

### 16.5 Suggestions for future research and intervention design

This final conclusionary section explores and provides suggestions for future research. This features an illustration of how the three studies could be synthesized to inform three intervention components of a hybrid digital/in-person intervention, which supports pregnant women's navigation of physical activity identities/relationships, including potential behaviour change techniques. Diagram 16.3 visually illustrates the ways in which all three studies could be utilised to construct intervention components.

***Diagram 16.3: A proposal for the intersection of study findings to inform the design and delivery of a hybrid digital and in-person intervention to support antenatal physical activity***




**16.5.a Study one and study three contributions to the in-person and digital intervention components**

The findings from studies one (and three) could inform the in-person and digital components of this hybrid intervention, including the individuals of influence, who should have a role in providing support, and the types of social support they should provide (see Diagram 16.2). Behaviour change technique (BCT) groupings relevant to the findings of study one, would be those of group 3. Social support. In application of this BCT grouping, the thematic dimensions in the systematic review, could be drawn upon to provide a detailed and nuanced suite of social support types specific to antenatal physical activity, and the providers of support, including the individuals who reside under the 'proximity principle', and information sources, exercise professionals and exercising pregnant women peers. In addition, the ways in which these features are received by pregnant women, who are digitally adept or proficient in using social media to source both information and social support, could be informed by study three. Indeed, the digital part of the intervention must not only provide the key individuals of influence and the social support features identified in study one in conjunction with an in-person element, but the digital programme must support the potential positive and negative (or barriers and enablers) to physical activity in pregnancy identified in study three. This includes attending to the

socio-behavioural themes of social comparison, social selection, and social contrivance (Diagram 16.4).

**16.5.b The socio-behavioural themes of study three and behaviour change techniques**

Social comparison has a key role in pregnant women's sense-making of their social experiences. Pregnant women seem to benefit from lateral comparisons with pregnant women peers who are also physically active. Lateral comparison enables pregnant women to inhabit a physical activity identity/relationship as a group member, which perceivably qualifies them as pregnant women who are exercising safely and appropriately for their stage of pregnancy. Downward comparisons may also benefit pregnant women, who want to see progression in their physical activity relationships/identities. However, downward comparisons in the context of a group setting of other pregnant women peers, where some pregnant women see themselves as comparatively more active than others, may proliferate a competitive nature that a physical activity identity may inspire. This is ultimately short-lived and counterproductive when a progressing pregnancy results in a decline in physical activity levels. Downward comparisons may be most beneficial to multiparas pregnant women, where they are restricted to temporal or self-comparisons to previous pregnancies (as a coping mechanism), particularly where they can see a better retention of their physical activity identity and relationship compared to their previous pregnancy. In the opposite direction, upward comparisons were generally considered to be problematic for pregnant women. Interestingly, coping strategies of temporal comparison, listening to body and reframing their perspective were protective against negative affect induced particularly through upward comparisons. These coping strategies link well to the following behaviour change techniques under groupings 13. Identity (such as 13.1 Identification of self as role model and 13.2 Framing/reframing) and 15. Self-belief (such as 15.3 Focus on past success).

Social selection is an important component of the potential hybrid intervention, which should support pregnant women to access and select a range of social experiences that have a positive influence on their fluctuating physical activity identity and relationship. By fusing the findings from studies one and three, interventions could ensure there are exercise professionals and pregnant peer forums available to pregnant women that provide prenatal exercise classes appropriate for their stage of pregnancy, including informational support and tangible support to enact exercise classes safely, but also belonging and emotional support for pregnant women who require understanding from others; especially when they are less able or motivated to participate in classes. This part of the intervention should also offer a way for individuals who reside under the proximity principle (i.e., healthcare professionals, partner, dependents and family) to be part of or included in pregnant women's physical activity. For example, face-to-face reinforcement from these individuals, in the form of monitor/overseer support, as well as shared physical activity opportunities with dependents (which ensures role support), may encourage pregnant women to continue utilising the digital programme

throughout their pregnancies. Behaviour change techniques related to the groupings of 3. Social support and 5. Natural consequences may be useful here; particularly by matching these ‘groupings’ with the thematic dimensions identified in the review for each social support type.

Social contrivance is another key component of the digital intervention, which enables pregnant women to craft or construct physical activity identities and relationships; a need which appears to be growing due to the wide-spread use of social media and its sophisticated curative properties. As we move into this hybrid digital-socio world, the pregnant woman identity also finds a place here too. Pregnant women need to be supported to engage with and obtain the social experiences they require to preserve their physical activity identities and relationships throughout pregnancy, but without falling into the insidious expectation that they curate, evidence and exhibit a disciplined and controlled body in utero. This not only proliferates negative social comparisons (downward and upward); but asserts a pressure on pregnant women to fit an archetype emblematic of a controlled or disciplined body in pregnancy, which conflicts with an undulating physical activity identity and relationship for health and wellbeing throughout pregnancy. Relevant behaviour change technique groupings may include those under 13. Identity, by supporting pregnant women to fortify an authentic physical activity identity, particularly by applying: 13.1 Identification of self as role model and 13.4 Valued self-identity.

***Diagram 16.4: Potential intervention components of the digital programme aspect (informed by study three findings)***

Social comparison

Foster lateral comparisons that generate belonging support, and temporal comparisons that show self-mastery and progress

Discourage the use of upward and downward comparisons with others by offering coping mechanisms

Social selection

Access to selected social experiences, providing different social experiences for stage of pregnancy

Reduce the opportunity for negative responses from others who discourage physical acitvity in pregnancy

Social contrivance

Support the construction of an authentic physical activity identity and relationship in pregnancy

Discourage the use of social curative tools to proliferate inauthentic or unhelpful expectations for the pregnant body

### 16.5.c Study two contribution to intervention delivery

Study two also has an important role to facilitate both the face-to-face component of the intervention, as well as its overall delivery (i.e., acceptance of the digital component). Facilitating intervention delivery and sustaining participant uptake is facilitated through communication or interpersonal skills development of intervention deliverers (i.e., health and exercise professionals). The discursive navigation model supports the face-to-face component of the intervention and delivery, by informing and constructing a liaison toolkit that assists exercise and healthcare professionals to: (1) understand pregnant women's shifting positions on their physical activity identities and relationships, and to (2) support pregnant women to navigate the physical activity identity/relationship that is meaningful and important to them.

An understanding of the different discourses and subject positions pregnant women may navigate in accounting for their physical activity identity/relationship can facilitate communication between professionals and participants. For example, where participants may struggle to articulate their position on antenatal physical activity, identifying key discourses can help health and exercise professionals truly hear, understand, and then support pregnant women to navigate the physical activity identities and relationships that are important and meaningful to them. For example, deploying discourses that convey an 'Inner battle', may imply a 'Conflicted' or 'Tentative' position; understanding these subject positions and accompanying discourses may facilitate communications between professionals and pregnant women to explore alternative discourses; ones that enable them to navigate their preferred physical activity identity/relationship. In terms of behaviour change techniques, this aspect of intervention delivery could make use of those under the grouping: 15. Self-belief techniques; particularly, 15.1 Verbal persuasion about capability and 15.4 Self-talk, where pregnant women are supported to explore different 'repertoires', or ways of verbally constructing their preferred physical activity identities/relationships at different stages in pregnancy.

Synthesizing the three study results into a proposal for intervention design and delivery highlights the utility in deploying a range of qualitative methodologies to assess a subject area. Indeed, such diversity in perspective, facilitates the very purpose of this thesis, which is to illuminate, conceptualise and articulate the role of social influence outside the realms of causation, but within the accessible lenses of individual experience, sense-making and self-navigation.

## 16.6 Thesis Limitations

While this thesis is focused on the role of social influence on pregnant women's physical activity identities and relationships; it is important to highlight that this investigation is a qualitative one. This means that the gleamed findings are limited by or indeed contingent on the perspective of illumination

and conceptualisation relative to the position of the researcher; therefore, lacking the objectivity deployed under quantitative methodologies common of social influence research (i.e., tests of association and tests of difference). Nevertheless, this thesis deliberately attends to a gap in the literature in deploying qualitative methodologies, to illuminate and conceptualise social influence through a variety of analytical lenses, each of which offer a unique and valuable perspective that informs an overarching perspective encapsulating detail and nuance from individual experience.

Another limitation concerns the population in the two primary studies. In studies two and three, the study population were both physically active pregnant women (although with varying degrees of physical activity levels and interests), and who were active on and conversant with social media, especially study three participants, each of whom had social media pages. This latter characteristic relating to social media is reflective of the times (particularly the global pandemic), where social media and technology were the only mediums in which pregnant women participants could be reached and recruited. Further research exploring the social discourses and sense-making of social experiences amongst pregnant women who are not physically active at all and/or not active on or conversant with social media would add to the findings illustrated in this thesis.

**16.7 Thesis Conclusion**

In a concluding message, pregnant women who preserve a physical activity identity and relationship throughout pregnancy, seek a person or a community of *'like-minded'* others (study three), who reflect not only their stage of pregnancy, but who meet their physical activity support needs. This includes the provision of advice and monitoring from health/exercise professional/trainer, as well as connecting with pregnant women exercisers or exercising companions/peers who share their abilities in a manner of lateral comparison or same situation. Indeed *'following', 'observing'* and *'sharing'* (study three), whilst 'aligning' and 'obtaining support' from other exercisers (study two) through 'belonging support' (study one), illustrate the prevalence of this social support need to emulate and connect with *'like-minded'* others. In addition to such *'like-minded'* individuals, pregnant women also require support from various individuals within their social networks who reside under the 'proximity principle' outlined in study one (i.e., partner, dependents, family and health professionals). Despite wanting to make decisions about their physical activity identity and relationship while navigating the, at times, onerous responsibility of transitioning to mother- or multipara-hood, pregnant women welcome the oversight or surveillance from others who are experienced and care about their pregnancies (i.e., health and exercise professionals, as well as female family members and partners). Thus, pregnant women must navigate and obtain support from those proximal to and notably invested in their pregnancies (i.e., health professionals, dependents, family, partner) in a manner compatible with their self-mastery goals (Monitor/overseer support), such as retaining bodily control and indeed the sense of self that

physical activity renders possible, whilst ensuring their transition to or indeed fulfilment of motherhood and caregiver roles is reinforced by their dependents and familial others (Role support), such as engaging in physical activity with their children and family members. Indeed, interventions designed to support antenatal physical activity may use these findings to maximise the potential influential roles of varying individuals in pregnant women's social networks, with pregnant women's sense of self through physical activity and maternal/caregiver roles requiring a patchwork of support from multiple individuals and settings.

The findings of this thesis also illustrate how pregnant women can be supported to retain autonomy and agency in a variety of ways, including using diverse means and mediums to communicate palatable informational and emotional support (i.e., objective and experiential knowledge), whilst enabling them to remain autonomous agents by utilising temporal comparison and *'listening to body'* messages. Indeed, the retention of agency and autonomy through a physical activity identity and relationship represents a key trait that pregnant women not only wish but are increasingly expected to maintain in social media circles: this contemporary *'super-mum'* typology. Indeed, enabling pregnant women to retain their physical activity identities and relationships would be supported through an understanding of the different ways in which pregnant women may construct and position themselves. The discursive navigation model (chapter 7) may be facilitatory in supporting exercise and health professionals to discern and help pregnant women maintain a tailored and suitable physical activity relationship compatible with pregnant women's identity and transition to motherhood, especially for those either proactive towards or protective against the athlete, *'super-mum'* typology.

Veritably, depictions of this increasingly epitomical typology are ubiquitously accessible via social media, particularly amongst pregnant women populations who both possess and seek to preserve physical activity identities and relationships. In this post-COVID era, where social media and digital interventions are being increasingly utilised and designed, pregnant women who preserve a physical activity identity and relationship can be supported to utilise, navigate and make sense of these resources safely to access conducive social support types relative to their stage of pregnancy (i.e., *'like-minded'* communities of pregnant women peers and exercise professionals). Yet even amongst social media users, the face-to-face element of social interaction is still wanting, ones which offer the prospect of tangible support and close bonds in postpartum, as well as active monitoring or surveillance from professionals who have their best interests. Indeed, the social contrivance theme of study three highlights how pregnant women navigating such a physical activity identity, may preserve this pre-pregnancy relationship through a projected social image. Such an image may represent a safe and engaging conduit to not only obtain the social experiences facilitatory of their physical activity identity and relationship, but the aptitude some pregnant women may increasingly harness to utilise social media to 'document' their transition to motherhood in a digital, social world.

A hybrid digital and person-facing support intervention that encapsulates these varying support needs throughout pregnancy, built into antenatal care, is therefore recommended, which provides coping mechanisms to support pregnant women to manage social judgement and retain a sense of agency and autonomy, with behaviour change techniques specific to each intervention component. Pertinent to this recommendation, a recent systematic review and meta-synthesis examining digital interventions targeting diet, physical activity and weight-gain in pregnant women by Rhodes et al., (2020:10), highlighted, amongst other intervention components, how *'more research is needed to understand the type of social support that is most beneficial to digital interventions encouraging healthy behaviours in pregnancy'*. This thesis contributes to such questions and empirical gaps concerning the granular detail of interpersonal factors influencing antenatal physical activity. It examines (i) 'what' social experiences pregnant women encounter (which may support or challenge their physical activity identities and relationships), and (ii) 'how' they talk about and make sense of these experiences throughout pregnancy (as an indication of their position relative to their social worlds, including their responsive coping mechanisms and support needs). These findings will hopefully inform future research concerning social influence, including the design of a bespoke behaviour change hybrid digital/in-person intervention, tailored to support a physical activity identity and relationship compatible with an individualised transition to motherhood.

## References


Adomaitis, A. D., Kim, K. P. (2019). Postpartum celebrity images: influence on self-thoughts and appearance management behaviours of post-partum women. *Fashion, Style & Popular Culture, 6, 1,* 1-35

Ahlin, T., Fangfang, L. (2019). From field sites to field events. Creating the field with information and communication technologies (ICTs). *Medicine Anthropology Theory, 6(2),* 1-24

Albert, S. (1977). Temporal Comparison Theory. *Psychological Review, 84, 6,* 485-503

Alianmoghaddam, N., Phibbs, S., Benn, C. (2017). Resistance to breastfeeding: a foucauldian analysis of breastfeeding support from health professionals. *Women and Birth, 30,* e281-e291

Ajzen, I. (1985). From intentions to actions: a theory of planned behaviour. In Kuhl, J., Beckman, J. (eds) *Action Control. SSSP Springer series in social psychology.* Springer, Berlin, Heidelberg

Ajzen, I. (1991). The theory of planned behaviour. *Organizational behaviour and human decision processes, 50, 2,* 179-211

Alvarado, M., Murphy, M. M., Guell, C. (2015). Barriers and facilitators to physical activity amongst overweight and obese women in an Afro-Caribbean population: a qualitative study. *International journal of behavioural nutrition and physical activity. 12, 97,* 1-12

Atkinson, L., De Vivo M., Hayes, L., Hesketh, K. R., Mills, H., Newham, J. J., Olander, E. K., Smith, D. M. (2020). Encouraging physical activity during and after pregnancy in the COVID-19 era, and beyond. *International Journal of Environmental Research and Public Health, 17, 7304,* 1-9

Atkinson, L., Shaw, R. L., French, D. P. (2016). Is pregnancy a teachable moment for diet and physical activity behaviour change? An interpretative phenomenological analysis of the experiences of women during their first pregnancy. *British Journal of Health Psychology, 21(4),* 842-858

Backhausen, M. G., Katballe, M., Hansson, H., Tabor, A., Damm, P. (2014). A standardised individual unsupervised water exercise intervention for healthy pregnant women. A qualitative feasibility study. *Sexual & reproductive healthcare: official journal of the Swedish Association of Midwives, 5 (4),* 176-81

Bagheri, A., Simbar, M., Samimi, M., Nahidi, F., Majd, H. A. (2014). Exploring the concept of continuous midwifery-led care and its dimensions in the prenatal, perinatal, and postnatal periods in Iran (Kashan). *Midwifery, 51,* 44-52

Baker, B., Yang, I. (2018). Social media as social support in pregnancy and the postpartum. *Sexual & Reproductive Healthcare. 17,* 31-34

Becker, E., Rodgers, R. F., Zimmerman, E. (2022). #Body goals or #Bopo? Exposure to pregnancy and post-partum related social media images: effects on the body image and mood of women in the peri-pregnancy period. *Body image, 42,* 1-10

Beckham, A. J., Urrutia, R. P., Sahadeo, L., Corbie-Smith, G., Nicholson, W. (2015). “We know but we don’t really know”: Diet, physical activity and cardiovascular disease prevention knowledge and beliefs among underserved pregnant women. *Maternal and Child Health Journal, 19,* 1791-1801

Bennett, D. L. (2017) Bumps and bicycles: women’s experiences of cycle-commuting during pregnancy. *Journal of Transport and Health*, *6,* 439-451

Ben-Zur, H. (2016). Social and temporal comparisons as moderators of psychological resources associations with wellbeing. *Journal of Individual Differences, 37, 2,* https://doi.org/10.1027/1614-0001/a000193

Black, T. L., Raine, K., Willows, N. D. (2008). Understanding Prenatal Weight Gain in First Nations Women. *Canadian Journal of Diabetes, 32:3,* 198-205

Bonnevie, E., Rosenberg, S. D., Goldbarg, J., Ashley-West, A., Smyser, J. (2021). Building strong futures: the feasibility of using a targeted digital media campaign to improve knowledge about pregnancy and low birthweight among black women. *Maternal and Child Health Journal, 25,*127-135

Booth, A. Carroll, C. (2015). How to build up the actionable knowledge base: the role of 'best fit' framework synthesis for studies of improvement in healthcare, *BMJ Quality and Safety, 24,* 700-708,

Brandtzaeg, P. B., Chapparro-Dominguez, M-A. (2020). From youthful experimentation to professional identity: understanding identity transitions in social media. *Young, 28(2),* 157-174

Branje, S., van Lieshout, C. F. M., van Aken, M. A. G. (2002) Relational support in families with adolescents. *Journal of Family Psychology, 16, 3,* 351-362

Brown, A., Avery, A. (2012). Healthy weight management during pregnancy: what advice and information is being provided. *Journal of Human Nutrition and Dietetics, 24:4,* 378-387

Buss, J., Le, H., Haimson, O. L., (2022). Transgender identity management across social media platforms. *Media, Culture & Society, 44(1),* 22-38

Cai, C. X., Busch, S., Wang, R. C., Sivak, A., Davenport, M. H. (2022). Physical activity before and during pregnancy and maternal mental health: a systematic review and meta-analysis of observational studies. *Journal of Affective Disorders, 309,* 393-403

Cambridge Dictionary, (2022). https://dictionary.cambridge.org/dictionary/english/agency 19/09/2022

Cambridge Dictionary, (2022). https://dictionary.cambridge.org/dictionary/english/autonomy 19/09/2022

Carolan, M., Gill, G. K., Steele, C. (2012). Women's experiences of factors that facilitate or inhibit gestational diabetes self-management. *BMC Pregnancy and Childbirth, 12:99,* 1-12

Carroll, C., Booth, A., Cooper, K. (2011). A worked example of "best fit" framework synthesis: a systematic review of views concerning the taking of some potential chemopreventive agents, *BMC Medical Research Methodology, 11, 29,* 1-9

Carroll, C., Booth, A., Leaviss, J., Rick, J. (2013). "Best fit" framework synthesis: refining the method. *BMC Medical Research Methodology, 13, 37,* 1-16

Cavers, D., Cunningham-Burley, S., Watson, E., Banks, E., Campbell, C. (2017). Experience of living with cancer and comorbid illness: protocol for a qualitative systematic review. *BMJ Open, 7, 5,* 1-6

Chadwick, R. J., Foster, D. (2014). Negotiating risky bodies: childbirth and constructions of risk. *Birth and risk management: managing the risks of the birthplace, 16, 1,* 68-83.

Chae, J. (2014). Interest in celebrities' post-baby bodies and Korean women's body image disturbance after childbirth. *Sex Roles, 71:*419-435

Chae, J. (2015). "Am I a better mother than you?" Media and 21st century motherhood in the context of the social comparison theory. *Communication Research, 42(4),* 503-525

Chalmers, K., Smith, M., Moreno, M., Malik, F. (2021). "It got likes, but I don't think people understood": A qualitative study of adolescent experiences discussing Type I Diabetes on social media. *Journal of Diabetes Science and Technology,* 1-8

Chang, S-R., Kenney, N. J., Chao, Y-M. Y. (2010). Transformation in self-identity amongst Taiwanese women in late pregnancy: A qualitative study. *International Journal of Nursing Studies, 47(1),* 60-66

Chang, M-W., Nitzke, S., Buist, D., Cain, D., Horning, S., Eghtedary, K. (2015) I am pregnant and want to do better but I can't: focus group with low-income overweight and obese pregnant women. *Maternal and Child Health Journal, 19,* 1060-1070

Cheung, H. C., Anderson, A. J., King, E. B., Mahabir, B., Warner, K., Jones, K. P. (2022). Beyond the baby bump: subtle discrimination against working mothers in the hiring process. *Journal of Business and Psychology,* 1-18

Choi, J. W., Fukuoka, Y. (2018). Spousal influence on physical activity in physically inactive pregnant women: a cross-sectional study. *Health Care Women Int, 39(3),* 263-274

Cioffi, J., Schmied, V., Dahlen, H., Mills, A., Thornton, C., Duff, M., Cummings, J., Kolt, G. S. (2010). Physical activity in pregnancy: women's perceptions, practices and influencing factors. *Journal of Midwifery and Women's Health, 55*, 455-461

Clarke, P. E., Gross, H. (2004) Women's behaviour, beliefs and information sources about physical exercise in pregnancy. *Midwifery, 20*, 133-141

Cochrane Library, (2000-2022), Wiley, https://www.cochranelibrary.com/ [Date accessed: April 2019]

Cohen, S., Wills, T. A. (1985). Stress, social support and the buffering hypothesis. *Psychology Bulletin, 98:3*, 310-357

Coll, C. V. N., Domingues, M. R., Goncalves, H., Bertoldi, A. D. (2017). Perceived barriers to leisure-time physical activity during pregnancy: a literature review of quantitative and qualitative evidence. *Journal of Science and Medicine in Sport, 20, 1,* 17-25

Connolly, M., Brown, H., van der Pligt, P., Teychenne, M. (2015). Modifiable barriers to leisure-time physical activity during pregnancy: A qualitative study investigating first time mother's views and experiences. *BMC Pregnancy Childbirth, 15:100,* 1-7

Cooke, A., Smith, D., Booth, A. (2012). Beyond PICO: the SPIDER tool for qualitative evidence synthesis, *Qualitative Health Research, 22, 10,* 1435-43

Coyne, S. M., Liechty, T., Collier, K. M., Sharp, A. D., Davis, E. J., Kroff, S. L., (2018). The effect of media on body image in pregnant and postpartum women. *Health Communication, 33,* 793-799

Critical Appraisal Skills Programme (2018). CASP (CASP Checklist: 10 questions to help you make sense of a qualitative research) Checklist. [online] Available at: www.casp-uk.net [Date accessed: May 2019]

Crozier, S. E., Cassell, C. M. (2016). Methodological considerations in the use of audio diaries in work psychology: Adding to the qualitative toolkit. *Journal of Occupational and Organizational Psychology, 89,* 396-419

Currie, S., Gray, C., Shepherd, A., McInnes, R. J. (2016). Antenatal physical activity: a qualitative study exploring women's experience and the acceptability of antenatal walking groups. *BMC Pregnancy and Childbirth, 16:182,* 1-10

Davies, B., Harré R. (1990). Positioning the discursive production of selves. *Journal for the Theory of Social Behaviour, 20(1),* 43-63

Davies, B., Gannon, S. (2011). Feminism / Post-structuralism. In B. Somekh & C. Lewin (Eds) *Theory & Methods in Social Research* (pp. 312-319)

Darroch, F. E., Giles, A. R. (2016). A postcolonial feminist discourse analysis of urban Aboriginal women's description of pregnancy-related weight gain and physical activity. *Women and Birth, 29,* e23-e32

Department of Health and Social Care. (2019). https://www.gov.uk/government/publications/physical-activity-guidelines-pregnancy-and-after-childbirth March 2022

De Vivo, M., Mills, H. (2019). "They turn to you first for everything": insights into midwives' perspectives of providing physical activity advice and guidance to pregnant women. *BMC Pregnancy and Childbirth, 19:462,* 1-12

Dixon-Woods, M. (2011). Using framework-based synthesis for conducting reviews of qualitative studies. *BMC Medicine, 9, 39,* 1-2

Duffy, B. E., Hund, E. (2015). "Having it All" on social media: entrepreneurial femininity and self-branding among fashion bloggers. *Social Media and Society,* 1-11

Dungay, K., Garcia, E., Elbeltagi, I. (2015). Depending on the kindness of strangers – social media communities for those with rare conditions. *Proceedings of the 2nd European Conference on Social Media, ECSM, 2015, 140*

Ekelin, M., Iversen, M. L., Backhausen, M. G., Hegaard, H. K. (2018). Not now but later - a qualitative study of non-exercising pregnant women's views and experiences of exercise. *BMC Pregnancy Childbirth, 18:399,* 1-10

English, L. M. (2007). Chapter 9: Feminists, factions and fictions in rural Canada. (Eds). Duran, L. A., Payne, N. D., Russo, A. *Building Feminist Movements: Global Perspectives.* Zed Books Ltd London & New York. pp.87-95

EndNote, (2022), Clarivate, https://endnote.com/, April 2019

Evenson, K. R., Moos, M-K, Carrier, K., Siega-Riz, A. M. (2009). Perceived barriers to physical activity among pregnant women. *Maternal and Child Health Journal, 13(3),* 364-375

Fakhraei, R., Terrion, J. L. (2017). Identifying and exploring the informational and emotional support needs of primipara women: a focus on supportive communication. *The Journal of Perinatal Education, 26(4),* 195-207

Farr, J., Nizza, I. E. (2019). Longitudinal interpretative phenomenological analysis (LIPA): a review of studies and methodological considerations. *Qualitative Research in Psychology, 16:2,* 199-217

Fathnezhad-Kazemi, A., Haijan, S. (2018). Experiences related to health promotion behaviours in overweight pregnant women: a qualitative study. *Reproductive Health, 15, 219,* 1-11

Fathnezhad-Kazemi, A., Haijan, S. (2019). Factors influencing the adoption of health promoting behaviors in overweight pregnant women: a qualitative study. *BMC Pregnancy Childbirth, 19:43,* 1-11

Feeney, B. C., Collins, N. L. (2015). A new look at social support: a theoretical perspective on thriving through relationships. *Personality and Social Psychology Review, 19(2),* 113-147

Fell, D. B., Joseph, K. S., Armson, B. A., Dodds, L. (2009). The impact of pregnancy on physical activity level. *Maternal and Child Health Journal, 13,* 597-603

Ferrari, R. M., Siega-Riz, A. M., Evenson, K. R., Moos, M-K., Carrier, K. S. (2013). A qualitative study of women's perceptions of provider advice about diet and physical activity during pregnancy. *Patient Educ Couns, 91(3),* 372-377

Festinger, L., Back, K., Schachter, S., Kelley, H. H., Thibaut, J. (1950). Theory and experiment in social communication. Research Center for Dynamics Institute for Social Research, https://doi.org/10.1037/10646-000

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117–140

Fieril, K. P., Olsen, M. F., Glantz, A., Larsson, M. (2014). Experiences of exercise during pregnancy among women who perform regular resistance training: A qualitative study. *Patient Therapy and Rehabilitation Journal, 94:8,*1135-1143

Fieril, K. P., Olsen, M. F., Glantz, A., Premberg, A. (2017). Experiences of a lifestyle intervention in obese pregnant women - A qualitative study. *Midwifery, 44,* 1-6

Findley, A., Smith, D. M., Hesketh, K., Keyworth, C. (2020). Exploring womens' experiences and decision making about physical activity during pregnancy and following birth: a qualitative study. *BMC Pregnancy and Childbirth, 20(1), 54,* 1471-2393

Flannery, C., McHugh, S., Anaba, A. E., Clifford, E., O'Riordan, M., Kenny, L. C., McAuliffe, F. M., Kearney, P. M., Byrne, M. (2018). Enablers and barriers to physical activity in overweight and obese pregnant women: an analysis informed by the theoretical domains framework and COM-B model. *BMC Pregnancy and Childbirth, 18:178,* 1-13

Fletcher, G. E., Teeters, L., Schlundt, D., Bonnet, K., Heerman, W. J. (2018). Maternal Conception of Gestational Weight Gain Among Latinas: A Qualitative Study. *Health Psychology, 37(2),* 132-138

Fleury, J., Keller, C., Perez, A. (2009). Social support theoretical perspective. *Geriatric Nursing, 30(2,0)* 11-14

Forgeron, P. A., MacLaren Chorney, J., Carlson, T. E., Dick, B. D., Plante, E. (2015). To befriend or not: naturally developing friendships amongst a clinical group of adolescents with chronic pain. *Pain Management Nursing, 16, 5*

Foucault, M. (1975). *Discipline and Punish. The Birth of the Prison.* Penguin Books, UK

Foucault, M. (1994). *Power. Essential works of Foucault 1954-1984. Volume 3.* Edited by James D. Faubion. Penguin Books. London, UK

Fox, R., Heffernan, K., Nicolson, P. (2009), 'I don't think it was such an issue back then': changing experiences of pregnancy across two generations of women in south-east England. *Gender, place and culture, 16:5,* 553-568

Fox, A. B., Quinn, D. M. (2015). Pregnant women at work: the role of stigma in predicting women's intended exit from the workforce. *Psychology of Women Quarterly, 39, 2,* 226-242

Freling, T. H., Yang, Z., Saini, R., Itani, O. S., Abualsamh, R. R. (202). When poignant stories outweigh cold hard facts: a meta-analysis of the anecdotal bias. *Organizational behaviour and human decision processes, 160,* 51-67

French Jr, J. R. P., Raven, B. (1959). The bases of social power. In D Cartwright (Ed), *Studies in social power,* (pp.150-167). Univer, Michigan.

Gaston, A., Cramp, A. (2011). Exercise during pregnancy: a review of patterns and determinants. *Journal of Science and Medicine in Sport, 14, 4,* 299-305

Glazier, R. H., Elgar, F. J., Goel, V., et al., (2004). Stress, social support and emotional distress in a community sample of pregnant women. *Journal of Psychometric Obstetrics and Gynaecology, 25, 3-4,* 247-255

Goethals, G, R., Darley, J. M. (2007). *Social Comparison Theories Key Readings.* Stapel, D. A., Blanton, H (eds). Psychology Press. New York and Hove

Gonzalez-Perez, S., de Cabo, R. M., Sainz, M. (2020). Girls in STEM: Is it a female-role model thing? Frontiers in Psychology. *Gender, Sex and Sexualities. 11, 2204,* 1-21

Goodall, T., Newton, E., Larkin, M. (2019). What are the critical incidents that affect how people cope with being detained under Section 136 of the Mental Health Act (1983, 2007)? *International Journal of Psychiatry in Clinical Practice*, 1471-1788

Goodrich, K., Creggar, M., Wilcox, S., Liu, J. (2013). A qualitative study of factors affecting pregnancy weight gain in African American women. *Maternal and Child Health, 17(3),* 432-40

Green, J. L., Brock, C., Harris, P., Baker, W. D. (2020). Positioning theory as an analytic lens and explanatory theory. In Green, J. L., Brock, C., Harris, P., Baker, W. D. (Eds). *Handbook of the cultural foundations of learning*, (pp.119-140). Routledge.

Greene, A. K., Maloul, E., Kelly, D. A., Norling, H. N., Brownstone, L. M. (2022). “An immaculate keeper of my social media feed”: social media usage in body justice communities during the COVID-19 pandemic. *Social Media & Society,* 1-16

Greenhalgh, T., Clinch, M., Afsar, N., Choudhury, Y., Sudra, R., Campbell-Richards, D., Claydon, A., Hitman, G. A., Hanson, P., Finer, S. (2015) Socio-cultural influences on the behaviour of South Asian women with diabetes in pregnancy: qualitative study using a multi-level theoretical approach. *BMC Medicine, 13:120,* 1-15

Greenhill, E., Vollmer, R. L. (2019). Perceptions of a father's role during a couple's first pregnancy. *Family and Consumer Sciences Research Journal, 48, 1*, 52-64

Gross, H., Bee, P. E. (2004). Perceptions of effective advice in pregnancy - The case of activity. *Clinical Effectiveness in Nursing, 8(3-4),* 161-169

Gross, J., Vancampfort, D., Stubbs, B., Gorczynski, P., Soundy, A. (2015). A narrative synthesis investigating the use and value of social support to promote physical activity among individuals with schizophrenia. *Disability and Rehabilitation, 38,* 2, 123-150

Groth, S. W., Morrison-Beedy, D. (2013). Low-income, pregnant, African American women's views on physical activity and diet. *Journal of Midwifery and Women's Health, 58(2),* 195-202

Haimson, O. L., Bowser, A. E., Melcer, E. F., Churchill, E. F. (2015). Online inspiration and exploration for identity reinvention. *Gender and Technology,* 3809-3818

Hale, C. J., Hannum, J. W., Espelage, D. L. (2005). Social support and physical health: the importance of belonging. *Journal of American College Health, 53(6),* 276-84

Hallgrimsdottir, H. K., Benner, B. E. (2014). 'Knowledge is power': risk and the moral responsibilities of the expectant mother at the turn of the twentieth century. *Health, Risk and Society, 16:1,* 7-21

Hanckel, B., Vivienne, S., Byron, P., Robards, B., Churchill, B. (2019). 'That's not necessarily for them': LGBTQ+ young people, social media platform affordances and identity curation. *Media, Culture & Society, 41(8),* 1261-1278

Hanghoj, S. (2013). When it hurts I think: Now the baby dies. Risk perceptions of physical activity during pregnancy. *Women and Birth, 26(3),* 190-4

Harré, R., Moghaddam, F. (2003a). Introduction: The self and others in traditional psychology and positioning theory. In R. Harré & F. Moghaddam (Eds.), *The self and others* (pp. 1-11). Westport, CT: Praeger

Harrison, A. L., Taylor, N. F., Frawley, H. C., Shields, N. (2019). Women with gestational diabetes mellitus want clear and practical messages from credible sources about physical activity during pregnancy: a qualitative study. *Journal of Physiotherapy, 65, 1,* 37-42

Harrison, A. L., Taylor, N. F., Shields, N., Frawley, H. C. (2018). Attitudes, barriers and enablers to physical activity in pregnant women: a systematic review. *Journal of Physiotherapy, 64(1),* 24-32

Harper, E. A., Rail, G. (2011). Gaining the right amount for my baby: Young pregnant women's discursive constructions of health. *Health Sociology Review, 21,* 69-81

Hausenblas, H., Giacobbi, P., Cook, B., Rhodes, R., Cruz, A. (2011) Prospective examination of pregnant and nonpregnant women's physical activity beliefs and behaviours. *Journal of Reproductive and Infant Psychology. 29:4,* 308-319

Hebl, M. R., King, E. B., Glick, P., Singletary, S. L., Kazama, S. (2007). Hostile and benevolent reactions toward pregnant women: complementary interpersonal punishments and rewards that maintain traditional roles. *Journal of Applied Psychology, 92, 6,* 1499-1511

Heery, E., McConnon, A., Kelleher, C. C., Wall, P. G., McAuliffe, F. M. (2013). Perspectives on weight gain and lifestyle practices during pregnancy among women with a history of macrosomia: a qualitative study in the Republic of Ireland. *BMC Pregnancy and Childbirth, 13, 202,* 1-10

Heim, M. A., Miquelutti, M. A., Makuch, M. Y. (2019). Perspective of pregnant women regarding antenatal preparation: a qualitative study. *Women and Birth, 32(6),* 558-563

Hether, H. J., Murphy, S. T., Valente, T. W. (2014). It's better to give than to receive: the role of social support, trust and participation on health-related social networking sites. *Journal of Health Communication, 19:12*, 1424-1439

Heslehurst, N., Dinsdale, S., Brandon, H., Johnston, C., Summerbell, C., Rankin, J. (2017). Lived experiences of routine antenatal dietetic services among women with obesity: A qualitative phenomenological study. *Midwifery, 49,* 47-53

Hicks, S., Brown, A. (2016). Higher facebook use predicts greater body image dissatisfaction during pregnancy: the role of self-comparison. *Midwifery, 40,* 132-140

Hinton, L., Chisholm, A., Jakubowski, B., Greenfield, S., Tucker, K. L., McManus, R. J., Locock, L. (2012). “You probably won’t notice any symptoms”: blood pressure in pregnancy – discourses of contested expertise in an era of self-care and responsibilization. *Qualitative Health Research, 31(9),* 1632-1644

Hirschman, K. B., Bourjolly, J. N. (2005). How do tangible supports impact the breast cancer experience? *Social work in health care, 41:1,* 17-32

Hnatiuk, J. A., DeDecker, E., Hesketh, K. D., Cardon, A. (2017). Maternal-child co-participation in physical activity-related behaviours: prevalence and cross-sectional associations with mothers and children’s objectively assessed physical activity levels. *BMC Public Health, 17:506*, 1-7

Hodgetts, K., Crabb, S. H. (2018). ‘I cannot explain it. I knew it was wrong’: a public account of cigarette smoking in pregnancy. *Critical Public Health, 28, 4,* 450-459

Hodgkinson, E. L., Smith, D. M., Wittkowski, A. (2014). Women’s experiences of their pregnancy and postpartum body image: a systematic review and meta-synthesis. *BMC Pregnancy and Childbirth, 14:*330, 1-11

Hodler, M. A., Lucas-Carr, C. (2015). “The mother of allcomebacks”: A critical analysis of the fitspirational comeback narrative of Dara Torres. *Communication and Sport, 4(4),* https://doi.org/10.1177/2167479515583480

Hogg, M. A. (2007). Social psychology of leadership. In A. W. Kruglanski & E. T. Higgins (Eds), *Social psychology: Handbook of basic principles* (pp.716-733). The Guilford Press

House, J. S. (1987). Social support and social structure. *Sociological Forum, 2(1),* 135-146

House, J. S., Kahn, R. L. (1985). Measures and concepts of social support. In: Cohen, S. and Syme, S. L., Eds., *Social Support and Health,* Academic Press, New York, 83-108

Irwin, L. G. (2005). Mothers who smoke: confessions and justifications. *Health care for women international, 26,* 577-590

Jacobson, L. T., Zackula, R., Redmond, M. L., Duong, J., Collins, T. C. (2018). Pioneer baby: suggestions for pre- and postnatal health promotion programs from rural English and Spanish-speaking pregnant and postpartum women. *Journal of Behavioural Medicine, 41(5),* 653-667

Jelsma, J. G. M., van Leeuwen, K. M., Oostdam, N., Bunn, C., Simmons, D., Desoye, G., Corcoy, R., Adelanto, J. M., Kautzky-Willer, A., Harreiter, J., van Assche, F. A., Devlinger, R., Timmerman, D., Hill, D., Damm, P., Mathiesen, E. R., Wender-Ozegowska, E., Zawiejska, A., Rebollo, P., Lapolla, A., Dalfra, M. G., Del Prato, S., Bertolotto, A., Dunne, F., Jensen, D. M., Andersen, L. L. T., Snoek, F. J., van Poppel, M. N. M. (2016). Beliefs, Barriers, and Preferences of European Overweight Women to Adopt a Healthier Lifestyle in Pregnancy to Minimize Risk of Developing Gestational Diabetes Mellitus: An Explorative Study. *Journal of Pregnancy,* 1-11

Jette, S. (2006). “Fit for Two?’: A critical discourse analysis of Oxygen fitness magazine. *Sociology of Sport Journal,* 23(4), 331-351

Jette, S., Maier, J., Esmonde, K., Davis, C. (2017). Promoting prenatal exercise from a sociocultural and life-course perspective: an “embodied” conceptual framework. *Research Quarterly for Exercise and Sport, 88, 3,* 269-281

Jette, S., Rail, G. (2013). Resisting, reproducing, resigned? Low-income pregnant women's discursive constructions and experiences of health and weight gain. *Nursing Inquiry, 21(3),* 202-211

Jette, S., Vertinsky, P., Ng, C. (2014), Balance and biomedicine: how Chinese Canadian women negotiate pregnancy-related 'risk' and lifestyle directives. *Health, risk and society, 16, 6,* 494-511

Johnson, S., Burrows, A., Williamson, I. (2004). 'Does my bump look big in this?' The meaning of bodily changes for first-time mothers-to-be. *Journal of Health Psychology,* 361-374

Johnson, S. A. (2015). 'Intimate mothering publics': comparing face-to-face support groups and internet use for women seeking information and advice in the transition to first-time motherhood. *Culture, Health & Sexuality, 17,* 237-251

Johnstone, B. (2017) *Discourse Analysis.* Third edition. Wiley-Blackwell
Kerstien, S. (2022). A discursive approach to analysing the social construction of exercise during pregnancy. *The Qualitative Report, 13, 27, 4,* 1103-113

(1)Kinser, P., Masho, S. (2015). "I Just Start Crying for No Reason": The Experience of Stress and Depression in Pregnant, Urban, African-American Adolescents and Their Perception of Yoga as a Management Strategy. *Women's Health Issues, 25(2),* 142-148

(2)Kinser, P., Masho, S. (2015). Yoga Was My Saving Grace: The Experience of Women Who Practice Prenatal Yoga. *Journal of the American Psychiatric Nurses Association, 21(5),* 319-26

Krans, E. E., Chang, J. C. (2011). A will without a way: Barriers and facilitators to exercise during pregnancy of low-income, African American women. *Women & Health, 51(8),* 777-794

Krans, E. E., Chang, J. C. (2012). Low-Income African American Women's Beliefs Regarding Exercise during Pregnancy. *Maternal and Child Health, 16(6),* 1180-1187

Kraschnewski, J, L., C. H. (2014). "Eating for two": Excessive gestational weight gain and the need to change social norms. *Women's Health Issues, 24-3,* e257-e259

Koorts, H., Eakin, E., Estabrooks, P., Timperio, A., Salmon, J., Bauman, A. (2018). Implementation and scale up of population physical activity interventions for clinical and community settings: the PRACTIC guide. *International Journal of Behavioural Nutrition and Physical Activity, 15:51,* 1-11

Koshy, P., MacKenzie, M., Tappin, D., Bauld, L. (2010) Smoking cessation during pregnancy: the influence of partners, family and friends on quitters and non-quitters. *Health and social care in the community,* 18, 5, 500-510.

Laird, Y., Fawkner, S., Kelly, P., McNamee, L., Niven, A. (2016). The role of social support on physical activity behaviour in adolescent girls: a systematic review and meta-analysis. *International Journal of Behavioural Nutrition and Physical Activity, 13:79,* 1-14

Langford, C. P. H., Bowsher, J., Maloney, J. P., Lillis, P. P. (1997). Social support: a conceptual analysis. *Journal of Advanced Nursing, 25,* 95-100

Larkin, M., Thompson, A. R. (2012). Chapter 2. Interpretative phenomenological analysis in mental health and psychology research. (Eds) D. Harper, A. R. Thompson. *Qualitative Research Methods in Mental Health and Psychotherapy: A Guide for Students and Practitioners.* First Edition. John Wiley and Sons Ltd. pp.101-116

Lavender, T., Smith, D. M. (2014). Seeing it through their eyes: a qualitative study of the pregnancy experiences of women with a body mass index of 30 or more. *Health Expectations, 19:2,* 222-233

Leiferman, J., Swibas, T., Koiness, K., Marshall, J. A., Dunn, A. L. (2011). My Baby, My Move: Examination of Perceived Barriers and Motivating Factors Related to Antenatal Physical Activity. *Journal of Midwifery and Women's Health, 56(1),* 33-40

Lewis, B., Ridge, D. (2005). Mothers reframing physical activity: family oriented politicism, transgression and contested expertise in Australia. *Social Science & Medicine, 60(10),* 2295-2306

Lev-Ari, L., Baumgarten-Katz, I., Zohar, A. H. (2014). Mirror, mirror on the wall: how women learn body dissatisfaction. *Eating behaviours, 15,* 397-402

Lindqvist, M., Persson, M., Mogren, I. (2018). Longing for individual recognition - Pregnant women's experiences of midwives' counselling on physical activity during pregnancy. *Sexual & Reproductive Healthcare, 15(Complete),* 46-53

Lindsay, A. C., Wallington, S. F., Greaney, M. L., Machado, M. M. T., De Andrade, G. P. (2017). Patient-Provider Communication and Counseling about Gestational Weight Gain and Physical Activity: A Qualitative Study of the Perceptions and Experiences of Latinas Pregnant with their First Child. *International Journal of Environmental Research and Public Health, 14, 1412,* 1-13

Lingetun, L., Fungbrant, M., Claesson, I-M., Baggens, C. (2017). 'I just want to be normal' – A qualitative study of pregnant women's blogs who present themselves as overweight or obese. Midwifery, 49, 65-71

Liu, J., Blair, S. N., Teng, Y., Ness, A. R., Lawlor, D. A., Riddoch, C. (2011). Physical activity during pregnancy in a prospective cohort of British women: results from the Avon longitudinal study of parents and children. *European Journal of Epidemiology, 26(3),* 237-247

Liu, X., Lin, S., Jiang, S., Chen, M., Li, J. (2022). Social support acquisition in online health communities: a social capital perspective. *Social support in online health communities,* https://www.emerald.com/insight/1066-2243.htm

Liu, Y., Wang, W. (2022) Discipline and resistance in the representation of motherhood: postpartum recovery discussion on Xiaohongshu. *Feminist media studies,* 1-17

Madi, D., Bobwik, M., Verkuyten, Basabe, N. (2022). Social intergroup and temporal intrapersonal comparisons: responses to perceived discrimination and protective mechanisms of eudaemonic well-being. *International Journal of Intercultural Relations, 86,* 74-84

Mahoney, C. (2020). Is this what a feminist looks like? Curating the feminist self in the neoliberal visual economy of Instagram. *Feminist Media Studies,* 1-17

Malmstrom, N., Lydell, M., Carlsson, I-M. (2022). "Womanhood", a shared experience of participating in a lifestyle intervention with a focus on integration and physical activity to promote health among pregnant women: perspectives from pregnant women, midwives and cultural interpreter doulas. *International Journal of Qualitative Studies on Health and Well-being, 17, 1,* https://doi.org/10.1080/17482631.2022.2043527

Mansour, A. (2021). Affordances supporting mothers' engagement in information-related activities through Facebook groups. *Journal of Librarianship and Information Science, 53(2),* 211-224

Marcella-Hood, M. (2021). Instagram versus reality: the design and use of self-curated photo elicitation in a study exploring the construction of Scottish identity amongst personal stye influencers on Instagram. *Qualitative Research, 21(6),* 865-889

Marquez, D. X., Bustamante, E. E., Bock, B. C., Markensen, G., Tovar, A., Chasan-Taber, L. (2009). Perspectives of Latina and non-latina white women on barriers and facilitators to exercise in pregnancy. *Women & Health, 49(6),* 505-521

Marquez, I., Lanzeni, D., Masanet, M-J. (2022). Teenagers as curators: digitally mediated curation of the self on Instagram. *Journal of Youth Studies,* 1-19

Marshall, E., Moon, M. A., Mirchandani, A., Smith, G., Nichols, L. P., Zhao, X., Vydiswaran, VG. V., Chang, T. (2019). "Baby wants tacos": analysis of health-related Facebook posts from young pregnant women. *Maternal and Child Health Journal, 23(10),* 1400-1413

Mascho, S. W., Do, E., Adekoya, S. (2014) Social support and smoking during pregnancy. *Journal of Womens Health Care, 3,* 1-15

Mascio, D. D., Magro-Malosso, E. R., Saccone, G., Marhefka, G. D., Berghella, V. (2016). Exercise during pregnancy in normal-weight women and risk of preterm birth: a systematic review and meta-analysis of randomized controlled trials. *Am J Obstet Gynecol. 215(5),* 561-571

Matley, D. (2018). "Let's see how many of you mother fuckers unfollow me for this": The pragmatic function of the hashtag #sorrynotsorry in non-apologetic Instagram posts. *Journal of Pragmatics, 133,* 66-78

Mazzarion, M., Kerr, D., Morris, M. E. (2018). Pilates program design and health benefits for pregnant women: a practitioners' survey. *Journal of bodywork and movement therapies, 22(2),* 411-417

May, L. E., Glaros, A., Yeh, H. W. Clapp III, J. F., Gustafson, K. M. (2010). Aerobic exercise during pregnancy influences fetal cardiac autonomic control of heart rate and heart rate variability. *Early Human Development, 86:2,* 213-7

May, L., Suminski, R., Berry, A., Linklater, E., Jahnke, S. (2014). Diet and pregnancy: health-care providers and patient behaviours. *The Journal of Perinatal Education, 23(1),* 50-56

Mayoh, J. (2019). Perfect pregnancy? Pregnant bodies, digital leisure and the presentation of self. *Leisure studies, 38, 2,* 204-217

McCoy, L. K. (2017). Longitudinal qualitative research and interpretative phenomenological analysis: philosophical connections and practical considerations. *Qualitative Research in Psychology, 14:4,* 442-458

McGannon, K. R., Curtin, K., Schinke, R. J., Schweinbenz, A. N. (2012). (De)constructing Paula Radcliffe: exploring media representations of elite running, pregnancy and motherhood through cultural sport psychology. *Psychology of Sport and Exercise, 13(6),* 820-829

McGannon, K. R., Gonsalves, C. A., Schinke, R. J., Busanich, R. (2015). Negotiating motherhood and athletic identity: a qualitative analysis of Olympic athlete mother representations in media narratives. *Psychology of Sport and exercise, 20,* 51-59

McGannon, K. R., McMahon, J. (2021). (Re)-Storying embodied running and motherhood: a creative non-fiction approach. *Sport Education Society, 232,* 1-14

McGannon, K. R., McMahon, J., Gonsalves, C. A. (2017). Mother runners in the blogosphere: a discursive psychological analysis of online recreational identities. *Psychology of Sport and Exercise, 28:* 125-135

McGannon, K. R., McMahon, J., Schinke, R. J., Gonsalves, C. A. (2017). Understanding athlete mother transition in cultural context: a media analysis of Kim Clijsters' tennis comeback and self-identity implications. *Sport, Exercise and Performance Psychology, 6(1),* 20-34

McGannon, K. R., Schinke, R. J. (2013). "My first choice is to work out at work; then I don't feel bad about my kids": a discursive psychological analysis of motherhood and physical activity participation. *Psychology of Sport and Exercise, 14, 2,* 179-188

McLeish, J., Harvey, M., Redshaw, M., Alderdice, F. (2021). A qualitative study of first time mothers' experiences of postnatal social support from health professionals in England. *Women and Birth, 34(5),* e451-e460

McParlin, C., Bell, R., Robson, S. C., Muirhead, C. R., Araujo-Soares V. (2017). What helps or hinders midwives to implement physical activity guidelines for obese pregnant women? A questionnaire survey using the Theoretical Domains Framework. *Midwifery, 49,* 110-116.

McVee, M. B. (2011). Chapter one: Positioning theory and sociocultural perspectives. Affordances for educational researchers. In McVee, M. B., Brock, C. H., Glazier, J. A. (Eds). *Positioning theory. Sociocultural positioning in literacy: exploring culture, discourse, narrative, and power in diverse educational contexts*, (pp. 1-22). Hampton Press

McVee, M. B., Silvestri, K., Barrett, N., Haq, K. (2018). Chapter 19. Positioning theory. In McVee, M. B., Silvestri, K., Barrett, N., Haq, K. (Eds), *Theoretical Processes and Models of Literacy* (7th Edition) (pp.381-400). Routledge

Merkx, A., Ausems, M., Bude, L., de Vries, R., Nieuwenhuijze, M, J. (2017). Factors affecting perceived change in physical activity in pregnancy, *Midwifery, 51,* 16-24

Miles, L. (2007). Physical activity and health. *Nutrition Bulletin, 32, 4,* 314-363

Miller, T. (2005). *Making sense of motherhood: a narrative approach.* Cambridge: Cambridge University Press

Miller, T. (2007). "Is this what motherhood is all about?": Weaving experiences and discourse through transition to first-time motherhood. *Gender and Society, 21(3),* 337-358

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta Analysis: The PRISMA Statement, *Plos Med, 6(7):* e1000097

Molder, H. T. (2015). *Discursive Psychology. The International Encyclopaedia of Language and Social Interaction.* First Edition. John Wiley & Sons, Inc. Eds: Tracy, k., Ilie, C., Sandel, T.

Mottola, M. F., Davenport, M. H., Ruchat, S-M., Davies, G. A., Poitras, V. J., Gray, C. E., Garcia, A. J., Barrowman, N., Adamo, K. B., Duggan, M., Barakat, R., Chilibeck, P., Fleming, K., Forte, M., Korolnek, J., Nagpal, T., Slater, L. G., Stirling, D., Zehr, L. (2019). 2019 Canadian guideline for physical activity throughout pregnancy. *British Journal of Sports Medicine, 52,* 1339-1346

Muzigaba, M., Kolbe-Alexander, T. L., Wong, F. (2014). The Perceived Role and Influencers of Physical Activity Among Pregnant Women From Low Socioeconomic Status Communities in South Africa. *Journal of Physical Activity and Health, 11:7,* 1276-1283

Nagl, M., Jepsen, L., Linde, K., Kersting, A. (2021). Social media use and postpartum body image dissatisfaction: the role of appearance-related social comparisons and thin-ideal internalization. *Midwifery, 100,* 1-9

Nail, P. R. (1986). Toward an integration of some models and theories of social response. *Psychological Bulletin, 100, 2,* 190-206

Nail, P. R., Macdonald, G., Levy, D. A. (2000). Proposal of a four-dimensional model of social response. *Psychological Bulletin, 126, 3,* 454-470

Nakamura, A., van der Waerden J., Melchior, M., Bolze, C., El-Khoury, F., Pryor, L. (2019). Physical activity during pregnancy and postpartum depression: systematic review and meta-analysis. *Journal of Affective Disorders, 246,* 29-41

Nash, M. (2011). 'You don't train for a marathon sitting on the couch': Performances of pregnancy 'fitness' and 'good' motherhood in Melbourne, Australia. *Women's Studies International Forum, 24,* 50-65

Neale, B. (2021). *The craft of qualitative longitudinal research.* SAGE Publications, London, UK

Nguyen, P. T. H., Binns, C. W., Nguyen, C. L., Ha, A. V. V., Chu, K. T., Duong, D. V., Do, D. V., Lee, A. H. (2019). Physical activity during pregnancy is associated with improved breastfeeding outcomes: a prospective cohort study. *International Journal of Environmental Research and Public health, 16(10),* 1740, 1-12

Nippert, K. E., Tomiyama, A. J., Smieszek, S. M., Rodriguez, A. C. I. (2020). The media as a source of weight stigma for pregnant and postpartum women. *Epidemiology/Genetics, 29,* 226-232

Norman, J. B., Fuesting, M. A., Geerling, D. M., Chen, J. M., Gable, S. L., Diekman, A. B. (2022). To pursue or not to pursue STEM? Faculty behaviour enhances student involvement in STEM roles by signalling role-specific support. *Social Psychological and Personality Science. 13(2),* 583-594

O'Brien, O. A., Lindsay, K. L., McCarthy, M., McGloin, A. F., Kennelly, M., Scully, H. A., McAuliffe, F. M. (2017). Influences on the food choices and physical activity behaviours of overweight and obese pregnant women: a qualitative study. *Midwifery, 47,* 28-35

Ogle, J. P., Tyner, K. E., Schofield-Tomschin, S. (2011). Watching over baby: Expectant parenthood and the duty to be well. *Sociological Inquiry, 81:3,* 285-309

Okafor, U. B., Goon, D. T. (2021). Physical activity in pregnancy: beliefs, benefits and information-seeking practices of pregnant women in South Africa. *Journal of Multidisciplinary Healthcare, 14,* 787-798

Omvidar, S., Faramarzi, M., Haijian-Tilaki, K., Nasiri Amiri, F. (2018). Associations of psychosocial factors with pregnancy healthy life styles, *PLOS One, 13(5):* e0197389

Orton-Johnson, K. (2017). Mummy blogs and representations of motherhood: "bad mummies" and their readers. *Social media and society,* 1-10

Padmanabhan, U., Summerbell, C. D., Heslehurst, N. (2015). A qualitative study exploring pregnant women's weight-related attitudes and beliefs in UK: the BLOOM study. *BMC Pregnancy and Childbirth, 15:99,* 1-14

Perales, M., Santos-Lozano, A., Ruiz, J. R., Lucia, A., Barakat, R. (2016). Benefits of aerobic or resistance training during pregnancy on maternal health and perinatal outcomes: a systematic review. *Early Human Development.* 94, 43-48

Peterson-Besse, J. J., Knoll, J. E., Horner-Johnson, W. (2019). Internet networks as a source of social support for women with mobility disabilities during pregnancy. *Disability and Health Journal, 12,* 722-726

Potter, J. (2012). Discourse analysis and discursive psychology. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf & K. J. Sher (Eds). *APA handbook of research methods in psychology, Vol. 2. Research designs: Quantitative, qualitative, neuropsychological, and biological.* (pp. 119-138). American Psychological Association.

Pratkanis, A. R. (2007). *The science of social influence. Advances and future progress.* ('Eds') Pratkanis, A. R. Psychology Press. UK

Prinds, C., Nikolajsen, H., Folmann, B. (2020). Yummy Mummy – The ideal of not looking like a mother. *Women and Birth: Journal of the Australian College of Midwives, 33(3), e266-e273*

PsycArticles, (2022), American Psychological Association, https://www.apa.org/pubs/databases/psycarticles April 2019

PsycInfo (2022), American Psychological Association, https://www.apa.org/pubs/databases/psycinfo April 2019

PubMed, (2022), National Library of Medicine, https://pubmed.ncbi.nlm.nih.gov/ April 2019

Rhodes, A., Smith, A. D., Chadwick, P., Croker, H., Llewellyn, C. H. (2020). Exclusively digital health interventions targeting diet, physical activity and weight gain in pregnancy women: systematic review and meta-analysis. *JMIR MHealth and UHealth, 8(7):e18255,* 1-15

Rockliffe, Lauren., Peters, Sarah., Heazell, Alexander, E. P., Smith, Debbie, M. (2021). Factors influencing health behaviour change during pregnancy: a systematic review and meta-synthesis. *Health Psychology Review.* 15(4):613-632.

Rockliffe, L., Peters, S., Heazell, A. E. P., Smith, D. M. (2022). Understanding pregnancy as a teachable moment for behaviour change: a comparison of the COM-B and teachable moments models. *Health Psychology and Behavioural Medicine, 10, 1,* 41-59

Roberts, V., Glover, M., McCowan, L., Walker, N., Ussher, M., Heke, I., Maddison, R. (2017). Exercise to Support Indigenous Pregnant Women to Stop Smoking: Acceptability to Maori. *Maternal and Child Health Journal, 21,* 2040-2051

Rosenthal, L., Leby, S. R., London, B., Lobel M., Bazile, C. (2013). In pursuit of the MD: The impact of role models, identity compatibility and belonging among undergraduate women. *Sex Roles*. 68, 464-473.

Roth, H., Homer, C., Fenwisk, J. (2012). "Bouncing back": How Australia's leading magazines portray the postpartum 'body'. Women and Birth, 25, 128-134

Salihu, H. M., Myers, J., August, E. M. (2012). Pregnancy in the workplace. *Occupational Medicine, 62,* 88-97

Sarafian, I. (2011). Process assessment of a peer education programme for HIV prevention among sex workers in Dhaka, Bangladesh: A social support framework. *Social science and medicine, 75, 4,* 668-675

Schoenebeck, S., Ellison, N. B., Blackwell, L., Bayer, J. B. Falk, E. B. (2016). Playful backstalking and serious impression management: how young adults reflect on their past identities on Facebook. *CSCW '16: Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing, February 2016,* https://doi.org/10.1145/2818048.2819923

Schwarzer, R., Knoll, N., Rieckmann, N. (2003). Social support. Kapstein, A., Weinman, J (Eds). *Introduction to health psychology.* Oxford, England: Blackwell

Scopus, (2022), Elsevier, https://www.elsevier.com/en-gb/solutions/scopus April 2019

Shaw, R. L., Giles, D. C. (2009). Motherhood on ice? A media framing analysis of older mothers in the UK news. *Psychology and Health, 24:2,* 221-236

Shaw, R. L., West, K., Hagger, B., Holland, C. A. (2016). Living well to the end: a phenomenological analysis of life in extra care housing. *International Journal of Qualitative Studies on Health Well-being, 11:31100,* 1-12

Sheldon, K. M., Watson, A. (2011). Coach's autonomy support is especially important for varsity compared to club and recreational athletes. *International Journal of Sports Science & Coaching, 6, 1,* 109-123

Shensa, A., Sidani, J. E., Escobar-Viera, C. G., Switzer, G. E., Primack, B. A., Choukas-Bradley, S. (2020). Emotional support from social media and face-to-face relationships: Associations with depression risk among young adults. *Journal of Affective Disorders, 260, 1,* 38-44

Shin, J. E. L., Levy, S. R., and London, B. (2016). Effects of role model exposure on STEM and non-STEM student engagement. *Journal of Applied Social Psychology. 46,* 410-427

Smith, D. M., Ward, C., Forbes, S., Reynolds, R. M., Denison, F. C. (2012). Weight management guides for pregnant women with a body mass index (BMI) >= 40kg/m(2): A qualitative exploration of their use in maternity care. *Health Education Journal, 72(2),* 216-221

Smith, D., Taylor, W., Lavender, T. (2014). The role of antenatal and postnatal social support for pregnant women with a body mass index ≥ 30 kg/m². *British Journal of Midwifery, 22, 8,* 564-567

Smith, J. A. (1999). Identity development during the transition to motherhood: an interpretative phenomenological analysis. *Journal of reproductive and infant psychology, 17, 3,* 281-299

Smith, J. A. (1999). Towards a relational self: social engagement during pregnancy and psychological preparation for motherhood. *British Journal of Social Psychology, 38,* 409-426

Smith, R., Shakespeare, J., Williams, Z., Knight, M., Foster, C. (2017). Physical activity for pregnant women: an infographic for healthcare professionals. *British Journal of General Practice*, 460

Spotswood, F., Nobles, J., Armstrong, M. (2020). "We're just stuck in a daily routine": Implications of the temporal dimensions, demands and dispositions of mothering for leisure time physical activity. *Sociology of Health and Illness, 43,* 1254-1269

Stampini, V., Monzani, A., Caristia, S., Ferrante, G., Gerbino, M., De Pedrini, A., Amadori, R., Rabbone, I., Surico, D. (2021). The perception of Italian pregnant women and new mothers about

their psychological wellbeing, lifestyle, delivery and neonatal management experience during the COVID-19 pandemic lockdown: a web-based survey. *BMC Pregnancy and Childbirth, 21:473,* p.1-12

Stapel, D. A., Blanton, H (eds) (2007). *Social Comparison Theories Key Readings.* Psychology Press. New York and Hove

Stephens, S., Carryer, J. Budge, C. (2004). To have or to take: discourse, positioning, and narrative identity in women's accounts of HRT. *health: An Interdisciplinary Journal for the Social Study of Health Illness and Medicine, 8(3),* 329-350

Steube, F., Lowe, B., Weigel, A. (2022). "Belly only pregnancy" content on social media and in internet blogs: a qualitative analysis on its definition and potential risks and benefits. *Eating and Weight Disorders – Studies on Anorexia, Bulimia and Obesity,* https://doi.org/10.1007/s40519-022-01381-y

Szwajcer, E. M., Hiddink, G. J., Koelen, M. A., van Woerkum, C. M. J. (2005). Nutrition-related information-seeking behaviours before and throughout the course of pregnancy: consequences for nutrition communication. *European Journal of Clinical Nutrition (2005), 59, 1,* 57-65

Teede, H. J., Bailey, C., Moran, L. J., Khomami, M. B., Enticott, J., Ravasinha, S., Rogozinska, E., Skouteris, H., Boyle, J. A., Thangaratinam, S., Harrison, C. L. (2021). Association of antenatal diet and physical activity-based interventions with gestational weight gain and pregnancy outcomes. A systematic review and meta-analysis. *JAMA Internal Medicine, 182(2),* 106-114

Thompson, E. L., Vamos, C. A., Daley, E. M. (2017). Life & Times. Physical activity during pregnancy and the role of theory in promoting positive behaviour change: a systematic review. *Journal of Sport and Health Science, 6,* 198-206

Thornton, P. L., Kieffer, E. C., Salabarria-Pena, Y., Odoms-Young, A., Willia, S. K., Kim, H., Salinas, M. A. (2006). Weight, diet and physical activity-related beliefs and practicers among pregnant and postpartum Latino women: the role of social support. *Maternal and Child Health Journal, 10, 1,* 95-104

Tinius, R., Nagpal, T. S., Edens, K., Duchette, C., Blakenship, M. (2020). Exploring beliefs about exercise among pregnant women in rural communities. *Journal of Midwifery and Women's Health, 65, 4,* 538-545

Tinoco, K. A. C., Grajeda, M. A. Z. (2021). Social representations about pregnancy and motherhood: analysis of Facebook posts and memes. *Revista Colombiana de Sociologia, 44,* 2, 61-93

Trevorrow, P. (2016). Mii and MiiBump: Supporting pregnant women to continue or commence an active lifestyle. *Society and Leisure, 39(1),* 145-155

Tucker, E. A., Fouts, H. N. (2017). Connections Between Prenatal Physical Activity and Breastfeeding Decisions. *Qualitative Health Research, 27(5),* 700-713

Tugwell, S. (2019). Breastfeeding selfies as relational practice: becoming a maternal subject in the digital age: a single case study. *International Breastfeeding Journal. 14:23,* 1-14

Uchino, B. N. (2004). *Social Support and Physical Health: Understanding the Health Consequences of Relationships.* Yale University Press

Van Aken, M. A. G., van Lieshout, C. F. M., Scholte, R. H. J., Brnaje, S. J. (1999) Relational support and person characteristics in adolescence. *Journal of Adolescence*, 22, 819-833

Van Mulken, M., McAllister, M., Lowe, J. B. (2016). The stigmatization of pregnancy: societal influences on pregnant women's physical activity behaviour. *Culture, health and sexuality, 18:8,* 921-935

Van Langenhove, L., Harré, R. (1999a). Introducing positioning theory. In R. Harré & L. van Langenhove (Eds), *Positioning theory* (pp. 14-3). Malden, MA: Blackwell

Wagnild, J. M., Pollard, T. M. (2020). "Sit yourself down": women's experiences of negotiating physical activity during pregnancy. *Qualitative Health Research, 30(7),* 1072-1082

Wang, X., Parameswaran, S., Bagul, D. M., Kishore, R., (2017). Does online social support work in stigmatised chronic diseases? A study of the impacts of different facets of informational and emotional support on self-care behaviour in an HIV online forum. *Online social support and HIV self-care behaviour*. 1-19

Warren, L., Rance, J., Hunter, B. (2017). Eat Well Keep Active: Qualitative findings from a feasibility and acceptability study of a brief midwife led intervention to facilitate healthful dietary and physical activity behaviours in pregnant women. *Midwifery, 49,* 117-123

Warren, S., Brewis, J. (2004). Matter over mind? Examining the experience of pregnancy. *Sociology, 38(2),* 219-236

Watson, E. D., Norris, S. A., Draper, C. E., Jones, R. A., van Poppel, N. M., Micklesfield, L. K. (2016). Just because you're pregnant, doesn't mean you're sick! A qualitative study of beliefs regarding physical activity in black South African women. *BMC Pregnancy and Childbirth, 16:174,* 1-9

Watt, A. D., Konnert, C. A. (2020). Body satisfaction and self-esteem among middle-aged and older women: the mediating roles of social and temporal comparisons and self-objectification. *Aging & Mental Health, 24, 5,* 797-804

Web of science, (2022). Clarivate, https://clarivate.com/webofsciencegroup/solutions/web-of-science/ April 2019

Wetherell, M. (2004). Chapter one: Themes in Discourse Analysis. Pages 14-28. (Eds) Wetherell, M., Taylor, S., Yates, S. J. *Discourse Theory and Practice. A Reader*. Sage Publication Ltd, London

(1)Whitaker, K. M., Wilcox, S., Liu, J., Blair, S. N., Pate, R. R. (2016). Patient and provider perceptions of weight gain, physical activity and nutrition counselling during pregnancy: a qualitative study. *Women's Health Issues, 26(1),* 116-112

(2)Whitaker, K. M., Wilcox, S., Liu, J., Blair, S. N., Pate, R. R. (2016). African American and White women's perceptions of weight gain, physical activity and nutrition during pregnancy. *Midwifery, 34,* 211-220

White, R. (2004). Discourse analysis and social constructionism. *Nurse Researcher, 12(2),* 7-16

Wiggins, S., Potter, J. (2008). Chapter Five: Discursive Psychology. Pages 73-90. Eds: Willig, C., Stainton-Rogers, W. *The SAGE Handbook of Qualitative Research in Psychology.* Sage Publication Ltd, London

Wigginton, B., LaFrance, M. N. (2014). 'I think he is immune to all the smoke I gave him': how pregnant women account for the harm of smoking during pregnancy. *Health, Risk & Society, 16, 6,* 530-546

Wigginton, B., Lee, C. (2014). “But I am not one to judge her actions”: Thematic and discursive approaches to university students’ responses to women who smoke while pregnant. *Qualitative Research in Psychology, 11:3,* 265-276

Wigginton, B., LaFrance, M. N. (2016). How do women manage the spoiled identity of a ‘pregnant smoker?’ An analysis of discursive silencing in women’s accounts*. Feminism and Psychology, 26(1),* 30-51

Willig, Carla., (2013). *Introducing Qualitative Research in Psychology.* Third Edition. Open University Press

Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin, 90(2),* 245-271

Wills, T. A., Shinar, O. (2000). Measuring perceived and received social support. In S. Cohen, L. G. Underwood & B. H. Gottlieb (Eds.), *Social support measurement and intervention: a guide for health and social scientists* (pp.86-135). Oxford University Press

Williams, P., Barclay, L., Schmied, V. (2004) Defining social support in context: a necessary step in improving research, intervention and practice. *Qualitative Health Research, 14, 7,* 942-960

Williams, S. N., Thakore, B. K., McGee, R. (2017) Providing social support for underrepresented racial and ethnic minority PhD students in the biomedical sciences: a career coaching model. *CBE – Life Sciences Education, 16,* 1-12

Wilson, J., Gil, K. M., Raezer, L. (1997). Self-evaluation, coping and depressive affect in African American adults with sickle cell disease. *Cognitive Therapy and Research, 21,* 443-457

Wittels, P., Kay, T., Mansfield, L. (2022). Adopting and maintaining a healthy lifestyle in low SES families: how the experience of motherhood shapes responses to dietary and physical activity public health guidance. *BMC Public Health, 22(1):1092*

Wittels, P., Kay, T., Mansfield, L. (2022). The family is my priority: how motherhood frames participation in physical activity in a group of mothers living in a low socioeconomic status area. *International Journal of Environmental Research and Public Health, 19(3),* 1-14

Xu, L., Song, R. (2013). Development and validation of the work-family-school role conflicts and role-related social support scales among registered nurses with multiple roles. *International Journal of Nursing Studies, 50,* 1391-1398

Young, A. F., Russell, A., Powers, J. R. (2004). The sense of belonging to a neighbourhood: can it be measured and is it related to health and wellbeing in older women? *Social Science and Medicine, 59,* 2627-2637

Zeeni, N., Kharma, J. A., Mattar, L. (2022). Social media use impacts body image and eating behaviour in pregnant women. *Current Psychology,* https://doi.org/10.1007/s12144-021-01848-8

Zhang, W., Liu, L., Cheng, Q., Chen, Y., Xu, D., Gong, W. (2020). The relationship between images posted by new mothers on WeChat Moments and postpartum depression: cohort study. *Journal of Medical Internet Research, 22, 11*, 1-10

Zhao, X., Salehi, N., Naranjit, S., Alwaalan, S., Voida, S., Cosley, D. (2013). The many faces of facebook: experiencing social media as performance, exhibition and personal archive. *Changing Perspectives,* 1-10

## Appendices

### Appendix A: Examples of 'best fit' framework synthesis coding for Individuals of potential influence and social support type by categories of influence.

*Table 3:* Example of coding for individuals of potential influence and social support type relative to categories positive, negative, necessary, neutral or lacking/insufficient

| Study Author and Date | Individual and category of influence | Physical activity Attitude | Physical activity Behaviour | Social support code and category of influence |
|---|---|---|---|---|
| Backhausen et al., 2014 | People NEGATIVE | | 'Hence, despite expressing frustration that she had been advised to restrict her physical activity to walking and swimming instead of her usual higher intensity activities, June never considered ignoring this advice.' p.850 | Informational support [NEGATIVE/RESTRICTIVE in nature] but had a POSITIVE effect on physical activity [i.e., pregnant women chose to go against it] |
| | Husband NEGATIVE<br>Children or dependents NEGATIVE | p.179 Acceptability of the exercise: The women felt that the requirement to exercise two times a week for 12 weeks was appropriate and realistic, but not all women ended up doing so. The reasons for not attending all sessions were described as follows: lack of time, crowded swimming pools, tiredness, low back pain, vacation, and prioritising other things. "Some weeks I have been working all week from 7.00 am to 3.00 pm and having to spend two evenings every week has been too much, I think, when I have a small child and a husband who is also active with sports and social life." | | Role dependency support NEGATIVE |

| | | | | |
|---|---|---|---|---|
| | Pregnant women [exercisers] NECESSARY | P.179 'Acceptability of the exercise: The women found it flexible to be able to exercise individually but seemed ambivalent in this perception as they concurrently expressed a social benefit and an increased motivation when exercising together with other pregnant women. Some of the women even suggested that this type of exercise should be structured in teams scheduled two times a week..."It would be kind of nice to have someone to do the exercises with" | | Belonging support POSITIVE |
| | Pregnant women [exercisers] NEUTRAL<br><br>Indifferent | p.179 "I push myself harder if I exercise alone, so I have chosen to exercise mostly on my own even though it is nice to talk to others" | | Belonging support NEGATIVE<br><br>Indirectly negative by having a preference for exercising alone |
| | Exercisers [swimmers] NEGATIVE | | p.179 'Barriers': 'The experiences of trouble finding space to perform the exercise in the pool seem to be the main barrier in this intervention. It was even described as a barrier towards being motivated. One exercise in particular, MamaPendul, required a particularly large amount of space, which made it difficult to perform if the swimming pool was crowded; this was a reason for not completing the exercises. It was found uncomfortable for some women if they were the only one performing the exercises: "Sometimes you feel that you are in | Instrumental/tangible support NEGATIVE or NECESSARY<br>Belonging support POSITIVE or NECESSARY<br>Emotional support POSITIVE or NECESSARY |

| | | | | |
|---|---|---|---|---|
| | | | the way, if you are the only one doing the exercises, you got the sense that other swimmers became annoyed". The feeling of being in the way was experienced as less significant if the training was done along with other participants.' | |
| | Midwife POSITIVE<br><br>Exercise Instructor POSITIVE | p.179-80 'Satisfaction with personal contact: The introduction session was perceived as satisfactory and was found fulfilling and informative. Very few felt the need for a brush-up session. The women who participated in the brush-up sessions stated that the personal contact was important. "There are some midwives who can help guide you".<br>Table 1 [p.178]: "It was a good feeling to be able to talk to someone in person rather than writing emails." | p.180 'Feeling of support: The women found the emails to be motivating and expressed that the emails were nice to receive and that they felt supported in a positive way. Women were encouraged to return emails to the research midwife with comments on how they were doing with regard to the exercise, and several appreciated this opportunity..."There is somebody keeping an eye on you a little, which makes you pull yourself together to exercise."'<br>'The women also experienced the feeling of support as a motivating factor due to the presence of the research midwives and the coaches connected to the project.' | Informational Support POSITIVE<br>Emotional Support POSITIVE<br>Instrumental/tangible Support POSITIVE<br>Monitor/overseer support POSITIVE |
| | Pregnant women [exercisers] POSITIVE | p.180 'Some women asked for the promised Facebook group and thought that it might have had an influence on their ability to exercise together; to | | Belonging support POSITIVE |

| | | | | |
|---|---|---|---|---|
| | | encourage each other in doing exercises, to share experiences with other others supplied them with a feeling of unity.' | | |
| | Exercise Instructor POSITIVE | | p.180 'In general, the women were vey satisfied with the instructions and support they received from the coaches at the swimming pools. The coaches often addressed the women by asking if they needed help and supplied them with equipment for the exercises.' | Informational support POSITIVE<br>Emotional support POSITIVE<br>Instrumental/tangible support NEGATIVE or NECESSARY |

**Appendix B: Individuals of Influence by individual terms and group terms Table 1**

*Table 1* – Individuals inductively coded in order of most frequently coded to least frequently coded

| Influential Person | Total |
|---|---|
| Partner (Husband/Partner/Boyfriend) | 52 |
| Family | 52 |
| Health Professional | 49 |
| Baby/Foetus | 46 |
| Midwife | 37 |
| Children/dependents | 35 |
| Friends | 26 |
| Doctor | 26 |
| Information [objective advice] | 24 |
| People [General] | 22 |
| Pregnant women [exercisers] | 23 |
| Mother | 11 |
| Exercise Instructor | 11 |
| Pregnant women | 8 |
| Friends [exercisers] | 9 |
| Exercisers [to exercise with] | 9 |
| Exercisers | 8 |
| Information [Hearsay] | 8 |
| Cultural norms | 8 |
| Pregnant women [same circumstances] | 7 |
| People [support network] | 6 |
| Work Colleagues | 6 |
| Nurse | 6 |
| Information [Internet] | 4 |
| Work | 4 |
| Parents | 3 |
| People [Community] | 3 |
| Friends [who exercised during pregnancy] | 4 |
| GP | 3 |
| Physiotherapist | 3 |
| Sister | 2 |
| Aunt | 2 |
| Grandmother | 2 |
| Parents-in-law | 2 |
| People [Acquaintances] | 2 |
| People [online network/social media] | 2 |
| Yoga Instructor | 2 |
| Information [Technology] | 2 |
| Gynaecologist | 2 |
| Sister-in-law | 1 |

| | |
|---|---|
| Mother-in-law | 1 |
| Aunt-in-law | 1 |
| People [Strangers] | 1 |
| People [society] | 1 |
| Gym supervisor | 1 |
| Aerobic Instructor | 1 |
| Exercise professionals | 1 |
| Dance Instructor | 1 |
| Yoga Instructor [non-pregnancy specialism] | 1 |
| Yoga Instructor [pregnancy specialism] | 1 |
| Lifeguard | 1 |
| Pilates Instructor | 1 |
| Exercisers [swimmers] | 1 |
| Information [Media] | 1 |
| Cultural Expert | 1 |
| Dietician | 1 |
| Nutritionist | 1 |

**Appendix C: Individuals of Influence by category of influence Table 2**

*Table 2* – A table used to chart inductively coded individuals, relative to categories of influence, into deductively coded groups of individuals

| | Influential Person | Positive | | Negative | | Neutral | | Necessary | | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | A | B | A | B | A | B | |
| **Partner** | Husband | | 10 | 2 | 16 | | | | 3 | **31** |
| | Partner | 2 | 4 | | 2 | | | 5 | 4 | **17** |
| | Boyfriend | 1 | 3 | | | | | | | **4** |
| **Dependents** | Baby/Foetus | 16 | 7 | 8 | 15 | | | | | **46** |
| | Children/dependents | 2 | 8 | 6 | 17 | | | 2 | | **35** |
| **Family** | Family | 5 | 10 | 11 | 19 | | | 4 | 3 | **52** |
| | Mother | 2 | 3 | | 4 | | | | 2 | **11** |
| | Parents | | 2 | | | | | | 1 | **3** |
| | Sister | | 1 | | 1 | | | | | **2** |
| | Aunt | | 1 | 1 | | | | | | **2** |
| | Grandmother | | 1 | 1 | | | | | | **2** |
| **Family in-law** | Parents-in-law | | | | 2 | | | | | **2** |
| | Sister-in-law | | | | 1 | | | | | **1** |
| | Mother-in-law | | | | 1 | | | | | **1** |
| | Aunt-in-law | | 1 | | | | | | | **1** |
| **People** | People | 2 | 4 | 5 | 7 | | | | 4 | **22** |
| | People [support network] | | | | 1 | 1 | 1 | 2 | 1 | **6** |
| | People [Community] | | | | 1 | | | 2 | | **3** |
| | People [Acquaintances] | | | 1 | 1 | | | | | **2** |
| | People [online network/social media] | | | | | | | 2 | | **2** |
| | People [Strangers] | | | | 1 | | | | | **1** |
| | People [society] | | | 1 | | | | | | **1** |
| **Gyms & Exercise Professionals** | Exercise Instructor | 1 | 4 | | 1 | 1 | 1 | 2 | 1 | **11** |
| | Exercisers | | | 3 | 5 | | | | | **8** |
| | Yoga Instructor | | 1 | | | | | 1 | | **2** |
| | Gym supervisor | | | | | | | 1 | | **1** |
| | Aerobic Instructor | | | | | | | 1 | | **1** |
| | Exercise professionals | | | | | | | | 1 | **1** |
| | Dance Instructor | | | | | | | 1 | | **1** |
| | Yoga Instructor [non-pregnancy specialism] | | | 1 | | | | | | **1** |
| | Yoga Instructor [pregnancy specialism] | 1 | | | | | | | | **1** |
| | Lifeguard | | | | 1 | | | | | **1** |
| | Pilates Instructor | | | | | | | 1 | | **1** |
| | Exerciser [swimmers] | | | | 1 | | | | | **1** |
| **Friends** | Friends | 2 | 5 | 4 | 8 | 1 | | 4 | 2 | **26** |
| | Friends [who exercised during pregnancy] | | 2 | 1 | 1 | | | | | **4** |
| **Exercise Companion** | Pregnant women [exercisers] | 8 | 3 | | 2 | 1 | | 4 | 5 | **23** |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Friends [exercisers] | 2 | 2 | | | | | 2 | 3 | **9** |
| | Exercisers [to exercise with] | 2 | 2 | | | | | 1 | 4 | **9** |
| **Information sources** | Information [objective advice] | 4 | 2 | 1 | 4 | | | 7 | 6 | **24** |
| | Information [Hearsay] | 2 | | 4 | 2 | | | | | **8** |
| | Information [Internet] | | | | | 3 | | 1 | | **4** |
| | Information [Technology] | | 1 | | 1 | | | | | **2** |
| | Information [Media] | | | | 1 | | | | | **1** |
| **Work and Colleagues** | Work Colleagues | | | 4 | 2 | | | | | **6** |
| | Work | | | | 4 | | | | | **4** |
| **Pregnant women** | Pregnant women | 3 | | 2 | | 0 | | 3 | | **8** |
| | Pregnant women [same circumstances] | 2 | 3 | 1 | | | | | 1 | **7** |
| **Culture** | Cultural norms | | | 1 | 4 | | | 3 | | **8** |
| | Cultural Expert | | | | | | | 1 | | **1** |
| **Health Professionals** | Health Professional | 6 | 6 | 3 | 5 | 8 | 12 | 4 | 5 | **49** |
| | Midwife | 9 | 2 | 4 | 2 | 5 | 4 | 8 | 3 | **37** |
| | Doctor | 3 | 7 | | 1 | 6 | 4 | 2 | 3 | **26** |
| | Nurse | 1 | 1 | 1 | 3 | | | | | **6** |
| | GP | | 1 | | | 1 | | | 1 | **3** |
| | Physiotherapist | | 2 | | | | | 1 | | **3** |
| | Gynaecologist | | | | | | 1 | | 1 | **2** |
| | Dietician | | | | | | | | 1 | **1** |
| | Nutritionist | | 1 | | | | | | | **1** |

**Appendix D: Social Support Results by categories of influence 'necessary' and 'insufficient/lacking'**

## Informational support

### Necessary

Two dimensions described the informational support pregnant women wanted from experts, including health and exercise professionals.

*Table D1: Necessary informational support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) The function of informational support | [i] To be guided by health professionals, [ii] Given access to information resources, [iii] Acquire a detailed understanding of physical activity |
| (2) The nature/content of the information | [i] Easy to understand, [ii] Unambiguous, [iii] Tailored to and suitable for pregnant women, [iv] Focused on the safety of physical activity |

**(1) The function of informational support** included the requisite needs of [i] *to be guided by health professionals*, [ii] *given access to information resources* and [iii] *to acquire a detailed understanding of physical activity*. **(2) The nature/content of the information** described faciliatory properties of informational support: information which was [i] *easy to understand*, [ii] *unambiguous*, [iii] *tailored to and suitable for pregnant women* and [iv] *focused on the safety of physical activity*.

### Insufficient/Lacking

Three dimensions defined the informational support, which was insufficient/lacking towards antenatal physical activity.

*Table D2: Lacking/insufficient informational support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Physical activity is not talked about | [i] Lack of direct instructions, [ii] Lack of guidance from health professionals |
| (2) People are left not knowing | [i] Deficits in knowledge amongst pregnant women |
| (3) All round deficits in information | [i] Unclear, [ii] Not specific enough on 'how' and 'what' physical activity is safe and appropriate, [iii] No detailed explanation on 'why' or 'what for' |

**(1) Physical activity is *not talked about*** (particularly by health professionals). For example: [i] *lack of direct instructions* from objective information sources as well as [ii] *lack of guidance from health professionals*, such as *"Never got told"* or *"No one gave me any advice"*. This lack of *direct instructions* about physical activity was numerously attributed to deficits in informational discourse with health professionals, suggesting an expectation of health professionals to lead conversations on

antenatal physical activity. A deficit in conversation translates to a deficit in guidance: *"the Healthcare Provider does not guide us very well. They hurry in their duties"*.

**(2) People are left *not knowing*** about antenatal physical activity due to [i] *deficits in knowledge amongst pregnant women* and [ii] *health professionals* [demonstrating] *confusion and hesitation* concerning antenatal physical activity advice. Many studies showed that pregnant women were aware of their *deficits in knowledge* and made this clear through express statements: *"I really don't know what exercises are safe to do"*, *"I don't know anything about physical activity"* and *"I don't know whether I can still go to the gym"*. This *'lack of personal knowledge'* coincided with some pregnant women's perceptions that even health professionals "did not know very much". Health professionals demonstrated 'insufficient knowledge', "different opinions" amongst themselves or even seemingly *'out-of-date'* information, leading to "*confusion about whose advice to follow"*. Some pregnant women speculated that health professionals' knowledge deficits were the reasons underlying them being '*hesitant'* or "scared" to promote physical activity for fear that *"complications [ensued] because of it"*.

**(3) All round *deficits in information,*** particularly amongst health and exercise professionals were coded. Themes included the information being [i] *unclear*, [ii] *not specific enough on 'how' and 'what'* physical activity is safe and appropriate, as well as experiencing [iii] *no detailed explanation on 'why' and 'what for'* during discussions with professionals. Also perceiving that [iv] *information* is *not enough on its own* to promote or enable physical activity. Information that was considered *'not specific enough'*, included a lack of *'specific information about how to…exercise during pregnancy'* or about the types of exercises, the duration and 'intensity' of exercises and the amount of exercise that was considered 'safe to perform' during pregnancy. This information deficit was often attributed to health professionals, such as *"[The doctor] didn't give me no examples"* or *'Health professionals often failed to provide…the types and frequency of exercise that would be safe to perform'*. It was also coded where the 'little advice that was received', *lacked the detailed explanation* that pregnant women required: *'the advice about exercise from the GP and midwife was very brief'*. Insufficient detail pertained to pregnant women receiving information from health professionals which failed to explain *"why it would be good"* to be active: *"the doctors don't tell you exactly why"*.

In some cases, pregnant women expressed that information was simply *not enough on its own* to motivate them into physical activity even if they had a positive intention to do so: *'it was evident that personal desire and advice alone were not sufficient to promote health behaviours'*. This 'lack of motivation' was somewhat linked to 'insufficient information', suggesting a deficit in one form of support may also be compounded by a deficit in another pertaining to motivation.

## Belonging support

**Necessary**

Belonging support that was necessary for physical activity was identified in two dimensions.

*Table D3: Necessary belonging support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Structured group physical activity | [i] An exercise companion, [ii] A support network to build friendships, [iii] A club or community of [namely pregnant women] exercisers |
| (2) Sharing a group identity | [i] A culture in common, [ii] Similarity, strength and safety in numbers, [iii] Modelling – identifying with others |

**(1) Structured group physical activity,** which included having [i] *an exercise companion,* or to establish [ii] *a support network to build friendships,* or [iii] *a club or community of [namely pregnant women] exercisers*. An *exercise 'companion'* or having *"somebody"* to attend an exercise class with was an important feature of structured group activity to prevent feeling *'embarrassed'* or lonely: *"Who wants to go to the gym alone?"* . *Group physical activity* was also perceived to be a means to *'establish a support network'*, to *build friendships* (*"you can find new friends in the group"*), *'to share experiences'* and generate a *'feeling of unity'* through an established *'club'* or *'community'*. In order to support such an established community of exercisers, a suggestion was made to set-up a social media forum to engage with other pregnant women exercisers, thereby establishing a more pervasive and accessible digital *community of exercisers.*

**(2) Sharing a group identity** through physical activity with family, friends and other pregnant women exercisers was also important. Pregnant women perceived themselves to be more likely to engage in physical activity, if it belonged to or was entrenched in their culture. Themes included sharing: [i] *a culture in common*, with the behaviour of antenatal physical activity. Pregnant women also wished to engage in physical activity with other pregnant women exercisers in order to benefit from the [ii] *similarity, strength and safety in numbers*, one would obtain from belonging to this group. Also, the necessity for [iii] *modelling – identifying with others* during antenatal physical activity, particularly pregnant women exercisers.

[i] *Sharing a culture* for antenatal physical activity was best evidenced in one study exploring the design of physical activity for an ethnic minority group of Maori pregnant women. This comprised having a physical activity group programme that was defined by and tailored to the cultural sensibilities of the Maori pregnant women: *'[the] benefits of a group-based programme…participants expressed a strong desire for the programme to incorporate a focus on being Maori, Maori traditions*

*and connecting with ancestral knowledge'*. This suggests that family members could be important as they are likely to *share a culture in common.*

[ii] Although some pregnant women expressly suggested that *'friends and family'* taking part in physical activity would serve as an influence, moreover *a membership of pregnant women* or *"pregnant ladies coming together"* was requested most often. A *group identity* during exercise was intimated to be more achievable amongst pregnant women because they are going through a *'similar process'* or *"in the same situation, they can identify with each other"*. Indeed, the *'club'* or *'the desire for group exercise with other pregnant women'* appeared to centre on group identity by establishing confidence against the *'self-consciousness and insecurity that many women felt when exercising alone'*. Exercising with other pregnant women was described as *safer* through *strength in numbers*: *"maybe if there was a way of doing exercise together it may be safe for us. It is not safe out there for walking"*. It also meant that the tailored content and type of exercises are *safer*: *"Having antenatal classes in my neighbourhood, that would be awesome…Because they focus more on pregnant women so I'll feel much safer"*. *Strength in numbers* therefore was framed by a *sense of safety*, because of the notion that all women *shared a similar experience.*

[iii] Interestingly, in opposition to positive belonging support, which demonstrated the positive influence of *modelling* and following the physical activity behaviour of exercise professionals and pregnant women exercisers, belonging support coded as necessary for physical activity suggested that modelling of family, friends as well as pregnant women exercisers was an important influence. One study in particular, identified that pregnant women using a Wii Fit to practice physical activity at home suggested that a *"pregnancy setting…where the Mii character was actually pregnant with you would be great"*, which suggests that pregnant women perceive an exercise companion, group or even a virtual representative of another pregnant women as a necessity to their physical activity during pregnancy. The need for other pregnant women to engage in physical activity suggests the potential for *modelling behaviour*, as pregnant women may be motivated by *identifying their experiences and themselves in other pregnant women.*

**4.3.b(iv) Insufficient/lacking**

Belonging support that was coded as insufficient/lacking concerning physical activity was themed into two dimensions.

*Table D4: Insufficient/Lacking belonging support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Exercise partner | [i] A person or peers to engage with in physical activity, [ii] A role model to emulate |
| (2) Feeling alone | [i] Being the only one, [ii] Isolation from others |

Pertinently, having an **(1) Exercise partner,** such as [i] *a person or peers to engage with in physical activity* and [ii] *a role model to emulate*. This dimension thereby highlighted some pregnant women's deficits in finding pregnant women exercisers or indeed exercisers in general, as well as exercise professionals or enthusiasts to follow. The lack of an *exercise partner* was frequently mentioned as a deficit in belonging support. This took the direct form of *lacking a person to exercise with*: *"I don't have anybody to exercise with"*, which were proposed a barrier as *"It's hard to go to somewhere on your own when you don't exercise"*. Lacking an *exercise partner* also took the form of lacking a *role model to emulate* the physical activity behaviour, particularly amongst familial members and partners.

Insufficient belonging support was linked with (**2) Feeling alone**, which was themed by [i] *being the only one* [to engage in physical activity] and general [ii] *isolation* from others. Indeed, a lack of belonging support in the form of having someone to exercise with was aligned to a state of *feeling alone* and *'uncomfortable…if they were the only one performing the exercises [amongst] "other swimmers"'*. Pregnant women also described *a sense of 'isolation from other people'*, which inhibited their opportunity to engage in physical activity.

## 4.3.c Emotional support

### 4.3.c(iii) Necessary

Emotional support that was necessary for physical activity was themed into two dimensions.

*Table D5: Necessary emotional support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Being cared for consistently | [i] Encouragement, [ii] Help, [iii] Reinforcement, [iv] Personal contact |
| (2) Having a confidant | [i] Someone to talk to, [ii] Reassurance |

Similar to the dimension of being cared for as a positive form of emotional support on pregnant women's physical activity, pregnant women suggested that **(1) Being cared for consistently** would emotionally support them to engage in physical activity. Again, this dimension mirrored the themes highlighted under the positive category, with pregnant women perceiving [i] *encouragement*, [ii] *help*, [iii] *reinforcement* and [iv] *personal contact* as necessary for physical activity.

[i] Pregnant women identified necessary people who would be good sources of emotional support in the form of *encouragement* including: health professionals, such as a *'midwife that would encourage them to accomplish their goals'*, their partner: *"I just get unmotivated because if he's not there [saying]: 'Babe, do it again, do it again'…I'm not going to do it for myself"*, and exercise companions:

*"I think in all honesty if there was somebody with me, like as in, 'Come on now, Wednesday at seven we are going to the gym' or knocking on your door and 'we are going for the walk' I wouldn't bail"*. In particular, the need for encouragement from an *'exercise companion'* was assigned to pregnant women exercisers in both face-to-face: *'Organised exercise classes specifically designed for pregnant women…group exercise'*) and virtual forms: *'asked for the promised Facebook group and thought it might have had an influence on their ability to exercise together, to encourage each other in doing exercises'*.

[ii] Interestingly, the offer or provision of *help* from others was not assigned to a specific individual or group. Simple, generalised statements such as a *'need for support…support from others"*, *'help from others'* and *'women most commonly stated that social support would help them exercise'* manifested a pervasive need for others to emotionally support their perceived vulnerability.

[iii] *Reinforcement* pertained to the establishment of a broader *'social support [network] from family, friends and partners'*, *'pregnant peers'* or other exercisers to support exercise. Indeed, *Reinforcement* comprised being surrounded by a supportive group, such as family *"I like them to be beside me"* and other pregnant women exercisers: *"like a support system"*. *Reinforcement* others' belief in pregnant women's ability to accomplish physical activity *'goals'*, including health professionals: *'desired a midwife…that would demonstrate her belief in them'* and *'supportive partner[s]'*. For a group of Maori pregnant women, it was suggested physical activity programmes be *'delivered by Maori…facilitators'*; as their *'sensitive'* and *'non-judgemental approach'* towards culture would *reinforce* engagement in physical activity. Thus, physical activity programmes are emotionally supportive if they *reinforce* participant's culture.

[iv] *Personal contact* from health professionals, included an *'individual approach'* to physical activity counselling: *"I think if I had just received something in the post saying: 'You've been invited to' I probably wouldn't have done anything, but because of the way she's so friendly"*. Personal contact with health professionals also perceived as facilitated where background stories were provided: *'women felt that the midwives case stories helped them appreciate their professional position and stopped them feeling that they are "…on your back"'*.

The **being cared for consistently** dimension required these forms of emotional support to be consistent. For example, *help* preceded regular exercise: *'women most commonly stated that social support would help them exercise regularly during pregnancy'*. *Encouragement* also needed to be constant, with encouragers being both present and repetitive: *"if he's [my partner] not there [saying], 'Babe, do it again, do it again'"*. In addition, *reinforcement* needed to also be continuous in order for

pregnant women to feel **care for consistently**: *'the importance of and continuity of social support from their spouses, family and friends, pregnant peers when engaging in physical activity'*.

However, unlike the experience of emotional support placating barriers to physical activity, pregnant women seemed to suggest that **(2) Having a confidant,** in whom they could trust would support their physical activity; this included receiving counsel and comfort from health professionals, family and friends in the form of [i] *someone to talk to* and for that person to be a source of [ii] *reassurance* concerning physical activity, particularly from health professionals to alleviate worry*: 'women questioned the type of physical activity they could do safely and wanted more reassurance from health professionals before embarking on anything new'*. In addition, *having someone to talk to*, included family *"not for help and assistance, but for talking"* and also amongst pregnant women in *'a yoga class to talk and develop "relationships with people"'*.

#### 4.3.c(iv) Insufficient/lacking

Emotional support that was insufficient/lacking towards physical activity was themed into three dimensions.

*Table D6: Insufficient/lacking emotional support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Lacking encouragement | [i] Support network of motivators, [ii] Family and friends |
| (2) Absence of a support base | [i] From friends, family, [ii] Someone to talk to |
| (3) Lacking genuine care and understanding | [i] Feeling neglected, [ii] Counselling, [iii] Compassion from health professionals, [iv] Awareness and understanding from others |

**(1) Lacking encouragement** from a [i] *support network of motivators* and particularly [ii] *family and friends*. For example: *"I don't really have any people that motivate me"* and *"others' don't encourage me"*. **(2) Absence of a support base** from [i] *friends, family* namely, which included having [ii] *someone to talk to* whilst exercising: *"It is hard to be outside without having anyone to talk to"*.

**(3) Lacking genuine care and understanding** from others concerning their physical activity, included [i] *feeling neglected*, lacking [ii] *counselling* and [iii] *compassion from health professionals* in particular, as well as lacking [iv] *awareness and understanding from others*. This was expressed through *'feelings of being neglected as the result of non-existing counselling on physical activity'* as well as receiving a lack of *compassion* from health professionals: *'[the nurses] they're not helpful…They don't seem to care that much so I wouldn't trust someone who doesn't care about you"*. Pregnant women also described family, friends and work colleagues, who *'demonstrated their lack of understanding about exercising during pregnancy'*; this also included health professionals failing to

*"understand"* the pregnant woman as an individual to negotiate a plan for physical activity in an emotionally supportive way (e.g., her experiences of pregnancy, what she has learned and her cultural sensibilities.

**Role support**

**4.3.d(iv) Necessary**

Role support that was necessary for physical activity was coded into two dimensions, which defined the feedback or sense of relationship pregnant women had with their dependents, which allowed them to engage in physical activity in a way that supported their maternal or caregiver role.

*Table D7: Necessary role support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Baby's health and safety | [i] Baby's health is a motivator, [ii] Knowing exercise is good for baby |
| (2) Exercising with my other children | [i] At exercise class, [ii] At home |

Being assured of **(1) Baby's health and safety** before engaging in physical activity, included [i] *baby's health is a motivator,* [ii] *knowing exercise is good for baby*, and [iii] *knowing exercise is safe for baby*. [i] Pregnant women described how believing that physical activity would benefit their *baby's health* was a necessary *motivating factor* which enabled them to engage in physical activity: *"I'll just suck it up and do what I have to do just to have a healthy baby"*. Therefore, [i] *knowing exercise is good* and [ii] *safe for baby* was proposed as a necessary source of informational support underpinning role support enabling physical activity: *"if someone had said to me…it will potentially help your baby in some way that would definitely be a motivating factor"*. For example, one pregnant woman explained: *"One of the most important things for pregnant women is the wellbeing of the baby, so if exercising is good for the baby I believe that pregnant women will exercise"*. Furthermore, information which enabled pregnant women to understand *'why physical activity was important for their pregnancy, especially for the baby…was a strong motivator for them to be physically active'*. Indeed, information which conveyed the *safety* of exercise tapped into this role dependency support need. For example, pregnant women wanted this information for *"peace of mind"* to alleviate *'fear that the wrong exercise could harm one's baby…[which] were accompanied by the desire to be informed about what is safe'*. This fear of bringing *"harm" to the baby* through exercise, illustrates the influence of the pervasive need of role support, which compels pregnant women to examine whether exercising is *safe*: *'before they could start any physical activity program to ensure that they were safe enough to protect themselves and the baby'*. The need for reassurance to manage role dependency seemed to be obtainable from information provided by health professionals, such as *"If doctor says I can exercise then I will exercise"*. Thus, in maintaining a positive perspective of physical activity as conducive to their maternal role, pregnant *women 'wanted clear, "simple" information about what type and how*

*much physical activity was safe and beneficial for their pregnancy…about improving outcomes for themselves and their babies'*.

To a lesser extent **(2) Exercising with my other children** as a form of role support necessary for engaging in physical activity was also coded, under two themes which signified the need for flexibility in exercising [i] *at exercise class* and [ii] *at home*. This related to a role support need to *exercise with their children*, such as *at home*: *'the women felt that the house-based exercises in guide 1 were realistic as their children could join in'* and in *exercise classes*: *"If you could bring like your child with you to do exercise"*. The need to bring other children to *exercise classes* is also linked to deficits in instrumental/tangible support, as exercise would therefore *'need to fit in around everything else going on in their lives'*. It also highlights pregnant women's support need to engage in physical activity whilst also maintaining their role as mother to their other children: *"if I've gotta take one of the kids somewhere to something they have then that comes first"*. This suggests that *'attending an exercise programme would be a secondary priority to family commitments'* against the need to fulfil their perceived role as mother.

## 4.3.e Instrumental/tangible support

### 4.3.e(iii) Necessary

Instrumental/tangible support necessary for physical activity was themed into two dimensions, which mirrored positive tangible support.

*Table D8: Necessary instrumental/tangible support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) The need for physical activity tools and resources | [i] Physical activity tools, [ii] Access to facilities, [iii] Financial support |
| (2) The need to be alleviated from their duties | [i] Babysitting/childminding service, [ii] Having time for physical activity |

That being **(1) The need for physical activity tools and resources,** such as [i] *physical activity tools*, [ii] *access to facilities* and [iii] *financial support* to enable a gym membership. Pregnant women described a *need for tools and resources* that directly enabled their physical activity, including exercise equipment and technology applications, especially those provided by health professionals who can facilitate *access* barriers. Additionally, *'written materials on exercise protocols or videos'* that provided *'accessible alternatives'* supporting exercise at home. Alternatively, the provision of *'affordable and accessible exercise facilities'*, such as a gym membership would be welcomed, as this would provide some *financial support* in circumstances without disposable income for gym membership.

**(2) The need to be alleviated from their duties** included [i] *babysitting/childminding services*, typically provided by families: *"To get out and exercise…that's a big issue…if you have children already and if you don't have…family support, if you don't have people that can come in for an hour or two or three to look after children you're just not free"*. Although, some pregnant women considered that this should be provided by exercise facilities: *'To increase participation, women explained that facilities had to provide childcare…"If there were more facilities out there that we can take [our kids to] and we go exercise for like a few hours"'*. Otherwise, not providing childminding services at exercise facilities could affect attendance: *'Childcare might be needed to enable mothers to attend'*. A community of exercising pregnant women could also organise a babysitting rota, which would benefit nulliparous mothers with childminding skills: *"If you do a programme you could start up a little childcare because when you rotate you're getting ready for a baby; you're gonna have to learn about it somehow or you already got kids"*. [ii] *Having time for physical activity* could be found through the alleviation of work and household duties and responsibilities (e.g., *'A demanding situation at work and older children to care for'* by partner and family.

#### 4.3.e(iv) Insufficient/lacking

Deficits in instrumental/tangible support was themed into two dimensions.

*Table D9: Insufficient/lacking instrumental/tangible support dimensions and theme*

| Dimensions | Themes |
|---|---|
| (1) Lack of tangible physical activity resources | [i] Time, transport, financial support, [ii] Spaces and places for exercise |
| (2) Lack of instrumental aid | [i]Lack of babysitting/childminding services, [ii] Family/partner otherwise occupied |

**(1) Lack of tangible physical activity resources** included [i] *time, transport, financial support* and [ii] *spaces and places for exercise*. A life filled with work commitments, caring for children or other dependents and household duties rendered pregnant women bereft of time for exercise: *"Time is not really on my side"*. This was particular for single parent and working multiparous pregnant women. Indeed, caring for other children reduced time, particularly collecting children from places: *"I've got to pick my daughter up from school. Trying to fit that in…I'll be dead by the time I got back"*, as well as finding time to *"pay attention…[to]…my children and also when my husband comes home"*. A lack of *transport,* such as being unable to drive, increased dependency on others: *"when you don't know how to drive, you rely on your husband to get you out of the house…I don't know how to drive I don't have anywhere to go…no one is available to take me"*. *Financial support* was a key deficit, i.e., being financially *'limited'* rendered physical activity a superfluous expenditure: *"[gym] is expensive, and that money you can use for your child"*. A [ii] *lack of spaces and places* to conduct physical activity,

included the gym, swimming pool, and safe community or outdoor spaces. Sparsity in spaces and places to exercise was at times framed as a lack of provision from healthcare providers.

**(2) Lack of instrumental aid** from partners and families, included a [i] *lack of babysitting/childminding services;* particularly from [ii] *family/partner [who were] otherwise occupied* in other activities. Pregnant women felt *'they could not leave the house to exercise because no one was available to watch the children'*. Pregnant women often attributed babysitting responsibilities to family and partner, which was particularly difficult for single-parent pregnant women: *"I don't have that option of saying, here honey, take the baby because he's not here"*. Pregnant women also made references to experiencing a lack of *instrumental aid* from their *family [when they were] occupied* with their own lives: *"you can't always depend on mom and grandma…because they have kids and they got other things to do. And they want to work out"*. This deficit in instrumental aid was also attributed to partners, such as having *'conflicting schedules with husbands'* or *partner's [also] being occupied* by household/caregiver tasks.

## 4.3.f Monitor/overseer support

### 4.3.f(iii) Necessary

Monitor/overseer support that was necessary for physical activity was themed into three dimensions.

*Table D10: Necessary monitor/overseer support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) Being prompted by someone | [i] The mere presence of someone, [ii] Being reminded, [iii] Updated honestly |
| (2) Expertise | [i] Expert knowledge, [ii] Ability to tailor/modify physical activity |
| (3) Surveillance by the healthcare provider | [i] Follow-up and checking in, [ii] Holding health professionals in high esteem, [iii] Making physical activity mandatory |

**(1) Being prompted by someone,** including just through [i] *the mere presence of someone* who pregnant women perceived to be *inspiring or motivating* towards their physical activity: *'the presence of an inspiring instructor and being accompanied by a friend could be motivating'*. **Prompting** also included [ii] *being reminded* by someone about their physical activity, such as by an exercise companion: *'to take a companion…so they would have someone that could remind them of the importance of exercising and how to perform the exercises'*. Pregnant women wished to be [iii] *updated honestly* about their physical activity progress, particularly by health professionals.

Having **(2) expertise** in physical activity was considered essential. Thus, those providing Monitor/overseer support must have [i] *expert knowledge* and the [ii] *ability to tailor/modify physical activity*. Naturally, pregnant women considered that exercise (and some health) professionals were

best positioned to have antenatal physical activity ***expertise*.** This was demonstrated through elicitations of *expert knowledge*, such as from conveners of antenatal exercise classes: *"I know I can do anything that they tell me to do there"*. Indeed, some pregnant women were said to demonstrate *'reluctance…to attend classes…due to uncertainties about the expertise of the trainers'*. In such cases, pregnant women preferred to attend classes vouched by other *experts* (e.g., if they were *'recommended by their midwife'*). Pregnant women also perceived that an overseeing person with necessary *expertise* would be competent in *tailoring/modifying the exercises* to pregnancy: *'another participant felt that she would be reassured because in a pregnancy-specific yoga class, the instructor would "consider that you're pregnant" and could therefore adapt the movements according to specific needs'*.

**(3) Surveillance by the healthcare provider.** Pregnant women seemed to assign the surveillance of physical activity to health professionals, requesting that surveillance behaviours on pregnant women's physical activity be built into antenatal care. Health professionals should therefore provide [i] *follow-up and checking-in*, because pregnant women are [ii] *holding health professionals in high esteem,* and thereby giving them permission in [iii] *making physical activity mandatory*. [i] Some pregnant women idealised an arrangement where health professionals could/would *follow-up and check-in* on their physical activity progress throughout their pregnancies: *"I would have liked to have had some follow up and talked about it more'*. Reporting to a health professional who would be monitoring their progress was perceived to be a means of gaining emotional support (e.g., encouragement): *'some participants desired a midwife that would encourage them to accomplish their goals and that would demonstrate her belief in them'*. It was also perceived as a means of obtaining instructions and recommendations: *"You know, present recommendations and focus on it at the appointments with the midwife"*.

[ii] The need for **surveillance from health professionals** appeared to stem from pregnant women *holding health professionals in high esteem*, regarding their ability to monitor their physical activity: *"I think if they brought something up, you know, at your local appointments or something and say like maybe you should try this. You know, then maybe I would think it was okay"*. Such a position was reinforced where a pregnant woman considered her midwife to be the exemplar of health behaviour during pregnancy: *"The midwife is like any other model. They (the midwives) become almost like a god, they are who you turn to and she should know everything about pregnancy"*. In addition, placing the midwife in an omniscient position *"like a god"* further emphasises the necessity for monitor/overseer support. By *holding health professionals in high esteem*, some pregnant women expressed a need for midwives to be *"more direct"*, to bring physical activity *"more in focus"*, *"that they should discuss it more often"* and to take active ownership over pregnant women's physical activity by

monitoring and instructing them individually: *"maybe they [midwives] should have some one-to-one sessions where we are actually told this is what we should be doing"*.

[iii] Interestingly the necessity for health professionals to make physical activity *mandatory* was frequently coded. This took the form of wanting group exercise to be *'included'* or *'incorporated'* into antenatal care by scheduling exercises classes: *'exercising together with other pregnant women. Some of the women even suggested that this type of exercise should be structured in teams and scheduled two times a week'*. The request for mandatory physical activity was strongly emphasised, such as *'formal physical activity prescriptions from antenatal care'*, and *"This is an area that has to be prioritised more, that it is incorporated (in the antenatal programme) like a natural part"*. Indeed, numerous suggestions included how antenatal clinic *'visits'* or *'appointments' 'should'* be used as a setting to facilitate the monitoring of their physical activity: *'women wished that exercise should also be discussed during subsequent antenatal visits…or at least followed up as pregnant gradually influenced the women's abilities and possibilities to be active'*. Pregnant women frequently assigned the responsibility of convening physical activity classes to health professionals, such as *'[pregnant women] preferred classes run by midwives'* or *"I want one [exercise class] run by a midwife so I know what I'm doing is OK, that it's safe"*. The need for health professionals to oversee pregnant women's physical activity also suggests a need to increase the opportunity for **health professionals to have surveillance** over pregnant women's physical activity.

**4.3.f(iv) Insufficient/lacking**

Monitor/overseer support that was insufficient/lacking concerning physical activity was themed into three dimensions, illustrating deficits in physical activity surveillance, particularly in antenatal care.

*Table D11: Insufficient/lacking monitor/overseer support dimensions and themes*

| Dimensions | Themes |
|---|---|
| (1) A lack of infrastructure | [i] Specialist physical activity expertise, [ii] Structured into antenatal care |
| (2) Lack of continuity | [i] Follow-up, [ii] Regular contact, [iii] Reminders |
| (3) Lack of ownership | [i] Focusing on or checking for physical activity, [ii] Taking overall responsibility |

**(1) A lack of infrastructure** within healthcare organisations for monitoring physical activity in antenatal care was reported by pregnant women. This included health professionals lacking the necessary [i] *specialist physical activity expertise* to monitor/oversee pregnant women's physical activity: *"most GPs are not specialised in it and therefore don't have a set answer for you, so it's just an opinion"* [538], which was associated with a lack of confidence in health professionals: *'others questioned the doctor's expertise in relation to antenatal care'*. There also appeared to be ***a lack of infrastructure*** for health professionals to monitor physical activity because it was not [ii] *structured*

*into antenatal care*: *'almost all of the study participants reported not being aware what types of physical activity they should be doing, and how much is required, could be a proxy indication that physical activity was not part and parcel of the antenatal education'*.

Without an infrastructure for monitor/overseer support, the theme concerning a **(2) Lack of continuity** emerged, including deficits in: [i] *follow-up*, [ii] *regular contact* and [iii] *reminders* particularly from health professionals. [i] Pregnant women highlighted a **lack of continuity** in the *follow-up* they received concerning their physical activity from health professionals: *"they don't say too much about it except in the initial, your first pregnancy visit"*. Indeed, health professionals were found to briefly mention physical activity in the *"first"* appointment and then choosing to prioritise other pregnancy related information thereafter: *"my doctor only mentioned physical activity exercise in my first appointment. He talked about a lot of things about pregnancy"*.

[ii] Pregnant women also experienced a *lack of regular contact* with health professionals: *'with just a few antenatal visits in early pregnancy. This was pointed out as a problem, if the women wished to be active but were in need of professional support. "…and that is probably another thing, not having that (antenatal visits) regular …you have a gap from about week 9 or 10 to week 25, when you just carry on without doing it"'*. Pregnant women further highlighted that without **continuity of** *follow-up and regular contact* they lacked an opportunity to be prompted or *reminded* by health professionals: *"you don't have that reminder or kind of pressure"*. Thus, seeing health professionals as deficient in their role of prompting pregnant women to engage in physical activity: *'healthcare workers were unlikely to provide any social pressure when it comes to participating in physical activity'*.

A **(3) Lack of ownership** over pregnant women's physical activity from health and exercise professionals, included being uncommitted to [i] *focusing on or checking for physical activity* and disregarding [ii] *taking overall responsibility* for pregnant women's physical activity. [i] Health professionals not *focusing on or checking* physical activity was expressly stated: *"there hasn't been a focus on exercise and such, but rather almost exclusively about all the values looking good"*. Indeed, physical activity was not a priority behaviour that health professionals *checked* for, which led some women to perceive the midwife as *'uninterested'* in their health and wellbeing: *'the midwife seemed satisfied as long as she checked the standardised items of her agenda. Moreover, sometimes the midwife could seem uninterested in anything other than her checklist'*. [ii] Pregnant women also described how health professionals and exercise professionals were not *taking overall responsibility for* their physical activity: *'They acknowledge that a midwife and a training instructor both had specific knowledge in their separate fields, but it was perceived that neither of them took the overall responsibility for the participants situation with respect to physical activity during pregnancy'*.

**Appendix E Study Two Participant Information Sheet**

**Pregnant women's relationships with and experiences of physical activity**

**Participant Information Sheet**

## Invitation

We would to invite you to take part in a research study.

Before you decide if you would like to participate take time to read the following information carefully and, if you wish, discuss it with others such as your family, friends or colleagues.

Please ask a member of the research team, whose contact details can be found at the end of this information sheet, if there is anything that is not clear or if you would like more information before you make your decision.

## What is the purpose of the study?

This study aims to understand pregnant women's relationships with physical activity during their pregnancy and their experiences of engaging in physical activity during their pregnancy.

## Why have I been chosen?

You are invited to take part in this study because your experiences of physical activity during pregnancy are of value to this study. You are eligible to take part in the study if:

- You are currently pregnant
- You would be interested to talk about your relationship with or experiences of engaging in physical activity during your pregnancy.
- You have a sufficient degree of spoken English to take part, which means that you are able to understand and provide written informed consent in English, as well as take part in a spoken interview in English.

## What will happen to me if I take part?

This study consists of one single interview between the participant and the principal researcher. If you would like to take part or you are interested in learning more about the study, please contact Rebecca, the principal researcher, who will explain the study in full and assess your eligibility. If you do decide to take part in the study, you will be sent a consent form, along with this information sheet, and a time, date and location of your choosing will be agreed to conduct the interview.

The interview will last approximately 1 hour and will consist of questions concerning your relationship with physical activity and your experiences of physical activity during pregnancy. The interview can be

arranged both face-to-face or remotely, such as over the telephone or online (e.g., Skype). With your consent, the interview will be audio-recorded and typed up into a transcript.

Following your interview, you will be sent a voucher for taking part in the study.

### How will the conversation during the interview be recorded and the information I provide managed?

With your permission we will audio record the interview and take notes.

The recording will be typed into a document by the Principal Research (Rebecca Livingston). This process will involve removing any information which could be used to identify individual names (e.g., names, locations etc).

Audio recordings will be destroyed as soon as the transcripts have been checked for accuracy.

We will ensure that anything you have told us that is included in the reporting of the study will be anonymous. You of course are free not to answer any questions that are asked without giving a reason.

### Do I have to take part?

**No.** It is up to you to decide whether or not you wish to take part.

If you do decide to participate, you will be asked to sign and date a consent form. You will still be free to withdraw from the study at any time without giving a reason.

If you wish to withdraw your data from the study, you must notify the research team within 14 days of your interview. After this point, your data will have been anonymised and cannot be withdrawn.

### Will my taking part in this study be kept confidential?

**Yes.** A code will be attached to all the data you provide to maintain confidentiality.

Your personal data (name and contact details) will only be used if the researchers need to contact you to arrange study visits or collect data by phone. Analysis of your data will be undertaken using coded data.

The data we collect will be stored in a secure document store (paper records) or electronically on a secure encrypted mobile device, password protected computer server or secure cloud storage device.

To ensure the quality of the research, Aston University may need to access your data to check that the data has been recorded accurately. If this is required, your personal data will be treated as confidential by the individuals accessing your data.

### What are the possible benefits of taking part?

While there are no direct benefits to you of taking part in this study, the data gained will provide an understanding of pregnant women’s relationship with and experiences of physical activity, which will inform further research in this area.

### What are the possible risks and burdens of taking part?

Participation in this study is categorised as low risk. The study consists of a single interview with the principal researcher involving a small number of questions about physical activity. Some participants may discuss topics which are of a sensitive or personal nature, and if you feel concerned about the nature of the questions at any point please feel free to raise this with the research team.

### What will happen to the results of the study?

The results of this study may be published in scientific journals and/or presented at conferences. If the results of the study are published, your identity will remain confidential.

The anonymised results may be used for research by other research teams as described in Appendix A.

A lay summary of the results of the study will be available for participants when the study has been completed and the researchers will ask if you would like to receive a copy.

Alternatively, if you would like to receive a copy of the lay summary, you can always email the research team.

### Expenses and payments

You will be able to redeem a £20 voucher for your full participation in the study and travel expenses can be reimbursed.

### Who is funding the research?

This study is being funded by Aston University.

### Who is organising this study and acting as data controller for the study?

Aston University is organising this study and acting as data controller for the study.  You can find out more about how we use your information in Appendix A.

### Who has reviewed the study?

This study was given a favourable ethical opinion by the Aston University Research Ethics Committee.

### What if I have a concern about my participation in the study?

If you have any concerns about your participation in this study, please speak to the research team and they will do their best to answer questions. Contact details can be found at the end of this information sheet.

If the research team are unable to address your concerns or you wish to make a complaint about how the study is being conducted you should contact the Aston University research Integrity Office at research_governance@aston.ac.uk or telephone 0121 204 3000.

## Research Team Contact Details

Rebecca Livingston, email: livingsr@aston.ac.uk contact number: [mobile no.

redacted] Dr Lou Atkinson email: l.atkinson1@aston.ac.uk contact number: 0121

204 4541

**Thank you for taking time to read this information sheet. If you have any questions regarding the study please don't hesitate to ask one of the research team.**

Aston University takes its obligations under data and privacy law seriously and complies with the General Data Protection Regulation ("GDPR") and the Data Protection Act 2018 ("DPA").

Aston University is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study. Aston University will process your personal data in order to register you as a participant and to manage your participation in the study. It will process your personal data on the grounds that it is necessary for the performance of a task carried out in the public interest (GDPR Article 6(1)(e). Aston University may process special categories of data about you which includes details about your health. Aston University will process this data on the grounds that it is necessary for statistical or research purposes (GDPR Article 9(2)(j)). . Aston University will keep identifiable information about you for 6 years after the study has finished.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally identifiable information possible.

You can find out more about how we use your information at www.aston.ac.uk/dataprotection or by contacting our Data Protection Officer at dp_officer@aston.ac.uk.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO).

When you agree to take part in a research study, the information about you may be provided to researchers running other research studies in this organisation and in other organisations. These organisations may be universities, NHS organisations or companies involved in health and care research in this country or abroad.

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of research, and cannot be used to contact you.

**Appendix F Study Two Consent form**

## (A discursive examination of how pregnant women navigate and manage their position on physical activity amongst the dominant discourses derived from their social environment)

## Consent Form

**Name of Chief Investigator: Rebecca Livingston**

**Please initial boxes**

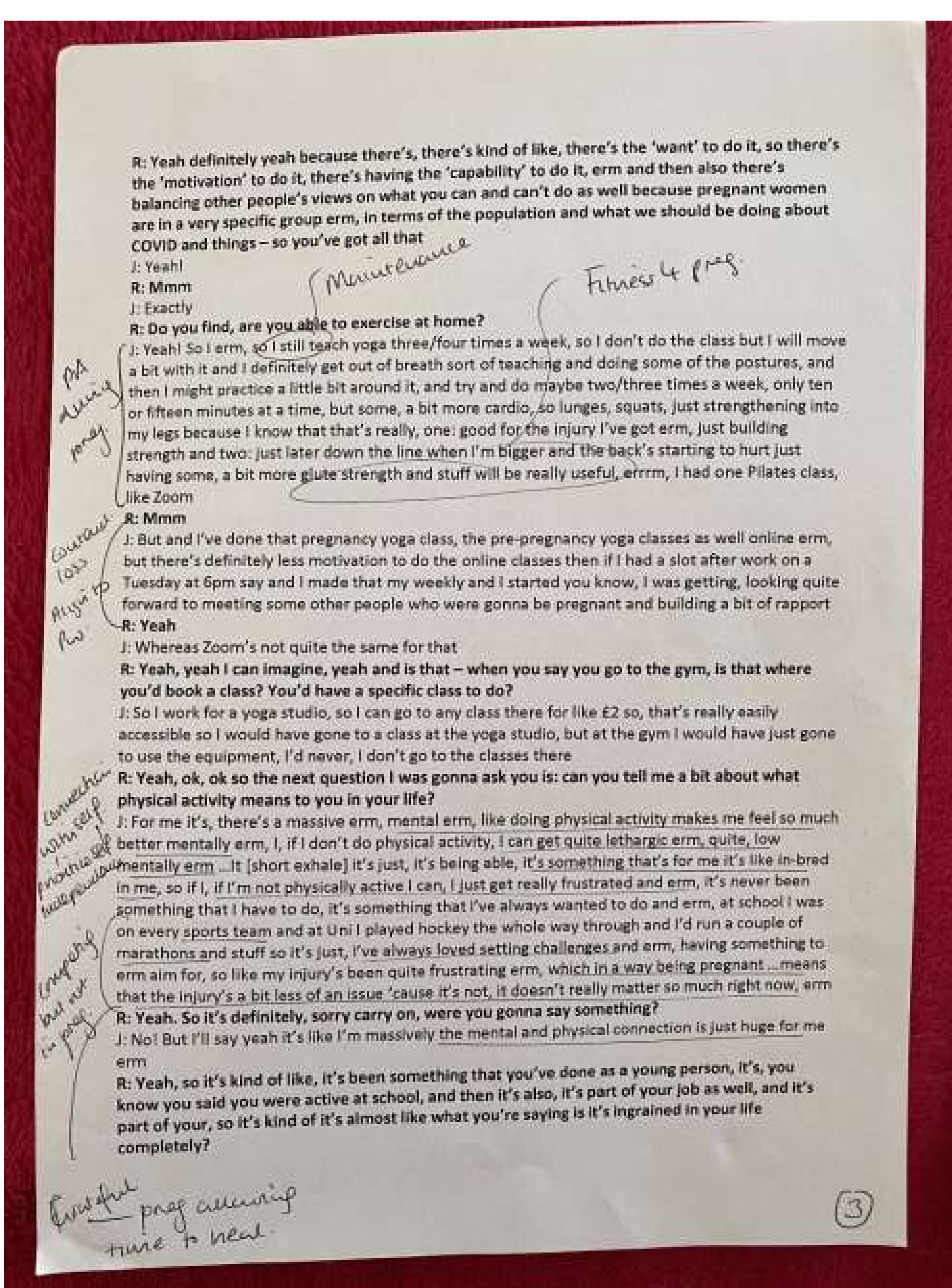
| | | |
|---|---|---|
| 1. | I confirm that I have read and understand the Participant Information Sheet (V2 11/03/2020) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. | |
| 2. | I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without my legal rights being affected. | |
| 3. | I understand that if I wish to withdraw my data, I must notify the research team within 14 days of my interview. After this point, my data will have been anonymised and cannot be withdrawn. | |
| 4. | I agree to my personal data and data relating to me collected during the study being processed as described in the Participant Information Sheet. | |
| 5. | I understand that if during the study I tell the research team something that causes them to have concerns in relation to my health and/or welfare they may need to breach my confidentiality. | |
| 6. | I agree to my interview being audio recorded and to anonymised direct quotes from me being used in publications resulting from the study. | |
| 7. | I agree to my anonymised data being used by research teams for future research. | |
| 8. | I agree to my personal data being processed for the purposes of inviting me to participate in future research projects. I understand that I may opt out of receiving these invitations at any time. | |
| 9. | I agree to take part in this study. | |

________________________ ________________ ____________________

Name of participant Date Signature

| Name of Person receiving | Date | Signature |
|---|---|---|

## Appendix G: Study Two: Examples of transcript coding. Participant Jasmine.



**R: Yeah definitely yeah because there's, there's kind of like, there's the 'want' to do it, so there's the 'motivation' to do it, there's having the 'capability' to do it, erm and then also there's balancing other people's views on what you can and can't do as well because pregnant women are in a very specific group erm, in terms of the population and what we should be doing about COVID and things – so you've got all that**

J: Yeah!

**R: Mmm**

J: Exactly

**R: Do you find, are you able to exercise at home?**

J: Yeah! So I erm, so I still teach yoga three/four times a week, so I don't do the class but I will move a bit with it and I definitely get out of breath sort of teaching and doing some of the postures, and then I might practice a little bit around it, and try and do maybe two/three times a week, only ten or fifteen minutes at a time, but some, a bit more cardio, so lunges, squats, just strengthening into my legs because I know that that's really, one: good for the injury I've got erm, just building strength and two: just later down the line when I'm bigger and the back's starting to hurt just having some, a bit more glute strength and stuff will be really useful, errrm, I had one Pilates class, like Zoom

**R: Mmm**

J: But and I've done that pregnancy yoga class, the pre-pregnancy yoga classes as well online erm, but there's definitely less motivation to do the online classes then if I had a slot after work on a Tuesday at 6pm say and I made that my weekly and I started you know, I was getting, looking quite forward to meeting some other people who were gonna be pregnant and building a bit of rapport

**R: Yeah**

J: Whereas Zoom's not quite the same for that

**R: Yeah, yeah I can imagine, yeah and is that – when you say you go to the gym, is that where you'd book a class? You'd have a specific class to do?**

J: So I work for a yoga studio, so I can go to any class there for like £2 so, that's really easily accessible so I would have gone to a class at the yoga studio, but at the gym I would have just gone to use the equipment, I'd never, I don't go to the classes there

**R: Yeah, ok, ok so the next question I was gonna ask you is: can you tell me a bit about what physical activity means to you in your life?**

J: For me it's, there's a massive erm, mental erm, like doing physical activity makes me feel so much better mentally erm, I, if I don't do physical activity, I can get quite lethargic erm, quite, low mentally erm ...It [short exhale] it's just, it's being able, it's something that's for me it's like in-bred in me, so if I, if I'm not physically active I can, I just get really frustrated and erm, it's never been something that I have to do, it's something that I've always wanted to do and erm, at school I was on every sports team and at Uni I played hockey the whole way through and I'd run a couple of marathons and stuff so it's just, I've always loved setting challenges and erm, having something to erm aim for, so like my injury's been quite frustrating erm, which in a way being pregnant ...means that the injury's a bit less of an issue 'cause it's not, it doesn't really matter so much right now, erm

**R: Yeah. So it's definitely, sorry carry on, were you gonna say something?**

J: No! But I'll say yeah it's like I'm massively the mental and physical connection is just huge for me erm

**R: Yeah, so it's kind of like, it's been something that you've done as a young person, it's, you know you said you were active at school, and then it's also, it's part of your job as well, and it's part of your, so it's kind of it's almost like what you're saying is it's ingrained in your life completely?**

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J: Yeah! Yeah I did sports science at university and then worked, I've only ever really worked in sport, in tennis and then bit of rugby, bit of football, and then now yoga, so everything I've done has always had that physical element to it yeah

**R: Yeah, so can you imagine life without it in anyway?**

J: No! [laughs]

**R: [laughs] A hundred percent – yeah**

J: I mean if you, if you had to, it depends whether you classify walking as physical exercise or not erm, you see if you can walk [slight laugh] if you had to walk out of your house and get a car and stuff I mean it would no, life would be, pretty, pretty erm dull and mentally I would, I would go into a hole I think, erm, if I could walk you know I think having this injury has shown me, there are other things in life, erm, that I can spend more time on and be more creative and maybe erm, spend a bit more time reading and things like that erm but no, I wouldn't like life without exercise

**R: Yeah, I'm just making a note, so, yeah so having this injury it's already made you have to adjust your physical activity anyway, which**

J: Yeah

**R: I don't know if you've had an injury before and you've had to go through a similar process or whether this is the first time that significantly you've had to make changes?**

J: Yeah not chronically like this not for sort of like a year and a half, I've had injuries, I've had erm, you know stuff where for a month or six weeks or I've had erm, when I was doing the marathon I got erm runner's knee and stuff like that, which is annoying erm, but nothing to the extent where it's, it starts getting really frustrating 'cause it does stop you from and the fact that whatever you do like, doing physio exercises for six months and seeing really miniscule improvements just becomes really frustrating erm. So I'm sort of hoping that more relaxing and stuff actually [slight laugh] might have an effect on it – but we'll see [slight laugh]

**R: Yeah it's like an opportunity for healing or something maybe, I don't know**

J: Yeah exactly where it, where it doesn't ...matter so much as well 'cause there's something more important happening in my body so the focus isn't just on getting back to fitness but actually I know that strength helps the injury and I know strength will help me later down the line when I've got a huge bump – yeah

**R: Yeah. Ok and the next question I was gonna ask you is: what do you think about physical activity during pregnancy in general? You know, does it have a place in pregnancy**

J: I one hundred percent think it has a place in pregnancy. My feeling is that it's been really ...misrepresented and there's a lot of fears been put into being physically active when pregnant. So, in the yoga world they say that you can't practice yoga in the first three months and as far as I'm aware there's absolutely no scientific evidence that you can't be physically active or that doing yoga could affect the foetus

**R: Yeah**

J: Erm, but it's more around the risk of because there is a high risk of miscarriage anyway in the first three months, that someone could go to a yoga class and then they miscarry and they blame the yoga class for the miscarriage, just as it might be for having a glass of wine or having a cup of coffee or whatever it is they say that you can't do erm, and I actually think that I didn't feel like I wanted to do anything anyway and, so for me it wasn't, there wasn't this erm, I should be but I shouldn't be, I want to but I shouldn't feeling, I think that it was just like I can't get off the sofa

**R: Yeah**

J: Erm, but I do feel there's this gap in evidence and studies and ...really conclusively saying, this is why you shouldn't, it's more for me, my understanding is it's more for teacher's insurance, rather than it is for the actual person and, to just tell someone who's pregnant to almost stop doing a

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physical activity for three months where you're then gonna lose a lot of strength and then for the next, after the first trimester, it's like: 'no then you can go build the strength back up again' – it doesn't make sense to me, it's like, and I don't know enough about it but, it's my, this is my sort of overarching feeling and it's more that I just think there's a little bit more education that's needed and I still even now in terms of later down the line, I don't really know and I think this comes a bit because of yoga where it's like: 'you can't do twists, you can't do inversions, you can't do this, you can't do that' and it's like suddenly it's a disability rather than it being like: 'this is what you can do and this is what's advised and this is what's like really good for you' – they worry too much about the – what you can't do

**R: Yeah so there's a focus on what you can't do rather than the type of exercises that'll actually enable and support you throughout the pregnancy**

J: Exactly! Yeah! And that puts fear into you as a pregnant person of like: 'oh god like, have I just done something? Have I just done a move that's gonna affect the baby?' Or lying on the front and you're like: 'I don't know at what stage is it not ok to lie on the front, if I'm comfortable lying on your back in bed, like: 'no, you have to lie on the side' and all these different things which sort of feed into the exercise as well that – you then have, or I have this like fear: 'what if what I'm doing affects the baby?'

**R: Mmm**

J: And that – I'd rather not do it and maybe as well because I don't have access to someone who's a PT who's done all their pregnancy courses and stuff I feel like especially now I have less knowledge of that

**R: Yeah. So it's kind of, is this stuff that you're having to research yourself a bit**

J: Yeah! I mean I've got to be honest with you I'm not really researching it that much [slight laugh] I'm not, I, there's exercises like I know that squats and lunges all those things are fine to do erm, so and strengthening the upper body and I'm almost just staying away, I know that I've been told that planks are fine, but they don't feel right to me, it just doesn't, if something doesn't quite feel right to me, I'm not doing it

**R: Yeah**

J: Erm, so I'm doing much more standing strength-based things and I'm sort of staying away completely from anything that I'm unsure about whilst I still can move and then I think when I get a bit heavier and I'm less able to move then maybe I'd start to look a bit more, but then you know I've been to other courses and stuff where they teach us like ...let, you know, your body tells you what it can and can't do and the body grows so that you physically can't do a forward-fold like it stops you – so why do you have to tell a pregnant woman that she can't do that because she will find out for herself that that's as far as she can go so

**R: Mmm**

J: Erm, I'm a bit more just listening to my body – rather than like going down that anxiety route ...really I'm part emu I think [slight laugh] – just like burying my head in the sand

**R: [laughs]**

J: But sometimes the more I read the more I'm like but: 'oh but, that says that and that says that and then I can't do that and I'd rather in some ways not do it – my friend just sent me [laughs] I'll show you this – it's hilarious

**R: [laughs]**

J: She just sent me this book, so I do have to [laughs]

**R: Oh [laughs]**

J: 'A guide for women over 35' which I can't believe someone's actually written a book on that but erm it's

**Appendix H: Study Two Results – The multiplicity of positions chapter**

## 7.5 The multiplicity of position navigation

This study, in illustrating discursive navigation of multiple positions, highlights an inherent contention that pregnant women encounter and manoeuvre in aligning themselves to one position or approach concerning their physical activity. This suggests that in order to account for their physical activity position/approach, pregnant women are constantly negotiating different discourses that validate and indeed support their position/approach.

### *7.5.a Proactive and protective positions*

The proactive stance arguably comprises the most intertwined positions and discourses, which essentially reinforce each other to solidify the stance. Indeed, it defines an aspect of the continuum that resists dominant social discourses derived from traditional views or protective-leaning positions on pregnancy behaviour, navigators of this stance must draw upon multiple discourses and positions to compound their position on antenatal physical activity. For example, on the reasoning behind why the discourse of *handling/challenging social judgement* resides under the overarching ***Retaining autonomy*** discourse and not ***Physical Activity Motivational*** discourse, this is because rejecting/challenging social discourses within the context of antenatal physical activity, predominantly seems to underpin the retention of autonomy and less about advocating an active pregnancy ethos. By rejecting the social discourses that seek to position the pregnant woman amongst the protective-leaning positions, this places her predominantly in a **Rebellious** position. However, at times, she will draw upon, particularly this part of, the ***Retaining autonomy*** discourse, in order to assume an **Advocatory** position on physical activity.

At times, pregnant women staunchly navigated proactive positions by drawing upon discourses from the **Compromised but Contented** positions when discursively moderating or tempering their stance; perhaps on occasions where they felt too **Rebellious** or too **Advocatory**. For example, an overall **Empowered** position may have jarred somewhat with a proactive stance on physical activity and motherhood. Thus, on some occasions, pregnant women navigating proactive positions, would even migrate as far as **Tentative and Conflicted** positions, when drawing upon specific discourses in attempts to dilute the staunchness perhaps of the proactive position, particularly the **Advocatory** one. This occurred with a number of pregnant women in the identical situation of inhabiting the **Advocate** position, drawing upon ***Physical activity motivational*** discourses, before inserting ***On the back-foot*** discourses, particularly the *hands-off approach*. This had the effect of, conscious or not, diluting the pregnant woman's **Advocatory** rhetoric of the ***Physical activity motivational*** discourse; as by

suggesting that such a position was not suitable for all pregnant women, they thus watered-down and made a lateral shift away a staunch **Advocatory** position. A good example is Alyssa, who typically assumes **Advocatory** or **Rebellious** positions on physical activity, yet on one occasion offered a diatribe against such **Advocates** in empathy of pregnant women who wish to not exercise. This deployment of a *hands-off approach* discourse from a **Tentative and Conflicted** position towards proactive seemingly enables her to navigate between such positions:

> *'there's a lady called [social media NAME] or something. Actually really annoys me! But it also sort of inspires me? But I think she's over-the-top. But it does make me think: 'alright I could have a much fitter pregnancy.' And, on one hand I hate that there's this disdainful attitude towards people that maybe don't do pregnancy or for whom physical activity isn't important 'cause I think: 'oh just piss off. It's not for everybody…it's preaching…but because it's important to me, I suppose I do take on board some of it'* (Alyssa).

Despite protective-leaning positions appearing to epitomise traditional cautious discourses on pregnancy and physical activity, such as *rest and relax* and those centred on risk perceptions through *liability/fear*, navigating ***Protecting body*** discourses in particular served to resist proactive positions in a manner of opposition. For example, the discursive *reject[ion of] the proactive* approach manifested a **Rebellion** of somewhat contemporary or unorthodox movement towards proactive positions, including those which carry the expectation for pregnant women to maintain a variety of gendered and feminine roles centred on ***retaining*** *bodily control*, whilst also trying to fulfil perhaps arguably one of the most arduous and life-altering roles of producing life. In this way protective-leaning positions, also serve to retain an indirect form of ownership or moderation over social expectations, rather than *bodily control* or ***autonomy***, by thus positioning pregnancy as the main *priority* over social expectation.

### *7.5.b Middle-ground positions*

Interestingly, there is some interconnectivity between the discourses underpinning middle-ground positions; with subtle yet salient differences between them, which both categorise the discourse as well as define the position. For example, the ***Optimistic*** discourse of the **Compromised but Contented** position shares some discursive similarities with the ***At a loss/adrift*** discourse of the other middle-ground position **Tentative and Conflicted**. This occurs purely on the comparison of the discursive dimensions of: *others support me* versus *needing intervention/back-up*. However, the latter discourse is drawn upon in negative situations, hence the **Tentative and Conflicted** position, whereas the supported dimension of ***Optimistic*** discourses is indicative of a resolution or drawing simply upon advice from others and not to be comforted or reinforced with the *back-up* discourse. The *supported* dimension of the ***Optimistic*** discourse suggests stability, which indicates an overall **Contented** position, whereas the *needing…back-up* discourse suggests a deficit, which fuels the ***At a***

***loss/adrift*** discourse and further cements both a **Tentative and Conflicted** position. In essence, the **Compromised but Contented** pregnant woman discursively draws upon the *support* from others to account for her physical activity with a degree of **Compromised** autonomy, whereas when **Tentative and Conflicted** pregnant woman discursively expresses a requisite need for *intervention/ack-up* in order to consider or attempt physical activity. Having to contend with some other force therefore, renders her somewhat **Conflicted** about the appropriateness of her physical activity.

The use of second person narrative in order to generalise experiences and perspectives on physical activity served as an interesting discursive devise, which manifested the contentions inherent of any position on the physical activity continuum. For example, 'frustration' towards reduced physical activity was a predominant internal contender navigated in the middle-ground positions, whereas resistance against social normative expectations of physical activity featured amongst the proactive and protective positions. In the middle-ground positions, which essentially negotiated with the prospect of making adjustments for physical activity in pregnancy, these positions drew upon second person narrative to concur that other pregnant women made similar adjustments or experienced similar conflict in order to account for their positions. Whereas, in the proactive and protective positions, resistance to social discourses concerning pregnant women's physical activity and alignment to opposing social discourses was more readily deployed, which inadvertently allowed them to avoid or cope with 'frustration'. This was achieved by rejecting opposing positions as well as assuming a second person narrative, which defined the physical activity pregnant women should and should not be doing in order to have a safe and healthy pregnancy. For example, the ***Physical activity motivational*** discourse would enable pregnant women to assume an **Advocatory** position; second person narrative was therefore drawn upon to legitimately and didactically instruct: *'you can run for as long as you feel good running for, there's, there's no problem with running, there's no particular reason why you shouldn't do exercise, it, you know, it's good for you all the way through'* (Alyssa). Whereas, in the protective position of **Fortunate** using the ***Embracing motherhood*** discourse for example, which required pregnant women to *reprioritize* their need for physical activity; using second person narrative defined this process as intuitive and natural. More so perhaps linked to motherhood, then seeking to maintain or exceed physical activity expectations during pregnancy through physical activity still *competing/achieving*: *'You get a bit paranoid about the baby and you've got to make sure that it's the main priority, and it's keeping well so, yeah I'm more cautious anyway…your like priorities completely change'* (Willow).

The switching between first- and second-person narrative as a discursive devise also highlighted the navigation from different places on the continuum. For example, second person would be used to move from the middle-ground position of **Tentative and Conflicted** towards protective positions, essentially moving away from the ***Inner battle*** discourse of *wanting to, but can't* – the metaphysical

dualistic dilemma. Indeed, the second person narrative may reflect a more socially-approved or a socially-derived discourse away from her personal narrative captured in first person:

> *'there'll be certain things that you will have to stop and I think I'll struggle once I get, well, actually I don't know, I'm saying that I might struggle, but actually I think maybe I'll be more like: 'yeah I can't do that, look at the size of me, I've got a massive bump, I can't deadlift anymore, I can't touch my toes'…it's just, I haven't been able to have that logical side about it I guess…I think I need to do both, I think I have to have the logical along with just the fact that you're having a baby so you're meant to, it's that bit that you are meant to get bigger and you are meant to stretch and things will happen'* (Briony).

In the above data extract, Briony draws upon multiple **Conflicted** position discourses, such as ***On the back-foot*** discourse of stating the *matter-of-fact* through second person categorical language: *'there'll be certain things that you will have to stop'*. Yet she then quickly admits contention with this, therefore a **Tentative and Conflicted** position through the ***At a loss/adrift*** discourse of contending with loss; the loss of previous physical activity behaviour: *'I think I'll struggle once I get, well, actually I don't know, I'm saying that I might struggle'*. Nevertheless, she attempts to discursively navigate away from this **Conflicted** position, with an air of noncommittal language such as *'might'* and *'I don't know'*, which allows her to maintain a **Tentative** position. This is all before Briony then draws upon discourses from the protective positions, starting with the ***Embracing motherhood*** discourses of forging a *maternal body connection* and *acceptance: 'but actually I think maybe I'll be more like: 'yeah I can't do that, look at the size of me, I've got a massive bump like, I can't, deadlift anymore so I can't touch my toes'.* Furthermore, Briony moves towards protective positions by drawing upon second person narrative to generalise this commonly discursively constructed conflict of pregnancy and physical activity. Concluding that because this protective-leaning response is inevitable (i.e., *'meant to'*), it would therefore be irrational to challenge it (e.g., *'logical'*). This allows Briony to navigate towards a **Fortunate** position through the ***Embracing motherhood*** discourse of *acceptance* of the bodily changes, which will render it challenging for her to engage in physical activity. However, despite the use of second person to promote a discursive acceptance of this reality, the ***Inner battle*** conflict remains existent through the implied cognitive dissonance and reframing required by the use of the words *'logical side'*; words which are drawn upon to quell any conflicting internal belief. This extract also illustrates the close proximity between **Tentative therefore Conflicted** and protective positions, particularly where the middle-ground position is the default starting point.

The middle-ground positions seemed to act as a conduit or a stepping-stone between subject positions. For example, the *needing intervention* dimension of the **Tentative therefore Compromised** discourse of ***At a loss/adrift**,* aligns pregnant women more closely to protective positions, by discursively constructing pregnant women as somewhat **Vulnerable** to both their own risky drive and behaviour of physical activity (i.e., they must be moderated by others. However, the

*needing…back-up* version of the ***At a loss/adrift*** discourse, aligns pregnant women closer to **Compromised but Contented** and perhaps even proactive positions; as pregnant women discursively deploy a narrative in favour of continuing physical activity, but reinforcement is required in order to conduct this safely and perhaps to the approval of others. As proactive positions are less interested in meeting social approval, but rather provide a discursive repertoire to challenge it; it is clear that notions of safety appear to be the point in which pregnant women discursively evince a struggle and therefore a need to pivot and negotiate their reasons for physical activity. However, notions of safety are not predominantly discursively constructed as a discourse which stands alone, they are often aligned to discourses which define a type of pregnancy experience and position, with this predominantly being ***Protecting body*** discourse of the protective positions. This absence or lack of constructing safety discursively as a predominant feature of physical activity accounting across different discourses and positions, suggests that it is a construct which pregnant women can neither define nor apply in terms of their position on physical activity; it is rather an insipid notion which meanders throughout their consciousness, but does not take centre-stage of their discourse, except as an impetus in which to discursively pivot and reconsider their position.

7.5.c *Multiplicity of positions summary*

In summary, the data reveals that in accounting for their physical activity, pregnant women would navigate multiple positions at once and draw upon conflicting discourses. For example, some pregnant women who navigated the proactive end of the continuum, such as the ***Physical activity advocate*** position, would at times navigate the middle-ground of the continuum, assuming both **Tentative and Conflicted** positions, through the ***On the back-foot discourses****,* when they perhaps felt self-conscious about their messages on their proactive discourses on physical activity and worried about social judgement. Indeed, Pregnant women who consistently aligned themselves to positions at the proactive end of the continuum would, at times, discursively navigated middle ground positions including **Compromised but Contented**, as well as **Tentative and Conflicted**, particularly to discursively downplay any potential for an excessive or reckless physical activity persona. At the same time, navigating middle ground positions was contradicted by drawing on ***Redefining Motherhood*** discourses which rejected both **Compromised** and protective positions on physical activity.

Some pregnant women who frequently accounted for their reduction or complete cessation in physical activity by navigating positions at the protective end of the continuum, would at times draw upon discourses from middle-ground positions to vocalise their internal resistance to protective positions. This suggests a degree of compliance or acquiescence in pregnant women's physical activity approaches. For example, navigating a **Fortunate** position was often assumed in order to account for

the **Conflicted** position engaged when using ***Inner battle*** and ***At a loss/adrift*** discourses like*: guilt/disappointment* and *contending with loss* discourses. Furthermore, pregnant women who believed in the importance of navigating positions at the protective end of the continuum, also drew upon **Tentative and Conflicted** position discourses to protect themselves from their own ambition to engage in physical activity, such as *needing intervention/back-up* thereby placing them in both a **Vulnerable** and **Restricted** position.

Interestingly, **Tentative and Conflicted** positions were also navigated by pregnant women who wanted to assume **Compromised but Contented** positions. This often occurred where pregnant women expressed ***Inner battle*** discourses concerning their natural motivation for physical activity and therefore engaged ***At a loss/adrift*** discourses, calling upon the *needing intervention/back-up* of others in order to continue with physical activity. This was common amongst pregnant women navigating **Compromised but Contented** positions, as these positions often relied upon a social validation component, which is evident in both ***Optimistic*** discourses, such as *understanding from others*, as well as ***Adaptation*** discourses under *alignment to pregnant women exercisers/exercise professionals*. Indeed, social validation or approval components were very common of pregnant women who navigated middle ground positions, as some pregnant women who navigated predominantly **Compromised but Contented** positions, would navigate **Tentative and Conflicted** positions under the ***On the back-foot*** discourses when *retreating from social judgement* and then needed to draw upon ***At a loss/adrift*** discourses, under *needing intervention/back-up* to counteract their **On the back-foot** discourses and continue with physical activity. Thereby bringing them closer to a **Compromised but Contented** position where external social support reinforces this position.

There is a significant nexus between the **Conflicted** position under the *contending with loss* of the ***at a loss/adrift*** discourses and the **Compromised** position of the *hoping for a return to physical activity/pre-pregnancy body* via ***Optimistic*** discourses. This occurred when pregnant women often accounted for a **Conflicted** position concerning their reduced physical activity stance through *contending with loss*, by following this with an ***Optimistic*** discourse whereby they hope to regain their physical activity, which enabled them to navigate a **Compromised** position:

> *'I still talk to them all and I see all the pictures and stuff of all the girls doing really well and things…which is nice [exhales], but obviously it's still a bit disheartening when I think: 'Aww I could be at their level now.' But, obviously I can still go back to it, do some one-to-one lessons and stuff once I've had the baby'* (Daisy).

In terms of social validation or approval, the extreme ends of the continuum proposed interesting discourses and positions. For example, the only discursive manifestation of a social validation component amongst the proactive positions, concerned opportunities for pregnant women to

discursively *challenge social judgement*, which reinforced their overarching discourse of ***Retaining autonomy*** in favour of their physical activity. In contrast, protective positions showed a degree of congruence towards social validation through the discourses of ***Protecting body*** (*rest and relax*) and ***Relinquishing control*** discourses (*obtaining permission, shouldn't/prohibited* and *maternal body is a public body*). This suggests that proactive positions discursively challenge and resist social validation, whereas protective positions discursively adopt and incorporate social validation into their discourses; with ultimately both ends of the continuum using social validation components to discursively reinforce their positions.

Interestingly, the middle-ground position of **Compromised but Contended** and the protective positions rely upon a degree of harmony with social discourses, thereby social validation, in order to inhabit and wield these positions to their benefit. The difference occurs however, where protective positions wish to be discursively steered by social discourses by responding to them with a degree of submission, such as drawing upon ***Protecting body*** and ***Relinquishing control*** discourses. Whereas the **Compromised but Contended** positions require alignment with and reinforcement from social discourses that validate their position on the physical activity continuum. Therefore, amongst both middle-ground and protective positions there is a degree of symbiosis with social discourses and social validation that is required.

Conversely, proactive positions and the middle-ground positions of **Tentative and Conflicted** rely upon an inharmonious relationship with social discourses, thereby social judgement. Where proactive positions seek to discursively draw upon and resist social judgement in order to reinforce **Rebellious, Advocatory** and **Empowered** positions, particularly through all three overarching discourses; **Tentative and Conflicted** positions are assumed where pregnant women feel unable to challenge or ignore social judgement, but yet still experience an inner discordance with this which influences their discursive accounting for physical activity. In terms, of power relations the proactive positions highlight discourses of resistance, **Compromised but Contented** assert discourses of negotiation and compatibility-seeking, **Tentative and Conflicted** reveal discourses of retreating and compliance-seeking and protective positions manifest discourses of actual-compliance, if not congruence and indeed acceptance.

**Appendix I: Study Three Participant Information Sheet**

**Pregnant women's social experiences of engaging in physical activity throughout their pregnancy**

**Participant Information Sheet**

**Invitation**

We would like to invite you to take part in a research study.

Before you decide if you would like to participate, take time to read the following information carefully and, if you wish, discuss it with others such as your family, friends or colleagues.

Please ask a member of the research team, whose contact details can be found at the end of this information sheet, if there is anything that is not clear or if you would like more information before you make your decision.

**What is the purpose of the study?**

This study aims to understand pregnant women's social experiences concerning engaging in physical activity throughout their pregnancy.

**Why have I been chosen?**

You are invited to take part in this study because your experiences of physical activity during pregnancy are of value to this study. You are eligible to take part in the study if:

- You are currently pregnant in your second trimester (between 13-27 weeks)
- You engage in physical activity for fitness and/or leisure during your pregnancy (such as aerobics, athletic training, gym, running, swimming, weight training, Yoga/Pilates etc)
- You have access to email and/or a mobile phone and WhatsApp
- You have a sufficient degree of spoken English to take part, which means that you are able to understand and provide written informed consent in English, as well as take part in a spoken interview in English.

**What will happen to me if I take part?**

We are interested in your social experiences of physical activity throughout pregnancy. This means that, if you decide to take part, we hope to learn about your social experiences of physical activity throughout your pregnancy, starting from your first interview in trimester two to your final interview in trimester three.

The study consists of three interviews with the Researcher (Rebecca Livingston), which will be spread across trimester two and trimester. Also, you will be asked to collect information about your physical activity and social experiences during your pregnancy, like a diary. To do this, you will collect and share your experiences with the Researcher through emails and/or using the WhatsApp function on your mobile phone. All emails and WhatsApp messages will be used as a physical activity diary for you to record your social experiences of physical activity.

All the diary entries you make will be shared with the Researcher (Rebecca Livingston), who will from time-to-time correspond with you about the social experiences you share in your physical activity diary. Depending on which digital platform you use for your physical activity diary, this correspondence with the Researcher will take place either by email or by WhatsApp.

If you are interested in learning more about the study, please contact the Researcher Rebecca Livingston, who will explain the study in full and assess your eligibility. You will also be sent a consent form, along with this information sheet and a physical activity diary and interview guidance sheet. After reading the information, if you would still like to take part, please contact Rebecca Livingston, the Researcher, who will agree a time and date with you to conduct the first interview. After your first interview, you will be able to start collecting and sharing information for your physical activity diary.

All interviews will be conducted either over the phone or online (e.g., Skype, Zoom, WhatsApp). Each interview will last between one to two hours depending on your social experiences since the previous interview, which you wish to discuss. You will be asked questions about your physical activity, any social experiences about your physical activity and whether this has changed throughout your pregnancy.

With your consent, all interviews will be audio-recorded and typed up into a transcript. All diary entries you make into emails and WhatsApp will also be recorded and typed up into a transcript.

All documents between the Researcher and participants will be exchanged through email. In order for you to provide written consent the following three options are available to you:

(1) You can print out the consent form, sign it and then scan the consent form
(2) You can attach an electronic signature to the consent form; or
(3) You can provide a typed signature on the consent form (if the above options are not possible).

**How will the conversation during the interview and the information I provide via email and WhatsApp be recorded and managed?**

With your permission we will audio record your interviews and take notes. We will also keep a record of the information you collect and share with the Research via email and WhatsApp.

All interview recordings and diary entries on email and WhatsApp will be typed into a document by the Researcher (Rebecca Livingston). This process will involve removing any information which could be used to identify individual names (e.g., names, locations etc).

Audio recordings on the digital audio device will be destroyed as soon as the transcripts have been checked for accuracy. This also applies to the diary entries and correspondence between you and the Researcher, which will be deleted from email accounts and WhatsApp following transcription and checks for accuracy.

We will ensure that anything you have told us that is included in the reporting of the study will be anonymous. You of course are free not to answer any questions that are asked without giving a reason.

**Do I have to take part?**

**No.** It is up to you to decide whether or not you wish to take part.

If you do decide to participate, you will be asked to sign and date a consent form. You will still be free to withdraw from the study at any time without giving a reason.

If you wish to withdraw your data from the study, you must notify the research team within 14 days of your interview. After this point, your data will have been anonymised and cannot be withdrawn.

**Will my taking part in this study be kept confidential?**

**Yes.** A code will be attached to all the data you provide to maintain confidentiality.

Your personal data (name and contact details) will only be used if the researchers need to contact you concerning your involvement in the study, such as collecting data. Analysis of your data will be undertaken using coded data.

The data we collect will be stored in a secure document store (paper records) or electronically on a secure encrypted mobile device, password protected computer server or secure cloud storage device.

To ensure the quality of the research, Aston University may need to access your data to check that the data has been recorded accurately. If this is required, your personal data will be treated as confidential by the individuals accessing your data.

**What are the possible benefits of taking part?**

While there are no direct benefits to you of taking part in this study, the data gained will provide an understanding of pregnant women's social experiences of physical activity, which will inform further research in this area.

**What are the possible risks and burdens of taking part?**

Participation in this study is categorised as low risk.
The study consists of three interviews and sharing information with the researcher. All questions and information you are asked to provide will be about your social experiences of physical activity during pregnancy. However, some participants may discuss topics which are of a sensitive or personal nature, and if you feel concerned about the nature of the questions at any point please feel free to raise this with the research team.

**What will happen to the results of the study?**
The results of this study may be published in scientific journals and/or presented at conferences. If the results of the study are published, your identity will remain confidential. The anonymised results may be used for research by other research teams as described in Appendix A.
A lay summary of the results of the study will be available for participants when the study has been completed and the researchers will ask if you would like to receive a copy. Alternatively, if you would like to receive a copy of the lay summary, you can always email the research team.
**Expenses and payments**

You will be given a £20 love2shop voucher after your first interview. You will also receive a gift for you and your new baby after your third interview, as a thank you for your full participation in the study. In light of COVID-19 (coronavirus), this voucher and gift will be sent out to you in the post at a date where it is considered safe and appropriate to do so.
**Who is funding the research?**
This study is being funded by Aston University.

**Who is organising this study and acting as data controller for the study?**

Aston University is organising this study and acting as data controller for the study. You can find out more about how we use your information in Appendix A.
**Who has reviewed the study?**

This study was given a favourable ethical opinion by the Aston University Research Ethics Committee.

**What if I have a concern about my participation in the study?**
If you have any concerns about your participation in this study, please speak to the research team and they will do their best to answer questions. Contact details can be found at the end of this information sheet.
If the research team are unable to address your concerns or you wish to make a complaint about how the study is being conducted you should contact the Aston University research Integrity Office at research_governance@aston.ac.uk or telephone 0121 204 3000.

**Research Team Contact Details**

Rebecca Livingston, email: livingsr@aston.ac.uk contact number: 07305-351-864
Dr Lou Atkinson email: l.atkinson1@aston.ac.uk contact number: 0121 204 4541

**Thank you for taking time to read this information sheet. If you have any questions regarding the study please don't hesitate to ask one of the research team.**

Aston University takes its obligations under data and privacy law seriously and complies with the General Data Protection Regulation ("GDPR") and the Data Protection Act 2018 ("DPA"). Aston University is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study. Aston University will process your personal data in order to register you as a participant and to manage your participation in the study. It will process your personal data on the grounds that it is necessary for the performance of a task carried out in the public interest (GDPR Article 6(1)(e). Aston University may process special categories of data about you which includes details about your health. Aston University will process this data on the grounds that it is necessary for statistical or research purposes (GDPR Article 9(2)(j)). . Aston University will keep identifiable information about you for 6 years after the study has finished.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally identifiable information possible.

You can find out more about how we use your information at www.aston.ac.uk/dataprotection or by contacting our Data Protection Officer at dp_officer@aston.ac.uk.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO).

When you agree to take part in a research study, the information about you may be provided to researchers running other research studies in this organisation and in other organisations. These organisations may be universities, NHS organisations or companies involved in health and care research in this country or abroad.

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of research, and cannot be used to contact you.

**Appendix J: Study Three Consent form**

**An exploration of pregnant women's social experiences concerning their physical activity throughout pregnancy**

**Consent Form**

**Name of Chief Investigator: Rebecca Livingston**

**Please initial boxes**

| | | |
|---|---|---|
| 1. | I confirm that I have read and understand the Participant Information Sheet (V1.1 24/06/2020) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. | |
| 2. | I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason and without my legal rights being affected. | |
| 3. | I understand that if I wish to withdraw my data, I must notify the research team within 14 days of my interview. After this point, my data will have been anonymised and cannot be withdrawn. | |
| 4. | I agree to my personal data and data relating to me collected during the study being processed as described in the Participant Information Sheet. | |
| 5. | I understand that if during the study I tell the research team something that causes them to have concerns in relation to my health and/or welfare they may need to breach my confidentiality. | |
| 6. | I agree to my interview, audio and written data being recorded and to anonymised direct quotes from me being used in publications resulting from the study. | |
| 7. | I agree to my anonymised data being used by research teams for future research. | |
| 8. | I agree to my personal data being processed for the purposes of inviting me to participate in future research projects. I understand that I may opt out of receiving these invitations at any time. | |
| 9. | I agree to take part in this study. | |

Name of participant     Date     Signature

| Name of Person receiving | Date | Signature |
|---|---|---|

## Appendix K: Study Three: Physical activity diary and interview guidance sheet

### Physical activity diary and interview information sheet

In this study, we are interested in your **social experiences of physical activity throughout your pregnancy**. In order to understand what these social experiences look like, we will ask you to collect data about these social experiences.

What **data** will I be recording?

Throughout the study you will collect and share data on your **social experiences of physical activity**. Ultimately, you will shape what these social experiences mean to you, but just to give you an idea, social experiences include:

1. **Social interactions**
   Social interactions can be chats or conversations you have with other people about your physical activity and/or antenatal physical activity generally. They also include looks or comments made by other people about your physical activity. Any social interaction you have about your physical activity can be recorded as social experience data.

2. **Social materials**
   Social materials can be comments or posts made by people about your physical activity and/or antenatal physical activity in general on social media. They also include adverts or stories about physical activity during pregnancy, which you may come across through social media or any other information source, such as a book/leaflet or website

How will I be recording these **social experiences**?

You can use both email and the WhatsApp function on your mobile phone to collect your **social experiences** data. You can record data in various ways:

1. **Email and/or WhatsApp Message** – You can type an email and/or type a WhatsApp message explaining the social experience. Feel free to express your views and thoughts on this experience, including if it has impacted your physical activity in any way.
2. **WhatsApp voice recording** – You can provide a voice recording of your experience on WhatsApp, as you may find that talking about the experience is more convenient than typing. Again, when doing so, please feel free to express your views and thoughts on this experience, including if it has impacted your physical activity in any way.
3. **Sharing posts through email or WhatsApp** – You can share, screenshot or upload posts of your social experiences and share these with the Researcher through email or WhatsApp. This may be useful if you come across a social media post about physical activity during pregnancy.

How **much** data will I be collecting?

You can record data as often as you like, however we ask that you record data **at least twice a month.** Also, you may from time to time receive **a message** from the Researcher for two reasons: (1) check-in and see how you are getting on with your data collection, and (2) provide guidance on the data you are collecting.

How **long** will I be collecting this data?

You can collect data and record it using email and/or the WhatsApp function on your mobile phone **from the day of your first interview until your final interview.** We will try and complete the **three interviews** throughout your participation in the study throughout your second and third trimester.

**When** will my interviews take place?

The interviews will be conducted **remotely.** This means you will take part in the interview either over the **telephone or online** using a social contact platform, such as Skype, Zoom, WhatsApp.

As this study is interested in your social experiences of physical activity throughout your pregnancy, together we will schedule the interviews **across your second and third trimester**, with roughly equal time spans.

**What** will we talk about in my interviews?

**In each interview** you will be asked some questions about **your pregnancy, your physical activity and your social experiences of physical activity**, which will include social interactions and social materials as outlined above.

You will also be asked to talk about **what these social experiences mean to you, your pregnancy and your physical activity**.

In the **second and third interview**, we can also talk about any data which you have collected on the WhatsApp function on your mobile phone, and we can also **look back on** your social experiences, your pregnancy and your physical activity and **reflect on** what these mean to you at each interview.

**Appendix L: Study Three: Pilot Study Participant Information Sheet**

**A pilot study concerning pregnant women's use of digital diaries to record their social experiences of engaging in physical activity**
**Participant Information Sheet**

## Invitation

We would like to invite you to take part in a pilot research study.

Before you decide if you would like to participate, take time to read the following information carefully and, if you wish, discuss it with others such as your family, friends or colleagues.

Please ask a member of the research team, whose contact details can be found at the end of this information sheet, if there is anything that is not clear or if you would like more information before you make your decision.

## What is the purpose of the study?

This study is a pilot study. A pilot study is a small-scale study, which is often conducted as a trial to inform a larger study. In this pilot study we are looking to see whether a digital physical activity diary using email and/or WhatsApp would be a good digital platform for a future study.

The pilot study aims to understand pregnant women's social experiences concerning engaging in physical activity throughout their pregnancy.

## Why have I been chosen?

You are invited to take part in this study because your experiences of physical activity during pregnancy are of value to this study. You are eligible to take part in the study if:

- You are currently pregnant
- You engage in physical activity for fitness and/or leisure during your pregnancy (such as aerobics, athletic training, gym, running, swimming, weight training, Yoga/Pilates etc)
- You have access to email and/or a mobile phone with WhatsApp
- You have a sufficient degree of spoken English to take part, which means that you are able to understand and provide written informed consent in English, as well as take part in a spoken interview in English.

## What will happen to me if I take part?

We are interested in your social experiences of physical activity throughout pregnancy. This means that, if you do decide to take part, we hope to learn about your experiences over the course of two weeks, followed by one single interview with the Researcher.

Over the two weeks, you will be asked to collect information about your physical activity and social experiences during your pregnancy, like a diary. To do this, you will collect and share your experiences with the Researcher through emails and/or using the WhatsApp function on your mobile phone. All emails and WhatsApp messages will be used as a physical activity diary for you to record your social experiences of physical activity.

You will be given a physical activity diary guidance sheet to help you understand how to collect information and how to share it with the Researcher either through email or through WhatsApp.

All the diary entries you make will be shared with the Researcher (Rebecca Livingston), who will, from time-to-time, correspond with you about the social experiences you share in your physical activity diary. Depending on which digital platform you use for your physical activity diary, this correspondence with the Researcher will take place either by email or by WhatsApp.

After the two weeks, you will have one interview with the Researcher, and you will be asked about your experience of using email and/or WhatsApp to create a physical activity diary. The interview will either take place over the phone or online (e.g., Skype, Zoom, WhatsApp), and should last approximately one hour.

If you are interested in learning more about the study, please contact Rebecca Livingston, the Researcher, who will explain the study in full and assess your eligibility. You will be sent a consent form, along with this information sheet and a physical activity diary guidance sheet.

After reading the information, if you would like to take part, please contact Rebecca Livingston, the Researcher, who will arrange a time and date for you to begin collecting and sharing information for your physical activity diary. Also, a provisional date will be agreed for your interview.

With your consent, all interviews will be audio-recorded and typed up into a transcript. All diary entries you make into emails and WhatsApp will also be recorded and typed up into a transcript.

All documents between the Researcher and participants will be exchanged through email. In order for you to provide written consent the following three options are available to you:

(4) You can print out the consent form, sign it and then scan the consent form
(5) You can attach an electronic signature to the consent form; or
(6) You can provide a typed signature on the consent form (if the above options are not possible).

**How will the conversation during the interview and the information I provide via email and WhatsApp be recorded and managed?**

With your permission we will audio record your interviews and take notes. We will also keep a record of the information you collect and share with the Research via email and WhatsApp.

All interview recordings and diary entries on email and WhatsApp will be typed into a document by the Researcher (Rebecca Livingston). This process will involve removing any information which could be used to identify individual names (e.g., names, locations etc).

Audio recordings on the digital audio device will be destroyed as soon as the transcripts have been checked for accuracy. This also applies to the diary entries and correspondence between you and the Researcher, which will be deleted from email accounts and WhatsApp following transcription and checks for accuracy.

We will ensure that anything you have told us that is included in the reporting of the study will be anonymous. You of course are free not to answer any questions that are asked without giving a reason.

**Do I have to take part?**

**No.** It is up to you to decide whether or not you wish to take part.

If you do decide to participate, you will be asked to sign and date a consent form. You will still be free to withdraw from the study at any time without giving a reason.

If you wish to withdraw your data from the study, you must notify the research team within 14 days of your interview. After this point, your data will have been anonymised and cannot be withdrawn.

**Will my taking part in this study be kept confidential?**

**Yes.** A code will be attached to all the data you provide to maintain confidentiality.

Your personal data (name and contact details) will only be used if the researchers need to contact you concerning your involvement in the study, such as collecting data. Analysis of your data will be undertaken using coded data.

The data we collect will be stored in a secure document store (paper records) or electronically on a secure encrypted mobile device, password protected computer server or secure cloud storage device.

To ensure the quality of the research, Aston University may need to access your data to check that the data has been recorded accurately. If this is required, your personal data will be treated as confidential by the individuals accessing your data.

**What are the possible benefits of taking part?**

While there are no direct benefits to you of taking part in this study, the data gained will provide an understanding of pregnant women's social experiences of physical activity, which will inform further research in this area.

**What are the possible risks and burdens of taking part?**

Participation in this study is categorised as low risk.

The study consists of participants collecting and sharing information with the researcher via WhatsApp. All questions and information you are asked to provide will be about your social experiences of physical activity during pregnancy. However, some participants may discuss or share topics which are of a sensitive or personal nature, and if you feel concerned about the nature of the questions at any point please feel free to raise this with the research team.

**What will happen to the results of the study?**

The results of this study may be published in scientific journals and/or presented at conferences. If the results of the study are published, your identity will remain confidential. The anonymised results may be used for research by other research teams as described in Appendix A.

A lay summary of the results of the study will be available for participants when the study has been completed and the researchers will ask if you would like to receive a copy. Alternatively, if you would like to receive a copy of the lay summary, you can always email the research team.

**Expenses and payments**

You will be given a £20 love2shop voucher as a thank you for your full participation in the study. In light of COVID-19 (coronavirus), this voucher will be sent out to you in the post at a date where it is considered safe and appropriate to do so.

**Who is funding the research?**

This study is being funded by Aston University.

**Who is organising this study and acting as data controller for the study?**

Aston University is organising this study and acting as data controller for the study. You can find out more about how we use your information in Appendix A.

**Who has reviewed the study?**

This study was given a favourable ethical opinion by the Aston University Research Ethics Committee.

**What if I have a concern about my participation in the study?**

If you have any concerns about your participation in this study, please speak to the research team and they will do their best to answer questions. Contact details can be found at the end of this information sheet.

If the research team are unable to address your concerns or you wish to make a complaint about how the study is being conducted you should contact the Aston University research Integrity Office at research_governance@aston.ac.uk or telephone 0121 204 3000.

**Research Team Contact Details**

Rebecca Livingston, email: livingsr@aston.ac.uk contact number: [mobile no. redacted]
Dr Lou Atkinson email: l.atkinson1@aston.ac.uk contact number: 0121 204 4541

**Thank you for taking time to read this information sheet. If you have any questions regarding the study please don't hesitate to ask one of the research team.**

Aston University takes its obligations under data and privacy law seriously and complies with the General Data Protection Regulation ("GDPR") and the Data Protection Act 2018 ("DPA"). Aston University is the sponsor for this study based in the United Kingdom. We will be using information from you in order to undertake this study. Aston University will process your personal data in order to register you as a participant and to manage your participation in the study. It will process your personal data on the grounds that it is necessary for the performance of a task carried out in the public interest (GDPR Article 6(1)(e). Aston University may process special categories of data about you which includes details about your health. Aston University will process this data on the grounds that it is necessary for statistical or research purposes (GDPR Article 9(2)(j)). . Aston University will keep identifiable information about you for 6 years after the study has finished.
Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally identifiable information possible.
You can find out more about how we use your information at www.aston.ac.uk/dataprotection or by contacting our Data Protection Officer at dp_officer@aston.ac.uk.
If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO).
When you agree to take part in a research study, the information about you may be provided to researchers running other research studies in this organisation and in other organisations. These organisations may be universities, NHS organisations or companies involved in health and care research in this country or abroad.
This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of research, and cannot be used to contact you.

## Appendix M: Study Three: Pilot study physical activity diary and interview guidance sheet

## Pilot Study: Physical activity diary and interview information sheet

In this study, we are interested in your **social experiences of physical activity during your pregnancy**. In order to understand what these social experiences look like, we will ask you to collect data about these social experiences **over the course of two weeks.**

What **data** will I be recording?

Over the two weeks you will record data on your **social experiences of physical activity**. Ultimately, you will shape what these social experiences mean to you, but just to give you an idea, social experiences include:

**3. Social interactions**
Social interactions can be chats or conversations you have with other people about your physical activity and/or antenatal physical activity in general. They also include looks or comments made by other people about your physical activity. Any social interaction you have about your physical activity can be recorded as social experience data.

**4. Social materials**
Social materials can be comments or posts made by people about your physical activity and/or antenatal physical activity in general on social media. They also include adverts or stories about physical activity during pregnancy, which you may come across through social media or any other information source, such as a book/leaflet or website

How will I be recording these **social experiences**?

You can use both email and the WhatsApp function on your mobile phone to collect your **social experiences** data. You can record data in various ways:

4. **Email and/or WhatsApp Message** – You can type an email and/or you can also type a WhatsApp message explaining the social experience. Feel free to express your views and thoughts on this experience, including if it has impacted your physical activity in any way.
5. **WhatsApp voice recording** – You can provide a voice recording of your experience on WhatsApp, as you may find that talking about the experience is more convenient than typing. Again, when doing so, please feel free to express your views and thoughts on this experience, including if it has impacted your physical activity in any way.
6. **Sharing posts through email or WhatsApp** – You can share, screenshot or upload posts of your social experiences and share these with the Researcher through email or WhatsApp. This may be useful if you come across a social media post about physical activity during pregnancy.

How **much** data will I be collecting?

You can record data as often as you choose, however we ask that you record data **at least twice a week.** Also, you may from time to time receive **a message** from the Researcher for two reasons: (1) check-in and

see how you are getting on with your data collection, and (2) provide guidance on the data you are collecting.

How **long** will I be collecting this data?

You will be able to collect data and record it using email and/or the WhatsApp function on your mobile phone **for two weeks**. Shortly after these two weeks, you will have an **interview** with the Researcher about the data collection process.

**When** will my interview take place?

The interview will be arranged at a time and date of your choosing and will be conducted **remotely.** This means you will take part in the interview either over the **telephone or online** using a social contact platform, such as Skype, Zoom, WhatsApp.

**What** will my interview be about?

As this study is interested in the use of the Physical Activity Diary, you will also be asked some questions about your experience of using the Physical Activity Diary, such as whether the diary format worked well for you to collect and share your experiences with the Researcher.

**Appendix N: Study Three: Pilot study interview schedule**

Pilot Study Interview schedule

**PAD feasibility**

1. Can you tell me about your experience of using email as a Physical Activity Diary?
   - Did you find it useful as a diary?
   - How have you come to that view?
   - Would you use it as a diary again – if you were to take part in another study?
   - Would you change anything about it?
   - How have you come to that view?

2. Can you tell me about your experience of using WhatsApp as a Physical Activity Diary?
   - Did you find it useful as a diary?
   - How have you come to that view?
   - Would you use it as a diary again – if you were to take part in another study?
   - Would you change anything about it?
   - How have you come to that view?

**PAD fidelity**

3. Can you tell me about your experience of using the Physical Activity Diary guidance sheet?
   - Did you find it useful?
   - Did the guidance help you collect your data?
   - Would you change anything about it?

4. In relation to the term 'social experiences of physical activity' - can you tell me whether or not you felt you understood this?
   - Did you find the term 'social experience' clear in the guidance?
   - Did you feel confident in the data you were collecting?
   - Were the directions provided in the guidance about 'social experience' clear?
   - Would you change anything about it?

5. Can you tell me about sharing social experiences with the Researcher?
   - Were you able to share or upload social materials?
   - Did you find this easy to do?
   - Did the physical activity diary guidance sheet help you to share social materials?
   - Would you change anything?

**PAD comfortability or acceptability**

Participants' views on the comfortability of the study will also be assessed; this relates to the intermittent correspondence (guidance on data) and prompts (encouraging data collection) provided by the Researcher to participants via the digital platform.

6. Can you tell me about your experience of receiving feedback from the Researcher?
   - Did you find communicating via email and/or WhatsApp helpful?
   - Did communicating via email and/or WhatsApp help you collect data on social experiences?

- How have you come to that view?
- Is there anything you would have changed or would have preferred?

7. Can you tell me about your experiences of receiving prompts from the Researcher?
   - Did the prompt help remind you to complete and share diary entries?
   - Did you find them useful?
   - How have you come to that view?
   - Is there anything you would have change or would have preferred?

8. Can you tell me your thoughts about using PAD long-term throughout your pregnancy except at a reduced rate of two entries per month (as opposed to two entries per week)?
   - Do you think you would continue to make PAD entries?
   - Would two entries per month be reasonable?

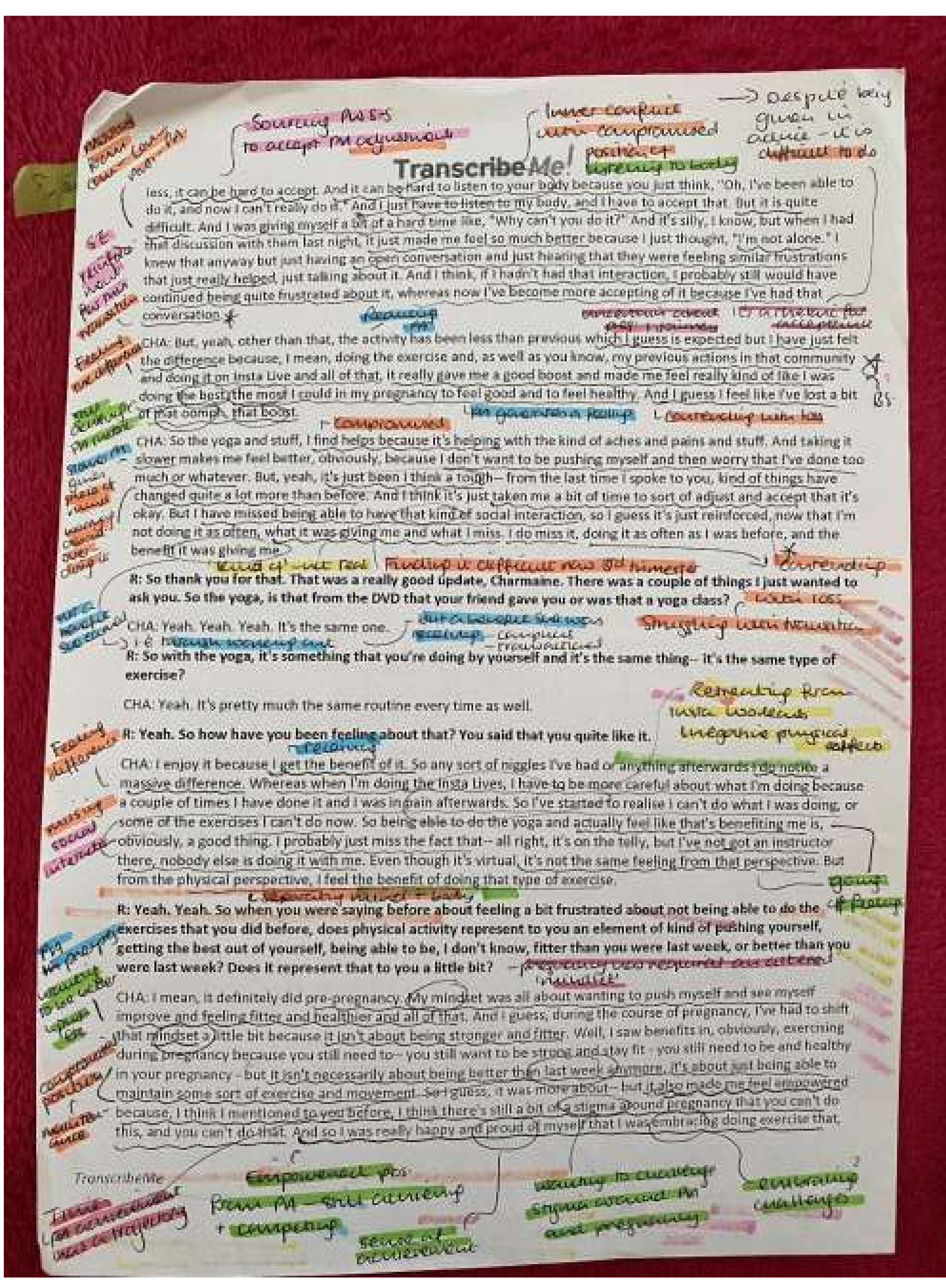
**Final thoughts**

9. Is there anything else that you would wish to add about your experience of using the physical activity diaries?
   - Would you recommend or change anything?
   - How have you come to that view?

10. Is there anything else you would wish to add about your experience of using the physical activity diary guidance sheet?
    - Would you recommend or change anything?
    - How have you come to that view?

11. Is there anything that you would like to add about your experience of receiving prompts and feedback from the Researcher?
    - Would you recommend or change anything?
    - How have you come to that view?

**Appendix O: Study Three: Examples of transcript coding. Participant Scarlett. Interview two**



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less, it can be hard to accept. And it can be hard to listen to your body because you just think, "Oh, I've been able to do it, and now I can't really do it." And I just have to listen to my body, and I have to accept that. But it is quite difficult. And I was giving myself a bit of a hard time like, "Why can't you do it?" And it's silly, I know, but when I had that discussion with them last night, it just made me feel so much better because I just thought, "I'm not alone." I knew that anyway but just having an open conversation and just hearing that they were feeling similar frustrations that just really helped, just talking about it. And I think, if I hadn't had that interaction, I probably still would have continued being quite frustrated about it, whereas now I've become more accepting of it because I've had that conversation.

CHA: But, yeah, other than that, the activity has been less than previous which I guess is expected but I have just felt the difference because, I mean, doing the exercise and, as well as you know, my previous actions in that community and doing it on Insta Live and all of that, it really gave me a good boost and made me feel really kind of like I was doing the best, the most I could in my pregnancy to feel good and to feel healthy. And I guess I feel like I've lost a bit of that oomph, that boost.

CHA: So the yoga and stuff, I find helps because it's helping with the kind of aches and pains and stuff. And taking it slower makes me feel better, obviously, because I don't want to be pushing myself and then worry that I've done too much or whatever. But, yeah, it's just been I think a tough-- from the last time I spoke to you, kind of things have changed quite a lot more than before. And I think it's just taken me a bit of time to sort of adjust and accept that it's okay. But I have missed being able to have that kind of social interaction, so I guess it's just reinforced, now that I'm not doing it as often, what it was giving me and what I miss. I do miss it, doing it as often as I was before, and the benefit it was giving me.

**R: So thank you for that. That was a really good update, Charmaine. There was a couple of things I just wanted to ask you. So the yoga, is that from the DVD that your friend gave you or was that a yoga class?**

CHA: Yeah. Yeah. Yeah. It's the same one.

**R: So with the yoga, it's something that you're doing by yourself and it's the same thing-- it's the same type of exercise?**

CHA: Yeah. It's pretty much the same routine every time as well.

**R: Yeah. So how have you been feeling about that? You said that you quite like it.**

CHA: I enjoy it because I get the benefit of it. So any sort of niggles I've had or anything afterwards I do notice a massive difference. Whereas when I'm doing the Insta Lives, I have to be more careful about what I'm doing because a couple of times I have done it and I was in pain afterwards. So I've started to realise I can't do what I was doing, or some of the exercises I can't do now. So being able to do the yoga and actually feel like that's benefiting me is, obviously, a good thing. I probably just miss the fact that-- all right, it's on the telly, but I've not got an instructor there, nobody else is doing it with me. Even though it's virtual, it's not the same feeling from that perspective. But from the physical perspective, I feel the benefit of doing that type of exercise.

**R: Yeah. Yeah. So when you were saying before about feeling a bit frustrated about not being able to do the exercises that you did before, does physical activity represent to you an element of kind of pushing yourself, getting the best out of yourself, being able to be, I don't know, fitter than you were last week, or better than you were last week? Does it represent that to you a little bit?**

CHA: I mean, it definitely did pre-pregnancy. My mindset was all about wanting to push myself and see myself improve and feeling fitter and healthier and all of that. And I guess, during the course of pregnancy, I've had to shift that mindset a little bit because it isn't about being stronger and fitter. Well, I saw benefits in, obviously, exercising during pregnancy because you still need to-- you still want to be strong and stay fit - you still need to be and healthy in your pregnancy - but it isn't necessarily about being better than last week anymore, it's about just being able to maintain some sort of exercise and movement. So I guess, it was more about-- but it also made me feel empowered because, I think I mentioned to you before, I think there's still a bit of a stigma around pregnancy that you can't do this, and you can't do that. And so I was really happy and proud of myself that I was embracing doing exercise that,

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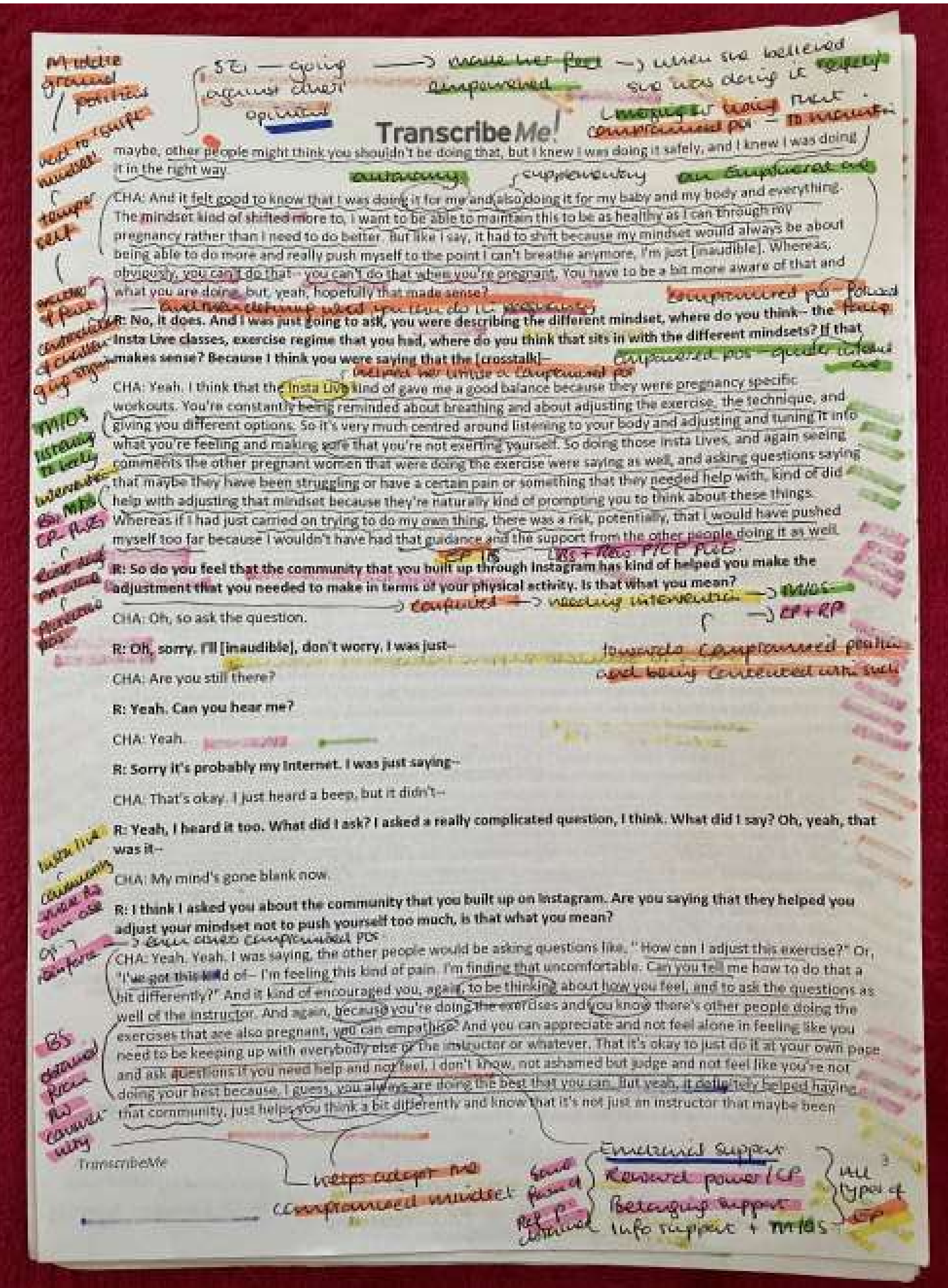

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maybe, other people might think you shouldn't be doing that, but I knew I was doing it safely, and I knew I was doing it in the right way.

CHA: And it felt good to know that I was doing it for me and also doing it for my baby and my body and everything. The mindset kind of shifted more to, I want to be able to maintain this to be as healthy as I can through my pregnancy rather than I need to do better. But like I say, it had to shift because my mindset would always be about being able to do more and really push myself to the point I can't breathe anymore, I'm just [inaudible]. Whereas, obviously, you can't do that-- you can't do that when you're pregnant. You have to be a bit more aware of that and what you are doing, but, yeah, hopefully that made sense?

**R: No, it does. And I was just going to ask, you were describing the different mindset, where do you think-- the Insta Live classes, exercise regime that you had, where do you think that sits in with the different mindsets? If that makes sense? Because I think you were saying that the [crosstalk]--**

CHA: Yeah, I think that the Insta Live kind of gave me a good balance because they were pregnancy specific workouts. You're constantly being reminded about breathing and about adjusting the exercise, the technique, and giving you different options. So it's very much centred around listening to your body and adjusting and tuning it into what you're feeling and making sure that you're not exerting yourself. So doing those Insta Lives, and again seeing comments the other pregnant women that were doing the exercise were saying as well, and asking questions saying that maybe they have been struggling or have a certain pain or something that they needed help with, kind of did help with adjusting that mindset because they're naturally kind of prompting you to think about these things. Whereas if I had just carried on trying to do my own thing, there was a risk, potentially, that I would have pushed myself too far because I wouldn't have had that guidance and the support from the other people doing it as well.

**R: So do you feel that the community that you built up through Instagram has kind of helped you make the adjustment that you needed to make in terms of your physical activity. Is that what you mean?**

CHA: Oh, so ask the question.

**R: Oh, sorry. I'll [inaudible], don't worry. I was just--**

CHA: Are you still there?

**R: Yeah. Can you hear me?**

CHA: Yeah.

**R: Sorry it's probably my Internet. I was just saying--**

CHA: That's okay. I just heard a beep, but it didn't--

**R: Yeah, I heard it too. What did I ask? I asked a really complicated question, I think. What did I say? Oh, yeah, that was it--**

CHA: My mind's gone blank now.

**R: I think I asked you about the community that you built up on Instagram. Are you saying that they helped you adjust your mindset not to push yourself too much, is that what you mean?**

CHA: Yeah. Yeah. I was saying, the other people would be asking questions like, "How can I adjust this exercise?" Or, "I've got this kind of-- I'm feeling this kind of pain. I'm finding that uncomfortable. Can you tell me how to do that a bit differently?" And it kind of encouraged you, again, to be thinking about how you feel, and to ask the questions as well of the instructor. And again, because you're doing the exercises and you know there's other people doing the exercises that are also pregnant, you can empathise. And you can appreciate and not feel alone in feeling like you need to be keeping up with everybody else or the instructor or whatever. That it's okay to just do it at your own pace and ask questions if you need help and not feel, I don't know, not ashamed but judge and not feel like you're not doing your best because, I guess, you always are doing the best that you can. But yeah, it definitely helped having that community, just helps you think a bit differently and know that it's not just an instructor that maybe been

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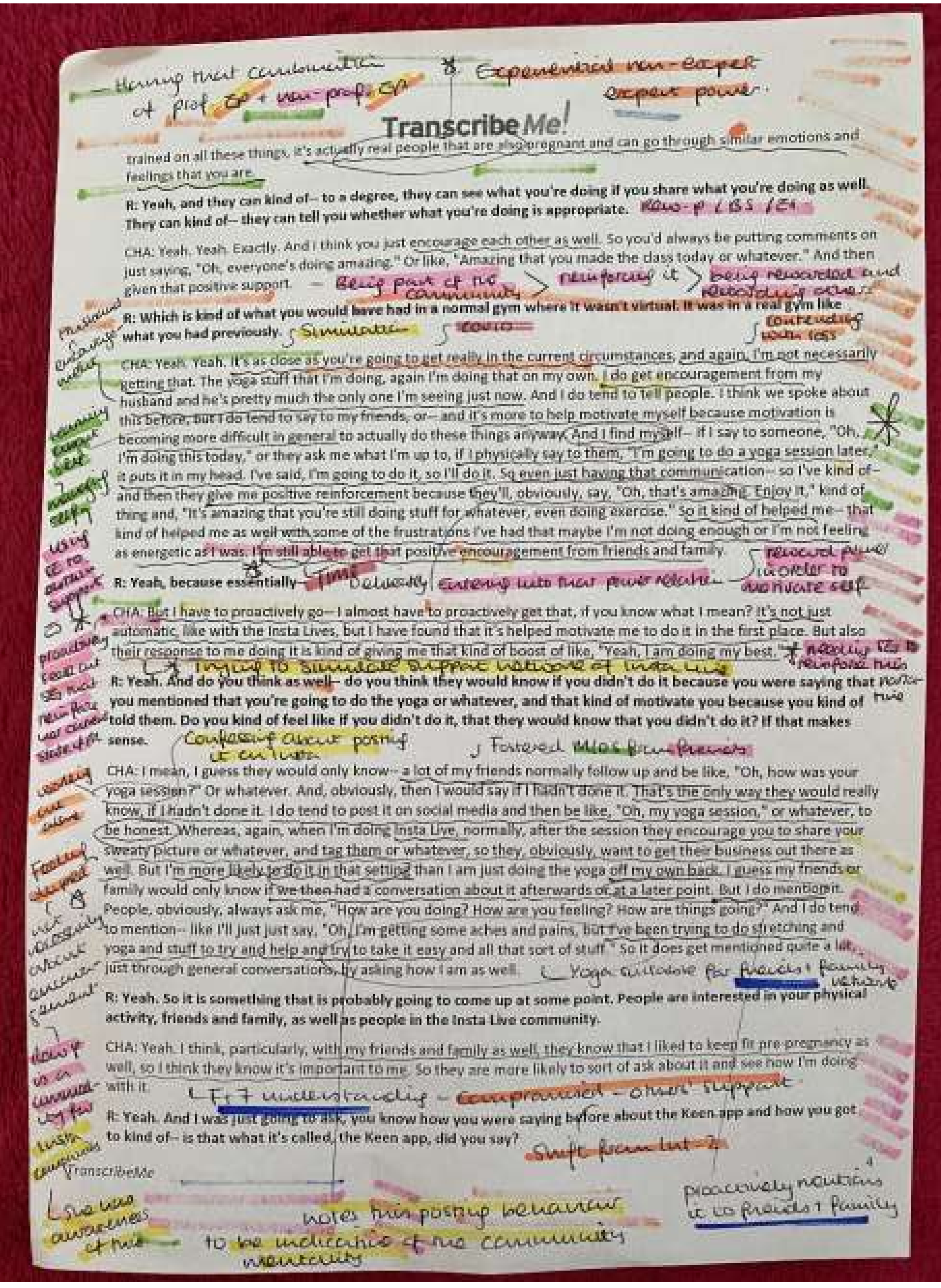

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trained on all these things, it's actually real people that are also pregnant and can go through similar emotions and feelings that you are.

**R: Yeah, and they can kind of-- to a degree, they can see what you're doing if you share what you're doing as well. They can kind of-- they can tell you whether what you're doing is appropriate.**

CHA: Yeah. Yeah. Exactly. And I think you just encourage each other as well. So you'd always be putting comments on just saying, "Oh, everyone's doing amazing." Or like, "Amazing that you made the class today or whatever." And then given that positive support.

**R: Which is kind of what you would have had in a normal gym where it wasn't virtual. It was in a real gym like what you had previously.**

CHA: Yeah. Yeah. It's as close as you're going to get really in the current circumstances, and again, I'm not necessarily getting that. The yoga stuff that I'm doing, again I'm doing that on my own. I do get encouragement from my husband and he's pretty much the only one I'm seeing just now. And I do tend to tell people. I think we spoke about this before, but I do tend to say to my friends, or-- and it's more to help motivate myself because motivation is becoming more difficult in general to actually do these things anyway. And I find myself-- if I say to someone, "Oh, I'm doing this today," or they ask me what I'm up to, if I physically say to them, "I'm going to do a yoga session later," it puts it in my head. I've said, I'm going to do it, so I'll do it. So even just having that communication-- so I've kind of-- and then they give me positive reinforcement because they'll, obviously, say, "Oh, that's amazing. Enjoy it," kind of thing and, "It's amazing that you're still doing stuff for whatever, even doing exercise." So it kind of helped me-- that kind of helped me as well with some of the frustrations I've had that maybe I'm not doing enough or I'm not feeling as energetic as I was. I'm still able to get that positive encouragement from friends and family.

**R: Yeah, because essentially--**

CHA: But I have to proactively go-- I almost have to proactively get that, if you know what I mean? It's not just automatic, like with the Insta Lives, but I have found that it's helped motivate me to do it in the first place. But also their response to me doing it is kind of giving me that kind of boost of like, "Yeah, I am doing my best."

**R: Yeah. And do you think as well-- do you think they would know if you didn't do it because you were saying that you mentioned that you're going to do the yoga or whatever, and that kind of motivate you because you kind of told them. Do you kind of feel like if you didn't do it, that they would know that you didn't do it? If that makes sense.**

CHA: I mean, I guess they would only know-- a lot of my friends normally follow up and be like, "Oh, how was your yoga session?" Or whatever. And, obviously, then I would say if I hadn't done it. That's the only way they would really know, if I hadn't done it. I do tend to post it on social media and then be like, "Oh, my yoga session," or whatever, to be honest. Whereas, again, when I'm doing Insta Live, normally, after the session they encourage you to share your sweaty picture or whatever, and tag them or whatever, so they, obviously, want to get their business out there as well. But I'm more likely to do it in that setting than I am just doing the yoga off my own back. I guess my friends or family would only know if we then had a conversation about it afterwards or at a later point. But I do mention it. People, obviously, always ask me, "How are you doing? How are you feeling? How are things going?" And I do tend to mention-- like I'll just just say, "Oh, I'm getting some aches and pains, but I've been trying to do stretching and yoga and stuff to try and help and try to take it easy and all that sort of stuff." So it does get mentioned quite a lot, just through general conversations, by asking how I am as well.

**R: Yeah. So it is something that is probably going to come up at some point. People are interested in your physical activity, friends and family, as well as people in the Insta Live community.**

CHA: Yeah. I think, particularly, with my friends and family as well, they know that I liked to keep fit pre-pregnancy as well, so I think they know it's important to me. So they are more likely to sort of ask about it and see how I'm doing with it.

**R: Yeah. And I was just going to ask, you know how you were saying before about the Keen app and how you got to kind of-- is that what it's called, the Keen app, did you say?**

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**Appendix P: Study Three: Social comparison results data for participants: Scarlett, Kelly, Ruby**

**Scarlett**

**Interview one, (27 weeks)**

In adaptation to the social restrictions imposed by the national lockdown, Scarlett *followed and observed* social media pages relating to antenatal physical activity, including a network of exercise professionals and pregnant women exercisers, which she referred to as 'Insta Live'. This network or community appeared to best simulate her pre-lockdown group physical activity experiences; as in the absence of face-to-face interactions Scarlett could observe, *'seeing…people…face[s]'* and *'comments'*: *'even though it's only on a screen, you're still seeing another face as well, and you're seeing comments from people…It's close to replicating going to a gym, or going to class…When you're in lockdown and just not really seeing anybody, it was an outlet for that as well'*. The 'Insta Live' community thus provided a virtual exchange of shared experience within a reciprocal community Scarlett liked to *follow* and in turn belong: *'you're pretty much doing the same thing…you see somebody saying they're really sweating or they're finding today really tough…It's nice to get that encouragement, but also to give it back'*.

Despite the positives of this social media forum, *following and observing* pregnant women in the same situation acted as a natural precursor to lateral social comparisons. This potential for catalysing social comparison however, seemed to be a concern to 'Insta Live' conveners. This is inferable from their proliferated messages about the importance of individual differences amongst pregnant women exercisers. For Scarlett, recognising individual differences in physical abilities and participation appeared to both open the opportunity for social comparison, as exercisers are *'different'*, yet it also moderated social comparisons, as the acceptance of *'we're all different',* rendered comparisons futile in producing valuable information about her experience:

> *'I think that's really kind of put it in my mind that, all right, we're doing a workout. But even though it's a pregnancy workout, we're not all doing it the same. Because again, we're all different. We're all in different stages. But also, just the way that we react to the workout is different. So them just giving you different options, to me, I was like, this is really good because it's flexible and gives you the option to choose what works best for you'*.

Messages/mantras as well as adaptive exercises made available to exercisers advancing through pregnancy, allowed for greater participation in the physical activity classes. By endorsing her own individual differences through the listening to body mantra, Scarlett could avoid feeling disheartened by upward or comparisons that could make her feel negative about her physical capabilities amongst the group:

> *'I think all the social media stuff that I see about pregnancy and about physical activity in pregnancy has just all been about: listen to your body and do what's right for you. And what's right for you might not be – or what's right for somebody else might not be right for you. And it seems to be quite a strong message that you get generally about pregnancy, because everybody experiences it differently'*.

This in turn, increased the likelihood of her sustained participation in the group exercise and retention of her team player persona. The 'Insta live' community quite skilfully, allowed for some lateral social comparison that was relative to individual differences, perhaps to sustain group membership and participation. Indeed, the 'listening to body' mantra ascending from social media seemed to be a way for pregnant women not only to monitor and practice a degree of responsibility over their physical activity behaviour, but it also provided pregnant women with a way to avoid the negative effects of social comparison:

> *'we all experience the physical activity differently as well, and it's important that we listen to that and do what's right for us, and again, not compare to what somebody else is doing. Somebody else might be going through a 5K run every day because they've been used to the running and they can still do that in their pregnancy. But you might not be able to do that. But that's ok. So I think just a lot of that has been what I've seen through the social media, the workouts that I do'* [p.9].

This is particularly poignant, as Scarlett goes on to admit that social comparison was something with which she struggled prior to pregnancy. Her new found understanding of individual differences within the embodied experience of pregnancy therefore, has helped her avoid engaging in social comparison:

> *'Everybody's bumps are different. You see it all the time, I think. And it's just become more and more sort of prominent to me and important to me that I recognise that for myself…I think it's something that pre-pregnancy I was quite bad at sort of comparing myself to others in general. And social media, that can be – one of, sort of, the downsides to social media is that it gives you that 24/7 outlet to compare yourself to what everybody else is doing'*.

However, Scarlett's management of social comparison has been garnered from *following* its very conduit: social media. Scarlett explained that social comparison was a behaviour in which she no longer engaged, after recognising the negative effect it could have on her self-esteem. She therefore approached social media cautiously, knowing that it was an enabler for mass social comparative behaviour, with it introducing *'downsides'* to *following and observing* social media platforms:

> *'I think it's something that pre-pregnancy I was quite bad at sort of comparing myself to others in general. And social media, that can be – one of, sort of, the downsides to social media is that it gives you that 24/7 outlet to compare yourself to what everybody else is doing'*.

Yet within Scarlett's social experiences, there were clear benefits drawn from social comparisons, despite making attempts to moderate or avoid it. For example, in order to recognise and understand

individual differences, a degree of social comparison is required. Indeed, the identification of difference amongst a multitude of same-situation members, whom Scarlett *followed and observed,* nevertheless fostered a degree of social comparison. Owing to Scarlett's early stage of pregnancy and therefore retained physical capabilities, these social comparisons were often experienced as favourably, by being either equal to (lateral) or more able than (downward) other pregnant women exercisers.

Furthermore, Scarlett implied a utility for social comparison, as *observing* her closest comparators could result in learning, which in turn, helped her regulate her own physical activity behaviour:

> *'None of my sort of immediate friends have had babies yet, so I've not got that to sort of compare to…one of my friends, who we're quite similar just in what we enjoy in terms of exercise…She was giving me some recommendations for different people as well that offer a similar thing. So it kind of opened up a bit of conversation there as well from her'*.

Indeed, Scarlett remarked on how the lack of similar active pregnancy experiences amongst her peers, meant that she had little opportunity to draw lateral comparison. This positioned lateral peer-led comparisons as a necessity, a valuable exercise in which she could make sense of and appraise her own physical activity behaviour relative to a consensus of others who shared and vindicated her active pregnancy experiences.

**Interview two, (31 weeks)**

At interview two, Scarlett seemed to manifest greater resistance to social comparison. Where interview one consisted of mild admonitions to avoid comparison; interview two seemed to increase the intensity of the directive: *'you shouldn't compare'*, by reinforcing the importance of recognising individual differences. Pertinently, as Scarlett encountered increasing bodily limitations during pregnancy, she simultaneously experienced social comparison as more of a problem, particularly for her to manage her expectations and accept adaptation. Scarlett's engagement with the 'Insta Live' network however, was protected; as Scarlet considered that the virtual properties of the class precluded the type of upward comparisons she would incidentally experience in a face-to-face group setting:

> *'I think because you're not in a class with other people, physically in the room, you aren't comparing. There's not that comparison either like: "Oh, they're able to do it a bit better than me", or "Oh, I couldn't do that bit, and they could". And again, in normal circumstances, pre-pregnancy, that sometimes can be quite motivating…But in pregnancy, you don't really need that…I would end up not doing it [classes], because…the whole comparison thing is coming to play for everything, what your bump looks like'*.

Although Scarlett made clear the *'motivating'* benefit of social comparison for physical activity generally, for pregnancy, social comparison was de-motivating and could invite downward comparisons from others impacting her transition to motherhood. Scarlett thus, seemed able to continue *following and observing* the 'Insta Live' community, despite a growing aversion to social comparison, because it provided protective qualities that centred on liberating individual differences within the transitional journey to motherhood:

> *'the instructors give you different options. They're not trying to make you feel like: "Oh, you have to do it one way"…you're doing the best for your baby. And as long as everybody knows that's what we're all doing, nobody is making anybody feel bad or trying to say they're doing better than somebody else because that's not what it's about when you're exercising in pregnancy. It's about doing what's good for your body and what's good for your baby'*.

Scarlett perceived the 'Insta Live' community as engendering a culture, which helped exercisers avoid downward and upward comparisons. Scarlett thus relied upon and trusted the conveners of 'Insta Live' to moderate the potential for social comparison.

It seems the acknowledgement of individual differences amongst pregnant women exercisers, allowed Scarlett to continue to use social comparison in a way which helped her make sense of her active pregnancy relative to competing demands and concerns. This indicates a necessity, as in interview one, for the utility of social comparison as a sense-making experience:

> *'there might be a few lucky ones out there that can continue doing what they were doing…people saying like: "I'm still great. I haven't really had to change anything." But that's good to see…I think it just makes you realise how everybody is different and again, that you shouldn't compare…it's comforting to get to know the people that are in a similar situation as you that are also having to adjust, but it's also encouraging to see people who are still able to continue. I guess, it's just about your mindset…I think it just tells you or shows you how everybody is unique and we all got to do what our bodies are telling us to do, not feel like we have to keep up with each other'*.

This shift in *'mindset'* with the warning that *'you shouldn't compare'* equipped Scarlett with the perspective to moderate the effects of social comparison. Thus, she treated lateral comparisons, where she shared *in 'similar situation'* of ability and adaptation of others as *'comforting',* and addressed upward comparisons, seeing the *'lucky few'* who exceeded her physical capabilities as *'encouraging'*. To further assume this *'mindset'*, there seemed to be a continuous centring of Scarlet's expectations to the *'listening to body'* mantra, which enabled her to manage her own expectations against the comparative physical activity abilities of others: *'everybody is just different, and they're all doing their own thing, and that's hopefully encouraged you to just like – you do you and don't worry really about what anyone else is doing'*.

Scarlett explained the importance of managing social comparison and utilising social experiences to both encourage and comfort herself, as essentially, she was always trying to attenuate her own expectations, making gradual adaptations to her physical activity. The way in which she managed the downside of social comparison experiences, was to work proactively to alter her perspective, to train herself to think about it differently: *'You can either look at other people that are maybe still able to do this and that, on the other end you're not and feel bad about that, or you can look and just be like: "You know what? That's great that they're still able to do that, but they're different from me"…it's just that positive mindset'*. Indeed, her deliberate efforts to train and manage herself, essentially to mentally adapt to the physical adaptations she had to make relative to the social comparison she made from her virtual network, is particularly evident from Scarlett's use of second person. This not only generalised her social experience relative to ones perhaps experienced by other pregnant women who were in a *'similar situation'* to her, but it also enabled her to direct and instruct herself to think differently about herself in response to her social comparison experiences.

**Interview three, (36 weeks)**

By interview three, social comparison appeared to be less of a focus for Scarlett, with her being more concerned about retaining a group membership. *Following and observing* others continued to help her retain a sense of group membership; a team player role, amongst a community of pregnant women who shared her situation. Where in previous interviews, this community comprised pregnant women exercisers from the 'Insta Live' network. By interview three, being less able to take part in the group exercise classes, Scarlett followed, observed and interacted with an online network of *'local'* pregnant women who were at a *'similar stage'* of pregnancy. *Following, observing* and interacting with such a community that shared her pregnancy experience and physical limitations, enabled Scarlett to avoid comparisons, as she was essentially a member of an equanimous community, where an absence of individual difference precluded social comparison.

Despite migrating towards an alternative virtual group of same-situation pregnant women and being unable to participate in the 'Insta Live' classes, Scarlett protected her membership to this community, even though membership rendered her more of a *follower-observer* and less of an active team-player participant. Indeed, in maintaining a connection with the 'Insta Live' community, Scarlett continued to follow the network to observe and *'like'* the others' content: *'I would still go on Instagram, I would still see stories from that particular company that I was doing the Lives with, and just like posts from other people doing them. Yes, I would still see anything that they were posting'*. However, where previously Scarlett defined these types of interactions with 'Insta Live' as positive, Scarlett acknowledged that following this community as more of a voyeur and less of an active contributor was, at times, unhelpful and disheartening:

> '*at the start when I first started to adjust. I think that probably added a little bit to my frustration because I would see: "Oh, this one happened today" and maybe I'm not feeling up to it…if I did see that, it probably didn't make me feel any better at the time, as I'd be like: "Oh, they're all going to be on, and they're all going to be doing it and I'm not doing it"*'.

Nevertheless, Scarlett defended *following and observing* the 'Insta Live' community, by describing her *'frustration'* as something that she must improve:

> *'I just have to sort of change my mindset and think more about the fact that one: I could do it another time…but two…I've had such a positive experience with it, that it wasn't significant enough to make me feel really bad about it or feel like I didn't want to go on Instagram or see the posts or unfollow'*.

Scarlett also defended the platform directly, explaining how it retained membership of pregnant women in her situation by providing messages of empathy and understanding for those who found it difficult to take part. This meant that she could still find a similar-situation type of membership to this group from the periphery, joining a collective of other pregnant women, who at their stage of pregnancy are also *following or observing* the community from afar: *'they do post things as well, because they know they're dealing with pregnant women all the time. So you see posts that will say stuff like: "It's okay not to be feeling it today" or "It's okay to have a rest day"'*.

The 'Insta Live' network therefore provided a virtual forum for emotional support to pregnant women at varying stages, meaning that even as a *follower and observer*, Scarlett could utilise this social platform to engage in positive lateral comparisons; as Scarlett could compare herself with pregnant women who, like her, were finding it challenging to remain as active as others: *'then you see people commenting on it saying: "I so needed to see this today because I'm not feeling it." And then you send a message and say: "I'm not feeling it either. I'm so glad it's not just me." And then you know you're making them feel better and they're making you feel better'*.

With the community's permission, Scarlett engaged in and limited herself to lateral comparisons that generalised her experience, enabling her to obtain experiential knowledge about pregnancy vicariously. This is clear from her use of second person below (i.e., Scarlett garnered a socially observed experience, which she can impart as knowledge to others):

> *'there's always going to be somebody else that's feeling similar to you. It's just sometimes – unless you hear it or see it, you do sometimes think: "Oh, they will be doing it and it's just me." But you go on there and sometimes you see people that only make half the workout…going on and just seeing that other people are commenting: "oh, I'm not feeling it today" still gives you that support and that community'*.

The ‘Insta Live’ community remained a valuable resource for Scarlett to tap into as an *observer,* as it provided a social forum in which she could check and compare the experiences of others to her own, by seeing and hearing their experiences. Thus, reassuring her not only of her pregnancy experience, but that she still belonged to this community; a place shared by pregnant women in the same situation as her. By reducing her interaction with the ‘Insta Live’ community to that of a valued *follower and observer,* this highlighted a need for veteranized membership that confirmed her experiences of bodily limitation and physical activity adaptation.

## Kelly

**Interview one, (16 weeks)**

Kelly’s social comparisons related specifically to reinforcing her position as a pregnant woman engaging in physical activity within her multiparous lifestyle. Social comparisons established empowered roles within this lifestyle and centred on role modelling; particularly, *following and observing* others whilst highlighting her privileged or fortunate position as an educator/being educated person. Observatory social experiences involved social media platforms, where Kelly followed pregnancy physical activity groups, exercise professionals, celebrities and other people: *‘I kind of follow them for a bit of inspiration’*. Indeed, Kelly enjoyed *following* pregnant/mum celebrities on social media platforms, such as Instagram, as it provided an *observatory* window, so-to-speak, into the lives of others whom she found inspiring:

> *‘I think more and more celebrities are showing what they do during their pregnancies…anyone that’s got a similar kind of life to you, it’s quite interesting to see what they do…for me, personally, someone that’s in a long-term relationship with children. It’s their and my life, so it’s quite interesting to follow them and see what they do with their life’*.

Observing pregnant/mum celebrities enabled Kelly to draw upward comparisons relating to her own life; that being remaining physically active within a multiparous lifestyle. Not only did Kelly observe celebrity lifestyles which mirrored her own, Kelly also felt motivated to understand their retention of bodily control:

> *‘I think it’s quite good to show – because often we look at celebrities, and we think: “Oh, they look so nice”, or that kind of thing. And I think that it’s quite good, actually, that we know what they do. Like one of them, I followed throughout her pregnancy, a celebrity. She did lots of exercise until right the end…she’s had a baby, and she looks really good’*.

*Following and observing* social media revealed a somewhat curated celebrity lifestyle, which nevertheless seemed to bring Kelly a degree of comfort; as obtaining information about their lives that

humanised or normalised them, allowed her to make a variety of comparisons. For example, Kelly could establish upward comparisons for inspiration:

> *'they didn't look that way out of nowhere…I think maybe 10 years ago, before things like Instagram, or even five years ago, you just see a presenter on X Factor, say, and they look amazing. But you don't know where they got their hair done or where they bought their dress or what workouts they did that week. And so they just seem a bit like an enigma*'.

Yet Kelly could also identify lateral comparisons where she shared or copied their lifestyle traits. This enabled her to assume or level herself with a *'privileged'* and knowledgeable position, like a celebrity perhaps: *'that's what I quite like about my Instagram, because a lot of them share that kind of information…I quite like that aspect of it…especially when they show who they are and stuff, like without makeup on or just a normal day for them'*.

In order to manage the negative affect of upward comparisons with celebrities however, *following and observing* celebrities through a social media platform specifically, helped her obtain a degree of power or a different kind of privileged position. This was particular to the social power enabling devices of Instagram, as not only could Kelly acquire an insight into a curated presentation of celebrity life, but through the voting system of Instagram, she was able to utilise social powers. For example, Kelly could affect reward and coercive social powers, by endorsing ('liking' content) or dismissing ('not liking' content) celebrities displayed of their lifestyles. Ultimately, this may have rendered her feeling quite empowered: *'I'm always picking and choosing. And I unfollow, and then following again, and stuff like that. I find it quite interesting'*.

Kelly also talked about how she felt inspired and motivated by *following and observing* non-celebrity people engaging in physical activity: *'I just find it's quite a bit of motivation if you see someone doing a 5K or something. You think: "Oh yeah, I should get up and go for a run tomorrow"'* [pp.4-5], particularly if they shared a similar multiparous situation to her own: *'I think what I find more inspiring is people that have children that find time to exercise…it's people finding time when I've got [son]. That's amazing. Especially because of COVID, he hasn't been going to nursery or anything like that. So I've just been doing all the childcare'*.

When describing her observations of pregnant women exercisers, Kelly would relate their behaviour to her own by making comparisons. At times, these comparisons led Kelly to conclude that some pregnant women over-engage in physical activity to a detrimental level. Such observations, also enabled Kelly to assume her educator/being educated position from an observatory position of knowledge, which directed such cautionary views on physical activity:

*'in friendship groups…I've seen different women do different things. So I've seen different people do different – sometimes they haven't done that much. And I'm not saying that it would lead to the worst birth…I see so many women that do loads of physical activity, and they actually have worse births. It's hard, but I think sometimes you can do a little bit too much preparation'*.

The repetition of the word *'different'* seemed to emphasise Kelly's discrepancies with some pregnant women's physical activity, an observation she felt confident about due to her comparative access to and contact with sources of knowledge and expertise. For example, Kelly at times drew downward comparisons with pregnant women, interpolating them as less informed than her: *'Lots of women don't even know how to activate their pelvic floor and those kind of things'*. Kelly highlighted that this deficit in knowledge was due to insufficient access, which by comparison, inadvertently placed her in an empowered position of educator/being educated or indeed *'privileged'*:

*'I think it's becoming more aware that it's more privileged information…I've been very fortunate throughout my pregnancy and with my health because of my husband's job...I think I definitely have more of a privileged access to different things. And I think that they're able to answer my questions, and I'm able to access information a lot easier'*.

Despite ascribing these deficits in knowledge to a lack of access, acknowledging her *'privileged'* position as an undue advantage, contrastingly Kelly went on to assert her proactive quest for knowledge as an additional factor separating her from other pregnant women: *'it's a bit of both really…because I've taken the initiative to learn about these things'*. Kelly also drew indirect comparisons between herself and pregnant women, indicating a *'sluggish'* existence perhaps in comparison to her own, with knowledge being the empowering factor that distinguished her:

*'It's a lot of effort…and there are so many women that don't, so many women that gain a little weight and – I keep saying weight. It's not about weight, but they are quite sluggish and stuff like that during pregnancy. And I think that is so important for their baby and for their mental health, that it should be encouraged when it is being done'*.

Nevertheless, Kelly's comparisons evidenced her understanding of the multiple barriers to engaging in physical activity, therefore active pregnancy should be commended in order to help pregnant women who may not have access to the knowledge and services that she uses to be active.

**Interview two, (25 weeks)**

Kelly continued to obtain physical activity information by *following* pregnancy exercise groups online, as a means of maintaining her own *'motivation'* to be active: *'I am still finding following certain pregnancy fitness accounts really helpful and motivating. Also chatting to other pregnant mums who like fitness is encouraging'*. The need to obtain *'inspiration'* from social media, spoke to this notion of

wanting to follow and be-led by others, who seem to project safe physical activity behaviour during pregnancy:

> *'I've got inspiration from some pregnancy workouts online. I have got inspiration from them, and I do really appreciate them. They do motivate me, but it's kind of like, they motivate me if I see something. And then I think: "Oh, I haven't done very much activity today", then I start like: "Oh, okay. I should do something"…I like being in contact with those things because they do help me to remember'*.

The social comparison element was evident particularly where Kelly described that she will *'see'* someone else's physical activity, and then consider altering her own. Emulation was a key motivating factor for *following and observing* others, as Kelly talked about *following* people on social media who exemplified the active pregnancy: *'on Instagram I guess probably because it's people I follow that are more in tune with that kind of thing'*. Yet Kelly still revealed some uncomfortableness with her *following* behaviour of people on social media (*see social selection, interview one*). For example, Kelly highlighted that she was not naïve enough to treat these posts as authentic ('*I don't know her personally*'), or that she is not a serial follower of others ('*I'm not someone that follows loads of other stuff*'); despite admitting an addiction to obtaining information in this way: *'she's been so amazing at sharing loads of information. And she does loads of question and answer and I find I'm addicted to any kind of question and answer'*. Kelly seemed to downplay her following behaviour by rejecting the extremity of a follower persona, perhaps to preserve the *following and observing* of others who she found inspiring: *'I think it's more just a bit of inspiration really…I don't get magazines very much in English anymore. So it's quite nice to have that as a magazine. Instagram is my magazine, kind of thing. And then you can choose what type of magazine you want'*.

Kelly also continued to engage in lateral comparisons with other pregnant women mums/exercisers, which reassured and encouraged her about her own physical activity behaviour: *'I like talking with other pregnant mums or mums who have had children recently as I feel encouraged by them and it reminds me how good it is for my baby'*. It also enabled her to feel reassured about managing her physical activity amongst the commitments of the multiparous lifestyle; concluding again, on her fortunate position with physical activity being part of her vocational identity: *'I have only chatted to a few pregnant friends and most are trying to do some form of exercise but I think everyone finds it hard to commit, especially when you have other kinds. I'm just so thankful it's my job too'*. These lateral comparisons were rendered possible by *following, observing* and interacting with pregnant women exercisers who shared her situation at pregnancy yoga groups.

Outside of these lateral comparisons with pregnant women mums/exercisers, it seemed that in order to make sense of and justify her physical activity levels, Kelly made various comparisons that centred

on the appropriateness of her active pregnancy, thereby comparing with other pregnant women in time, including her friends and her mother: *'Whereas my mum, during her pregnancy with me…she probably did quite a lot of physical activity anyway as well to keep fit. Whereas I maybe focus mine on a 20-minute run, but for her she did just daily activity and cleaning'*. This comparison, which positioned her as more physically active in pregnancy than others, led her to conclude that pregnancy was an individual experience. However, to reach that view, social comparative exercises with other pregnant women was a key experience required to make sense of her own physical activity behaviour: *'for me, it's just each to their own. I've got friends, one of my best-friends is pregnant now and she doesn't do anything any activity during her pregnancy, and it is literally each to their own. You can do it if you want to, or you don't have to'*. Thus, it seems important to Kelly that she, perhaps compared to the social norm, is meeting her active pregnancy expectations, as Kelly drew downward comparisons with others, that positioned her as more informed and proactive: *'I use a weekly update app which has said to keep active. Some people don't feel like it but it's good for your mental health and everything to be active during pregnancy'*.

**Interview three, (33 weeks)**

At interview three, Kelly continued to *follow and observe* Instagram, positioning it as a safer information source compared with most social media platforms: *'I have watched them, and I've learnt some exercises…what's safe during pregnancy [that] I've picked up from the people that I follow on Instagram. I find that invaluable really…some websites and webpages are a bit dated, the Instagram is always new information'*. Yet Kelly showed a progressive disconnect from the *following* behaviour she conducted on Instagram, not only under the caveat of *'you have to be careful who you're following'*, but also due to a shift in social experiences generally, which increasingly failed to align with her multiparous lifestyle (*see social selection*).

Kelly expressed a need to avoid social comparison with other pregnant women. Thus, a disconnect from social media coincided with the perception that social media automated social comparative responses: *'I've been trying to keep my spirits high and not compare myself with other pregnant people and what they are achieving. I think that can be the only downside of social media when you feel vulnerable'*. Managing these social comparisons seemed to prompt a recurring position of Kelly having greater physical activity knowledge than other pregnant women; thus, as educator/being educated by comparison:

> *'because I know these things, then I feel a little bit more knowledgeable, whereas I think a lot of people wouldn't know that. All they know is that's dangerous, but they don't know why…when you have knowledge then you can make your own decisions…A lot of people are told things rather than taught why…when you are taught why things are a certain way. Then it enables you to make that decision'*.

Indeed, being the educator/more educated by comparison highlighted the deficits in *'biology'* knowledge amongst pregnant women, which rendered them perhaps more *'vulnerable'* and less *'empower[ed]'* than Kelly to make an informed decision about physical activity: *'you're able to make your own decisions, and I think having knowledge is empowering for any person, especially when you feel vulnerable when you're pregnant'*.

As in interview one, Kelly continued to attribute some of her *'privileged'* or *'fortunate'* position of educator/being educated to her access to expert knowledge: *'I'm really fortunate with this pregnancy. I have a private midwife, so I can be in contact with her quite a lot if I need to and she's explaining different things to me'*. Yet at the same time, Kelly continued to recognise her own physical activity training: *'I've got good knowledge…I think it's just from the years of training myself. Obviously, coming in it from an exercise point of view. I'm coming in it from a different way than maybe someone that isn't used to doing regular exercise'*. Through lateral and downward comparisons with other pregnant women therefore, Kelly was self-reinforced as more independently in possession of knowledge.

## **Ruby**

**Interview one, (16 weeks)**

Ruby explained how *following and observing* others on social media was her primary information source: *'most of that I just get from what people kind of share on social media'* [p.10]. Ruby *followed and observed* other exercise professional's Instagram and emulated their physical activity: *'I followed [Instagram page] and seeing what she was doing. And was like: "okay, well, if she's doing that, then that's obviously safe to do"…social media is good for that'*. The benefit of *following and observing* others on social media enabled Ruby to learn about active pregnancy and to moderate her own physical activity behaviour. Whilst *following and observing* others however, Ruby acknowledged that social media precipitates social comparison; a behaviour which she experienced negatively and therefore aimed to avoid: *'there's the downside to social media of comparing and go: "Well, they're able to do that. why can't I?" And I'm definitely getting caught in that…"Oh God, they're walking for 13 miles…and I'm struggling to walk for half an hour today." And kind of that comparison game with pregnancies'*. It seems that, perhaps in order to avoid social comparison, a notably automatic response to *following and observing* others, Ruby tended to engage in self-comparisons; as such comparisons demonstrated learning and progress over time: *'I was a bit like: "Ruby, don't try and keep up with other people. Some days you're not going to be able to do that"…you have to try it to realise that actually: "No, that wasn't the right thing to do"…just learn as you go along really. And it changes week by week'*.

Yet, despite positioning social comparison as an unhelpful exercise, Ruby would nevertheless use it, perhaps implicitly, to make sense of her position and role on the active pregnancy movement. For example, Ruby would assert herself as knowledgeable (through expert training) about antenatal physical activity, rendering her best-positioned to advocate the active pregnancy. This position was highlighted through downward comparisons with other pregnant women who were not only less informed and therefore less able to exercise safely, but they were also less *'confident or comfortable'* to proactively obtain information: *'But again, that's all me. That's me kind of going out there and reaching out to people. And not everybody is kind of confident or comfortable in doing that'*. This position was further reinforced through upward comparisons her pregnant women exercisers made in relation to her: *'Like: "Ruby, you're doing so much better than other people do when they go to the class." I'm like: "Yes, I know." But yeah, just because I'm always trying to, yeah, protect the body'*. Thus, social comparison established Ruby as not only informed on the active pregnancy, but esteemed by pregnant women also.

Downward comparisons with other pregnant women that strengthened her position as educator or advocate, were furthered by positioning pregnant women as vulnerable or in need of her guidance as an exercise professional. For example, pregnant women were described as *'reaching out'* to her, which further obligated her position as advocate in an upward comparison: *'it's mainly people reaching out to me saying that they are pregnant. What kind of exercise can I do, and what can't I do?'*. Simultaneously, while depicting herself as knowledgeable on the active pregnancy, Ruby also drew lateral comparisons with pregnant women, by describing herself in the same scenario of *'reaching out'* to others with expertise: *'the only other thing I've done is kind of reached out to a woman's health physio during pregnancy, rather than waiting till after pregnancy. Because again, I wanted advice from that point of view…"what's going on with my body…what can I do to try and help the postpartum"'*.

While considering herself to be equally in need of guidance, Ruby would often engage in temporal comparisons with her previous pregnancies. This involved revisiting previous miscarriages and exploring possible associations with physical activity to gauge whether she was exercising appropriately and safely: *'Nobody ever knows. And that's, I think, the challenging thing with it…with this one, I decided to stop running after I had the second miscarriage when I was then pregnant again with the current one'*. It seems that in order to make sense of her active pregnancy, particularly when evaluating her recurrent miscarriages, Ruby must meander temporal comparisons which indicate learning from experience.

**Interview two, (24 weeks)**

Ruby described *following and observing* less content on social media, following mainly health and exercise professionals on Instagram. Her reduced *following and observing* behaviour coincided with a reduction in social comparisons, as Ruby made clear she had left the *'comparison game'* behind; a lesson on which she advised others:

> *'I did a thing on Instagram about the kind of comparison game, and trying your best to kind of stay in your own lane. I did a lot at the beginning of comparing and thinking: "Oh, God, that person's not running but they're climbing mountains. I'm not climbing mountains"…then I said: "Why am I comparing myself to them? It doesn't matter what they're doing"'*.

It seems instead of social comparison, Ruby opted for self-comparisons with her first pregnancy, which helped her not only mandate her active pregnancy, positioning it as a means to retain *'muscle strength'* for the postpartum, but it also helped her acquire the mindset to accept progressive bodily limitations. Indeed, self-comparison showed progress in *'attitude'* or *'mindset'* and influences her physical activity behaviour: *'I'm certainly not in any rush this time…I'm certainly not going to run as quickly as I did with [first child]…in that sense, my attitude towards it is very different'*. This further indicates that self-comparison is a sense making experience for Ruby, where progress and learning can be established; factors that naturally precede a sense of achievement. Indeed, in comparison with her previous pregnancy, Ruby assumed a *'fortunate'* position, which seemed to help her maintain the *'positive attitude'* she felt she lacked previously:

> *'I have a moment of appreciation of how fortunate I am to be pregnant…with [first child] towards the end not being able to do what I wanted to do and putting on weight…Whereas this one, I'm kind of just embracing the changes a little bit more…I have no idea how much weight I've put on and I'm not really that bothered…my whole attitude towards this pregnancy is actually a lot more positive than it was with [first child]'*.

Despite however advocating against social comparison, Ruby at times extended her self-comparison to social comparative contexts, which in turn emphasised a position. For example, this *'fortunate'* position of being pregnant in acceptance of bodily changes, was swiftly reinforced through comparing her bodily changes to others and concluding that she is comparatively *'one of those people'* or the *'lucky'* few, who finds bodily control: *'I was actually quite lucky that I was one of those people who bounced back and was probably in my jeans a couple of weeks after [first child] arrived…I did again, a post about it the other day'*.

For Ruby, it seems that social media has a role to play in self-comparison exercises. As social media's collection of data acts as a hippocampal collage of memories, in which Ruby can visit and make comparisons to her previous exhibition of self:

> *'I found a video that I put up on Instagram, and my God, I looked like I had abs. I was like: "Where did they come from?" because I didn't know I had abs. But actually, the skin around my stomach is nowhere near like it was before I had [first child]. Like I said, it's very stretchy. So that's changed. I don't know how I get that back'*.

Reflecting on her pre-pregnant body causes Ruby to lament that loss and consider how she will return to the past to reclaim a corporeal state through the practice of physical activity, which essentially only renews, contorts and pounds the flesh that has already been changed. This leads Ruby concludes this by extending this reality to others, thereby levelling herself with other pregnant women through the use of second person narrative: *'your body's changed, and sometimes they change forever'*.

Ultimately it appears, that in order to refrain from social comparison, Ruby invests more readily in self-comparison, using her social media page on Instagram to project an image of herself which she can compare and compete with. Yet, this exhibition of self still perpetuates a social *'comparison game'*, as the reinforcement and judgement of others is the consequence of her self-exhibition. Social *'comparison'* therefore is still a *'game'* that Ruby plays, social media platforms have merely enabled her to alter the rules so that she may feel she is only competing with herself, yet this invites others to both judge and implicitly compare themselves with her projected image.

**Interview three, (34 weeks)**

Ruby continued to follow active pregnancy groups on social media for information, whilst feeling the increasing demands of her multiparas lifestyle: *'on social media…people launched pregnancy workout programs…I started to try and follow them a little bit more for information…I just haven't had the time to really look into things…because of having first child at home all day'*. In addition, self-comparison continued to be an exercise that revealed to Ruby, not only her progress and retention of bodily control, but her marked embrace of the maternal body compared to her first pregnancy: *'I remember looking in the mirror with [first child] and going: "Oh God, that is gross." Whereas now, I look in the mirror and go: "Oh, I see a nice little bump there", my whole mindset towards the pregnant body is a lot better this time'*.

By interview three, there seemed to be an established nexus between temporal and social comparisons, which consolidated her progress. After identifying goals of self-mastery through temporal comparison, Ruby at times tested these findings by relaying them to social interactions, garnering a consensus on her progress, which generated social comparison. For example, Ruby made a downward comparison with a primiparas friend, by contrasting their perspectives on *'body positivity'* during pregnancy:

> *'I've got a friend who's pregnant with her first, and I just get the suspicion that she's like me the first time around and doesn't particularly like showing off her bump and keeps it quite hidden. Whereas now I'm on social media in a crop top. And I would never have done that with first child. I know body positivity is a massive thing'*.

This downward comparison reinforced Ruby's sense of progress deduced from temporal comparison. In self-comparison to her previous pregnancy she, self-admittedly, lacked the *'body positivity'* to exhibit her pregnancy in the way she does currently. In a downward social comparison, Ruby evinced herself as having conquered a mutual *'body positivity'* challenge, which remained to be an issue for her friend. Both comparisons combined reinforced the depth of achievement in reaching and exhibiting *'body positivity'.*

Ruby wished to exhibit her bodily control online to her followers to demonstrate her progress, in a manner which was inspiring for others. As Ruby recognised that by comparison to her herself, some pregnant women felt unsure about an active pregnancy and postpartum recovery: *'I'm kind of recording some videos each week about what I've done, how I feel, kind of any advice that I've sought from anybody, and really show that you can do it the right way, and it's good to do it the right way'*. Inevitably however, despite advocating against social comparison, particularly discouraging her followers from engaging in social comparison with her, exhibiting her self-mastery goals through a chronicled temporal comparison only serves to beget social comparison amongst others. Indeed, Ruby expands on this, highlighting some unintentional hypocrisy on her part perhaps, as well as a responsibility to reframe her social media messaging: *'especially at the moment…social media is rife with perfect pictures…I can't say to them: "Don't compare" – if I'm sitting at home scrolling, going: "Oh my God, why am I not like them? Why am I not like them?" And it's taken a lot for me to shut off everybody else and to just do it for me'*. Despite investing in temporal comparison, Ruby described how avoiding social comparison was still a challenge when *following and observing* others on social media. Ironically, Ruby described how she would unfollow individuals with whom she would draw an unfavourable upward comparison, to avoid feeling negatively about herself:

> *'No comparison's a massive thing. Actually with [first child], I wouldn't compare. And this time around, I catch myself almost comparing. I think there was one person who I vaguely know. And I started comparing myself to her. And as soon as I started, I just unfollowed her on Instagram. I was like: "I don't need to see that" – I was a lot better at that'*.

Within this coping strategy to avoid social comparison, self-comparison even here, continues to be a sense-making exercise on self-progress. Indeed, Ruby makes clear that she has learned over time how to manage or stop herself from engaging in upward social comparisons, by holding on to principles of relativity and individual differences: *'I do see people running at 30 odd weeks. But they're also saying in the comments that it feels a little bit uncomfortable while doing it. And I think: "Well,*

*that's them. Let them do what they're doing. I'm content and confident in myself that I've done the right thing for me"'*. These principles allowed her to proliferate the mantra that different physical activity behaviours are appropriate for different individuals; thereby causing her to focus on her own capabilities, which will be determined and directed by her body. Therefore, being in-tune with her body and less focused on other people's physical activity behaviour is a key message Ruby reiterates.

**Appendix Q: Study Three: Social Selection Results data for participants: Melanie, Ruby**

**Melanie**

**Interview one, (26 weeks)**

Although Melanie recognised the niceties of engaging in physical activity with other pregnant women exercisers, highlighting the benefits of belonging and emotional support: *'the other bits of physical activity that involve the kind of social aspects and the community side of it and feeling part of something'*; she nevertheless preferred a one-to-one relationship in an almost trainer-trainee format. Melanie reserved most of her active pregnancy interactions for three exercise professionals, with whom she had established bonds and trust to monitor and guide her active pregnancy: *'I've got some really good friends who also happen to be – they're kind of the full suite of people that can help…Pilates teacher, a Physio and I have an online personal trainer'*. With their specialist knowledge in pre- and post-natal physical activity, these individuals were selected for three key factors:

[1] **Focused/tailored interaction**: Melanie valued *'one-to-one'* interactions from exercise professionals, as this provided reassurance that they were *'focused'* on Melanie and her individualised physical activity: *'I suppose just the sort of conversations that I've had with people like my Pilates Instructor, and the PT, which has been kind of more focused on how my body is and what I'm doing, I guess has been really nice to kind of focus on that'*. This enabled Melanie to feel and be prioritised, thus investing in herself through physical activity with the support of exercise professionals who *'tailored'* a *'training programme'* to her abilities and stage in pregnancy: *'she gave me a training program...that's been great as well because she's giving really tailored advice and structures that are completely based on the symptoms that I'm having at that time'*. Indeed, the provision of a tailored training programme instilled a sense of focus on her, thereby fostering a sense of self-investment through physical activity: *'it's also really great to have that kind of one-to-one relationship with somebody who's designed a program that's perfect for what I want and who I am'*.

[2] **Monitoring and surveillance:** Melanie required both external as well as self-imposed monitoring to preserve or muster motivation for physical activity. The PT in particular met this support need by providing regular surveillance and check-in points for Melanie to report on her physical activity, as well as weekly amendments to her training program, providing enhanced monitoring of her activity: *'it's that kind of feedback of things that are changing and things that feel different and then her adjusting what I'm doing'*. This introduced a provision of monitor/overseer support through voluntary and participatory surveillance on Melanie's part (e.g., *'we check in every week'*). This further implied a balanced power relation of both reward and coercive power granted by the PT in accordance with Melanie's physical activity performance and progress.

[3] **Foundation of trust:** Trusting the exercise professional to not only have the requisite expertise to deem their advice safe, but to establish a bond with this individual seemed to be important. As a bond based on trust denoted a sense of investment in Melanie's pregnancy and wellbeing. Indeed, surveillance and compliance with another's direction could only be established through a bond of trust:

> *'I personally took quite a lot of thought in expert advice, and expert advice that I trust. So it's kind of an expert plus somebody that I know, I would kind of take their opinion over anyone else's…I don't trust a lot of the advice on the internet…There's so much information that's so contradictory…that it's quite nice to kind of go: "Well, I'm just going to ignore all that and just chat to a couple of people that I really trust'*.

Trusting in the advice seemed to be a recurrent value of Melanie's, as generally she would only follow the directions of a person with whom she had a stable bond as a foundation: *'I would take a friend's advice over a stranger's advice'*; as a bond of trust denotes a reciprocal investment in each other's wellbeing.

**Interview two, (32 weeks)**

Melanie continued to prefer a one-to-one relationship with an exercise professional above all other physical activity social experiences. Melanie had also added an additional component to the three key tenets of the expert-oriented social interactions she selected and preferred; that being a stable (contractual) relationship.

[1] Tailored or focused interactions: Melanie recognised how a tailored programme and focused interaction with her PT rendered her commitment to the programme more possible, achievable: *'I think she's been really good because she's tailored it so that it always felt really achievable…because she kind of anticipated how I might be feeling and just tweaked the things I'm doing…It sort of makes everything feel achievable, which kind of keeps it really positive'*. Framing her commitment to the programme as an achievement, denoted an experience of being invested in by her PT and herself, as the programme had been tailored 'specifically' for Melanie: *'there's also something really nice about knowing that something's being created specifically for you'*. In addition to a tailored and focused interaction representing a mutual investment in Melanie, for the first time, this was also translated as a way to equally invest in the baby and foster perhaps, a tailored and focused one-to-one interaction in utero:

> *'especially with pregnancy, where you don't want to do anything that's going to harm you or harm your baby, I ordinarily might be more up for sort of giving something a go that wasn't tailored…you want to feel like you've got an expert on it when it's not only your body you're kind of moving and doing things with. And yeah. I think you see better results if the program is tailored to you…but I think I sort of want more to be in the hands of experts while in pregnancy'*.

Melanie thus defined this social interaction as one which combined the physical activity and pregnancy experiences as mutually beneficial. However, despite esteeming the importance of a tailored/focused interaction, Melanie also considered to niceties of group physical activity, contrasting the pros and cons to both interactions:

> *'I don't know if I prefer either. It's different. I think the stuff that my personal trainer has given me is probably harder, probably because it's more sort of tailored. The live workouts I think are more sort of general and a little bit less, yeah, a bit easier I suppose. But yeah. There is something nice about you doing it the same time as other people. But then there's also, on the other side, there's also something really nice about knowing that something's being created specifically for you'*.

Melanie seems to represent a conflict and perhaps a lamentation for the benefit of engaging in physical activity with other exercisers at the *'same time with other people'.* Indeed, in her diary, Melanie commented on the benefits of group physical activity virtually: *'Saw a live workout on [site name's] Instagram last week and saved it to do later on IGT. I really enjoyed it and was nice knowing other people were doing it (even if not at the same time)'*. Melanie here, highlighted the importance of engaging in physical activity at the *'same time'*. This therefore seemed to be an important component because she highlighted it as the only feature missing from her physical activity programme. However, Melanie also made clear, the difficulty she has experienced when exercising with others in a live/non-virtual setting:

> '*Whereas, the nice thing about doing stuff on your own at home is that if you go the wrong way or do the wrong thing, no one can see you. Or the only person that can see you is the instructor, and then it doesn't matter if you're turning the wrong way, and if you're using the wrong arm, they can gently say that. But you kind of don't have the thing of: "Oh God. Does everyone think I'm rubbish at this?" Which I do sometimes in a class'*.

Indeed, despite missing the social benefit of same situation amongst a group of exercisers, equally this interaction is also fraught with concern that she will be judged for being less physically active or competent in the group exercise than others, which causes her to gravitate towards the one-to-one exercise professional interaction:

[2] Stable [contractual] relationship: Melanie intimated an additional key feature of the preferred social interactions with her exercise professional, is for the relationship to be based on a stable or contractual interaction, which ensures a degree of mutual agreement concerning service and boundaries. This was particularly clear from contractual language used to refer to the relationship, such as a social power exchange established through a *'deal'*: *'we just have a deal where she writes my program down and changes that, and I do a check-in'*. Furthermore, Melanie described the

relationship as something they both were taking *'advantage'* of the *'offer'* of group physical activity: *'In terms of signing up for yoga things, I didn't take advantage of that offer'*. This very much framed the interaction as framed within contractual boundaries, which further rendered it as stable; this additional feature was perhaps required in order to reassure Melanie of the relationship's continuity and consistency throughout her pregnancy; it also further conveyed a mutual invested interest in the relationship, which also seemed to be important.

[3] Monitor/overseer support: The stable 'deal' like relationship reinforced or structured the monitoring or surveillance-based support, with this notion of the exercise professional being *'somebody'* who is holding Melanie accountable for her physical activity and thus taking ownership of her motivation:

> *'So that's essentially what I'm paying her for. I'm paying her to be my person I'm accountable to at the end of the week …I think just knowing that somebody's checking-in on you and seeing whether you've done stuff or not. You kind of want to make sure that you've done your homework…'and that's probably mainly because they're kind of watching you on a one-to-one and they can see exactly how far you can be pushed'*.

Monitoring and surveillance were particularly clear through language such as *'accountable', 'watching you'* and *'checking-in'* with and reporting back to her exercise professional; with this being a key motivation or support need for Melanie to maintain her motivation and commitment to the *'training programme'*: *'I think knowing that you're accounting to somebody is the biggest driver for me'*.

[4] Foundation of trust: A trusting in expertise relationship continued to be important, and Melanie provided some context elsewhere, which seemed to relate to the necessity for this component within her one-to-one relationship with an exercise professional. Indeed, Melanie's need for the trust in expertise of her PT, seemed to stem from Melanie's history of feeling uncoordinated and therefore self-conscious in group physical activity. In this situation, Melanie only trusts the exercise professional with her mistakes or perceived poor coordination, as she feels that the exercise professional amongst all other individuals in the class, is the only individual who has the authority and ability to guide her: *'the only person that can see you is the Instructor, and then it doesn't matter if you're turning the wrong way, and if you're using the wrong arm, they can gently say that. But you kind of don't have the thing of: "Oh, God. Does everyone think I'm rubbish at this?" Which I do sometimes in a class'*. Melanie thus feels judged by her peers in group physical activity, and expects to trust the exercise professional not to do so, as they the only person positioned to help her progress and improve.

**Interview three, (36 weeks)**

Even at the later stages of pregnancy, Melanie continued to show a preference for exercise professionals, albeit to a lesser extent than previous interviews, given her reduced physical activity by this point.

[1] **Tailored or focused interaction:** Tailored or focused coaching still occurred towards the end of her pregnancy, but with reframing physical activity as being in preparation for delivery and postpartum: *'It feels like a kind of countdown. And it feels like kind of getting to the last leg of something and kind of getting onto the downhill bit'*. Physical activity continued to be adapted relative to her stage of pregnancy, showing an enhanced tailored/focused interaction from her PT: *'The programs' been modified, so it's a lot less strenuous now'*.

[2] **Stable/contractual relationship:** Melanie referred again to the reciprocal investment relationship with her PT, which was founded on a stable/contractual relationship with clear benefits and boundaries: *'She knows it's important, and it means a lot to her. And also it's good for her that I've kept doing it. And it kind of reflects well on her practice as well'*.

[3] **Monitoring and surveillance:** Melanie's PT continued to exact close monitoring and tailored adaptation of her *'training program'*, thereby adding to the *'countdown'* feel of physical activity: *'the personal trainer, she's been almost weekly changing it up now, yeah, to make sure that it's still right for where I am'*. In light of the social restrictions of the pandemic, Melanie reiterated the importance of receiving monitor/overseer support from an exercise professional to whom she was 'answerable' to; thus welcoming their surveillance and judgement:

> *'I think lockdown sort of added to that, because I knew that if I didn't kind of get somebody to help me and to kind of be answerable to, it wouldn't been so easy to just go: "I'm pregnant", and sit on the sofa and not do anything…it was kind of an added kind of spur to get that kind of professional support'*.

Melanie made clear the importance of monitor/overseer support, with it being a feature she prefers over other social interactions concerning her physical activity, because the surveillance required in this form of support provides a sense of guidance and reassurance of its safety. The exercise professional is likened to a guardian angel:

> *'If I hadn't gotten the personal trainer, I would've had to be way more proactive and way more kind of self-motivated. Because just having her like a little angel on my shoulder, checking in on me, making sort of – it's not like she would tell me off if I didn't do it, of course. But it's kind of just being accountable to someone has kind of meant I've kept it up'*.

[4] **Foundation of trust:** Now that Melanie had progressed through her pregnancy and achieved most of what she intended in terms of remaining active, the foundation of trust element was less vocalised. The influence of foundation of trust, being a combination of expert and referent power, however was more intimated in a social interaction Melanie had with her friend-physio, who remarked upon Melanie's retention of bodily control throughout this pregnancy: *'I went to see my friend who's a physio last week…she did a bit of a massage for me and she was like: "Oh my God, it looks like you've got a beach ball up your jumper…you look so different from last time". It's really nice to hear'*. The praise obtained from this interaction was strengthened not only by the friendly relationship, but the expertise this person also possessed. Melanie could therefore trust is and esteem the exercise professional's commentary of her achievement and progress.

In addition, despite preferring one-to-one interactions with her PT in previous interviews, when it came to swimming, Melanie demonstrated a preference for not swimming alone: *'If you're swimming out from the beach and it's not August, you can be the only person. Or you and the person you're swimming with can be the only people in the sea…I would never go sea swimming on my own. I would always go with somebody else'*. This suggests that towards the latter stages of pregnancy perhaps, a migration towards indulging in the safety of ***like-minded*** others, who shared a proclivity for her chosen physical activity, may be important or at least complimentary of the one-to-one relationship, she has her an exercise professional. Indeed, Melanie alludes to a sense of membership, which gives her comfort, a sense of belonging support derived from a community amongst sea-swimmers, which may point to the social benefit element, she has described as absent from her current physical activity social experiences: *'there is a kind of – you almost feel like you're a part of this kind of swimming – not like a club, but there are people who swim all year round, and* ***there are people like me*** *who swim not all year round…it's nice to sort of feel like you're part of a bit of a community of sea swimmers'*.

## Ruby

**Interview one, (16 weeks)**

At interview one, Ruby had a number of social experiences that she graded as important. Due to her focus on seeking a causative link between physical activity and *'recurrent miscarriages',* Ruby sought information online to reassure herself of preventing another miscarriage when engaging in an active pregnancy:

> *'when exercising in pregnancy. And one of those was recurrent miscarriages…'Like you'll know, there's no evidence to suggest that exercise can cause a miscarriage. But I was trying to eliminate as many possible kind of things. So yeah, I kind of made the decision to not run, certainly in the first 12 weeks'*.

In doing so, Ruby critiqued the lack of clear and forthcoming concern amongst healthcare professionals to clarify or even explore whether her active pregnancy was a risk factor for recurrent miscarriage: *'it's not something that's discussed as such. I mean, they would probably turn around and say to you: "Well, just carry on doing what you were normally doing." But actually, if I carried on doing what I was normally doing, then that wouldn't be a good thing for me necessarily'*. This criticism seemed to relate to Ruby's concern that healthcare professionals' conclusions rested on probabilities and habitual behaviour, and did not abate her need for conclusive evidence: *'I spoke to the doctors, obviously when I lost the second baby, and said: "Look, could this have kind of had an impact?" And they said: "No, you were physically active before. You didn't suddenly take up running in that 12 weeks. It's very, very unlikely"'*.

In response, Ruby graded content she had sourced from other exercise/healthcare professionals online as a preferred social interaction concerning her quest for causation. Ruby found that such professionals online seemed more willing to, at the very least, convene and lead discussions on the causative link between the active pregnancy, including explore ways to manage the potential risks: *'I was listening to an Instagram Live…a women's health physio and…an endurance athlete. And I think somewhere in there they mentioned…about recurrent miscarriages and maybe reducing high-impact exercise if you'd had recurrent. So not if you'd had just the one'*.

At the same time however, Ruby criticised the lack of regulated advice made available online, particularly those that were shared by individuals who lacked the pre- and post-natal trained exercise professional status that she possessed: *'I always kind of when I write anything about exercise in pregnancy – I did a blog…I try and encourage people to seek advice from pre- and post-natal trainers…so that they know there's modifications to make'*. In relation to this concern, Ruby naturally migrated towards social materials which esteemed exercise professionals, thus reinforcing her own exercise professional identity: *'I've also got a base now of local women's health physios who I can just send a quick message to…to get their backing of the classes, and to know that they know that I'm taking the safe approach to it'*.

Despite seeking social experiences to inform herself at this stage of pregnancy where the risk of miscarriage felt more possible to Ruby, she seemed to grade above all other social interactions, the importance of the one she had with her Husband, who conveyed an understanding of her relationship with physical activity:

> *'my husband is very physically active as well. He did encourage me not to run. But he also said: "Jess, you need to do what's right for you. I'll support you in whatever you do". So he was fine. He did encourage me not to run and would tell me to slow down if I needed to slow down. But he also knows that I am getting better at moderating that myself. So he's like: "Jess,*

> *sometimes there's no point in me telling you to slow down because [a] you won't do it because I'm telling you to, and [b] sometimes you need to recognise it yourself"'*.

It seems that Ruby's Husband provided a welcomed degree of monitoring and surveillance which she needed in order to regulate her active pregnancy, particularly at a time where she not only wanted to remain active but within parameters which ensured she would avoid or reduce the risk of miscarriage. Thus, obtaining knowledge and support to manage risk were key factors underpinning her selected social experiences.

**Interview two, (24 weeks)**

To a greater extent than interview one, Ruby expanded on the influence of her Husband concerning her physical activity, positioning him at the apex of all social interactions:

> *'The support from my husband is the most important just because he's the person that I'm around all the time. And he knows a bit more about sports, and he probably now knows me better than my parents do because I haven't lived with my parents for…12 years, 14 years. And I've lived with him for the last six or seven years through all the changes of marriage and children and the ups and downs of life. So he probably knows me better'*.

This position seemed to descend from his inherent position as partner, such as his proximity to her, his ubiquity in all aspects of her life, and that he *'probably'* knows her best, which intimates some uncertainty. However, it seems more like he has learned to manage her (*e.g., 'he knows what I need to tick'*) and with this management position she needs to seek his approval for her physical activity behaviour particularly during pregnancy: '*So if I have the support from him and his trust'*. Ruby thus, welcomes his surveillance of her physical activity which he offers in a hybrid union of:

[1] unquestionable support for physical activity (*'[Husband's] brilliant. He's always encouraging me…The other week when I was a bit tired…he was like: "Come one, let's get on the bike." And he got me out on my bike because he knew that I was just being tired …And he knows the exercise is the way that gets me kind of back into a good mood*), with:

[2] measured recess for rest (*'when he can see that I'm in a bit of pain with the varicose vein – and he will tell me to put my feet up, and he will tell me to get the ice pack out and to rest and remind me. So yeah, he's got a really good grasp on me'*).

Ruby continued to criticise the lack of clear active pregnancy information by highlighting a lack of professionally trained influencers posting potentially erroneous advice on social media, which leaves the floor open for bogus or wrongly assumed professionals posting content. Ruby does this indirectly by reaffirming her credentials as an exercise professional who seeks to advise on and campaign for

an active pregnancy, assisting the helpless pregnant women who are navigating a perilous situation, trying to find make sense of the content on social media: *'something on social media about the fact that only 8% of PTs were pre- and postnatal qualified which is a bit like: "Whoa, okay. And how many people are working with a PT and not sure their understanding of kind of the pre- and postnatal body?" So that kind of surprised me a lot'*. Ruby also touched on the point she made in interview one about the need for professional representation of and accountability for active pregnancy advice: *'it's just that where do women get their advice from? And more than just an infographic, an explanation of the infographic …it's that kind of mixed messages …it's just when and whose responsibility to do that''*.

Whilst critiquing deficits in access to professionally informed and regulated knowledge, this further mandated her role as a campaigner/advocate for the active pregnancy and she draws upon other social experiences where she actively challenges these concerns:

> *'I think I was having this conversation …about whose responsibility it is to give the information out? Is it your GP? Is it your midwife? Is it somebody that you follow on Instagram who doesn't actually know who you are? Probably not. But where do you go for that help? Whose responsibility is it to give you guidance?'*

Despite these concerns over liability and accountability including those which related to her own role as exercise professional, in selecting preferred social experiences, Ruby esteemed having the motivation of a following of pregnant women exercisers as an influence on her own physical activity, particularly the observation and implied or tacit judgement of her followers to help her attenuate her physical activity drive: *'So I'm always thinking about them, which means I don't get carried away with myself. And I think they appreciate me saying: "I'm taking a step back here too knowing that'*. This may suggest that as the pregnancy progresses and her competitive streak remains, Ruby recognised herself as a risk, which she must continuously temper and learn to manage: *'I absolutely wouldn't say to do as much as I do. And I am learning how to recognise when I'm a little bit tired'*.

**Interview three (34 weeks)**

At interview three, Ruby seemed less critical of information and access deficits concerning the active pregnancy topic; perhaps because she was reaching the later stages of pregnancy and was more focused on preparedness for birth/delivery: *'I'm really trying to slow down and prepare, really, and get ready is the plan'*.

In terms of preferred social experiences, Ruby's Husband remained the key social interaction for reinforcing her active pregnancy. Ruby explained how she and her Husband were engaging in joint-walking as part of a physical activity goal she had set herself previously: *'I'm still trying to get out*

*walking. I managed to do – I think last time I said I was trying to walk a mile a day. I managed 140 consecutive days'*. In fact, the one time that Ruby walked without her Husband, was the one time that she incurred a fall: *'We always went out altogether. And then the one time he left me out on my own was the time I fell over on the ice'*. Thus, Ruby's Husband continued to be positioned as a welcomed monitor of her physical activity. Indeed, Ruby implicitly positioned her Husband as someone who assumes a legitimate power position in regulating her physical activity; as he not only questions her physical activity relationship, but also determines its limits: *'my Husband was like: "What are you going to do?" and I was like: "I'm taking a rest day [laughter]. Don't make me go out"…'So I wasn't allowed out on my own anymore after that [the fall]'*.

Similar to interview two, Ruby continued to esteem the necessity of her pregnant women/mum followers, who most closely represented a 'like-minded' population. This group not only motivated her to be active, but indirectly prompted her to self-moderate physical activity; thus, describing a reciprocal motivating-versus-moderating interaction between herself and her followers:

> *'You sometimes need that extra motivation with somebody telling you what to do on a Monday. And kind of once you start on a Monday, you tend to be in the right mindset for the rest of the week…I must say, I'm better when [the classes are] live...I'm at a stage now where I find something else to do before I do it. And that little bit of motivation is good'*.

In addition to motivating her to be active, her followers also reinforced her physical activity persona in advocating the active pregnancy; and as her followers would physically emulate her through exercise, this also positioned her as a role model:

> *'the women in the group that I've got going…They're always like: "Ruby, you're so good at motivating us and your enthusiasm" – I was like: "Yeah, but you guys keep me going too" – If I wasn't doing it for them, then I'd be a bit like: "You know what? I'll just sit down some days." But I always feel so much better. Once I've done the workout, I'm always buzzing. So I just need to remember that when I'm like: "No, no"'*.

However, perhaps in consideration of her pregnancy stage and progressive physical limitations, Ruby required the influence of her following to be proportionate to her impending multiparous lifestyle and caregiver commitments: *'it's trying to slot it in around when Husband can watch first child. And that maybe only allows me like one hour in that day to try and get it done. There's probably a few contributing factors to it'*. This balancing act nevertheless precipitate an inner conflict between relinquishing her physical activity persona to focus on the multiparous lifestyle, whilst lamenting the social interactions amongst her followers, who reinforce her exercise professional identity: *'I do wonder, because as much as I was like: "I want to stop work and have maternity leave" – I think I'm really going to miss having that, up and doing something on a Monday morning. But I think I do need*

*to not do it and actually slow down. Yeah. I think I'm going to find it quite difficult to find the motivation'*.

This need to relinquish some of her exercise professional identity relative to pregnancy, is perhaps quite evident where Ruby positioned pregnant women and exercising mums as vulnerable or helpless within the context of being critical of pregnant women using pregnancy as a reason to avoid physical activity:

> *'I think some people maybe use pregnancy as an excuse to stop. And the baby comes, and it's another kind of six months before they do anything. And actually, they could've done something to help themselves in that period. Especially if – and I don't know anybody. If there's somebody who moans about it and is unhappy about it, but doesn't do anything about it, what are you supposed to do with that group of people?'*

Again, Ruby described pregnant women as helpless by stating that pregnancy as a state in which physical activity enables them *'to help themselves'*. Ruby then goes on to position herself as the campaigner and the preacher who is frustrated at seeing other pregnant women not paying heed to her message. In particular, the helpless cannot be helped without their own *'desire'* to do so:

> *'Because it's like taking, what's it, a horse to water, but you can't force him to drink. And I never talk about weight loss. I only really ever talk about doing it to make you feel better in yourself. But there's only so much you can encourage people to do. And they have to have that desire or drive to do it themselves'*.

It seems that although pregnant women exercisers were an important social interaction to reinforce Ruby's exercise professional persona and role as advocating for the active pregnancy, this could also cause Ruby to perhaps feel burdened within this role, expecting herself to reach and help every pregnant woman adopt an active pregnancy. Indeed, an objective that may have felt more onerous at this later stage of pregnancy.

**Appendix R: Study Three: Social Contrivance Results data for participants: Scarlett, Kelly, Melanie**

**Scarlett**

**Interview one, (27 weeks)**

At interview one, Scarlett utilised the 'Insta Live' social media platform to activate a social identity reminiscent of her pre-pregnancy physical activity experiences, where she shared her physical activity enthusiasm with other exercisers and exercise professionals: *'I think sharing…normally once a week in one of the workouts, I will share to my network that I've done that workout. And that is kind of invigorating conversation with people…Just being able to share the experience with others on social media has been good'*. Scarlett thus acquired group membership through *'sharing'* her physical activity with the 'Insta Live' network, as content was encouraged in a reciprocal content-sharing community:

> '*you see everybody posting as well afterwards. I said that I share with my Instagram followers, but they also do. And when they tag the people that we're doing it with, you see everybody sort of posting their sweaty pictures afterwards. Again, it's just gives you encouragement, because you're like, we've all done it together'*.

By *'sharing'* with a community of pregnant women exercisers, Scarlett obtained *'encouragement'* under reward and coercive power transactions, comprising either explicit praise or implied disapproval from others either liking her content or by passively ignoring it: *'Because they'll sort of give me a thumbs up. Or some people have asked me what activity you did in your pregnancy and stuff and how you're finding it. And people give you encouragement'*. In addition, a sense of uniformity or self-identification in terms of shared experience amongst a network of individuals who shared her situation, meant that Scarlett could obtain belonging support and thus a group membership or team player identity.

Outside of the 'Insta Live' community, Scarlett challenged negative social judgement (i.e., views or expectations that contradicted her active pregnancy) by educating others. For example, Scarlett described how she would *'educate'* family and friends, who failed to understand the safety and value of antenatal physical activity:

> *'I think trying to use it to educate some people as well. Because…some of my family members have maybe saw: "You're doing lots of workouts. Are you doing a bit too much?" And I've tried to use it to kind of sort of educate them a little bit to kind of say: "I'm doing it through a pregnancy specialist company. It's all adjusted"'*.

Within this educator role, Scarlett seemed motivated, quite vehemently, to challenge negative social judgement towards the active pregnancy, which she was able to do so under the specialist guidance and support of the 'Insta Live' community:

> *'I think this kind of stereotype or whatever you want to call it, that when you're pregnant you should only be doing gentle exercise like walking or whatever, and that everything else you should just basically be stopping. And I've tried to use it a bit to sort of say: "Look, there are actually people out there that specialise in this, and it is all being done safely"'*.

Challenging negative social judgement however was burdensome, as justifying her behaviour also seemed to trigger self-doubt. This is inferable through her repeated need to *'explain'* herself and thus be accountable to others, which inadvertently caused her to begin *'questioning'* herself:

> *'I do say to them: "I am being mindful of what I'm doing. Because it's a pregnancy specialist class that I'm doing, I know that it's safe." I don't need to keep questioning myself…I just explain to them that I am not doing it to lose weight…I'm doing it to stay fit and active in my pregnancy and to help my mental health…They tend to understand a little bit more when you actually kind of explain that…as soon as I say it's a kind of pregnancy specific workout, they kind of say: "okay. That sounds like it's safe"'*.

In order to counteract this justifying exercise, Scarlett seemed to downplay the impact of *'comments or questions'* about her active pregnancy once people had accepted her reasons. Scarlett focused on positivity under the abatement of questions and seemed less preoccupied with the intention underlying them:

> *'Yeah, really positive…I've had maybe comments or questions about what I'm doing and is it safe…that's just more a concern. And as soon as we've had the conversation and I've advised what I'm doing, then they've been very encouraging about it. I've not really had, I wouldn't say, anything sort of negative experience around physical activity during pregnancy at all'*.

It seems that, despite feeling secure in her practices, Scarlett nevertheless required the approval of her familial network. Obtaining their approval as an educator, necessitated a degree of social contrivance; as Scarlett proffered multiple reasons before concluding that the *'pregnancy specific workout'* feature above all, seemed to inspire acceptance from others. This highlights the influential power of family and friends on antenatal physical activity; even for pregnant women who are fiercely independent and protective over their physical activity.

**Interview two, (31 weeks)**

Scarlett continued to share her physical activity with the 'Insta Live' community, who supported and endorsed her active pregnancy: *'it's kind of been the same in terms of when I have shared anything on social media, I've just been getting really positive comments back from people just saying like:*

*"Oh, amazing that you're still doing this", and "Well done" and just kind of encouragement'*. Sharing her active pregnancy with this *'community'* continued to reinforce and validate her social image, fortifying a team player identity amongst a *'similar situation'* group that also recognised individual differences.

Scarlett was therefore more willing to share her active pregnancy with a community, where she could document and catalogue her active pregnancy through the posting/sharing mechanism of social media. Indeed, it seemed that the virtual interaction with this community afforded Scarlett greater control over her identity compared with real-world interactions. For example, Scarlett assigned digital adjectives to describe the bonds established with pregnant women, with them being *'immediate connection'* and *'automatic',* which suggests an advantage to the social contrivance tools of social media to convene and establish bonds with greater utility, than in a less targeted setting, where bonds would be less of a guarantee: *It's an automatic network when you're sharing how you feel…the instructor would always say: "Oh, tell me how you're feeling. Tell me what's going on", and it can help you feel just more connected straight away to those people even though you've never met them'*.

Such automated and rewarding interactions thus facilitated Scarlett's sharing behaviour, as a marker of her membership to the 'Insta Live' community. In reduction of her 'Insta Live' classes however, Scarlett noticed that she was actually sharing more physical activity on social media as it helped her to maintain motivation to continue being active: *'I actually shared more when I was doing the live classes because…If I just shared that I've done this, it's going to give me motivation to do the next one", when people comment or share anything. So yeah, it definitely had an impact on helping maintain that routine'*. Although Scarlett insisted that her increased sharing of content with the 'Insta Live' community helped her maintain motivation to be active, it also ensured Scarlett continued to stay relevant and belong to the pregnant women exerciser network. Thus, it seemed that Scarlett shared more content perhaps in compensation of her reduced active participation.

Unlike interview one, Scarlett began to conceal her physical activity by only sharing content on social media platforms that could not be viewed by family. Thus, Scarlett utilised social media to contrive her social experiences by restricting what others could see and comment:

> *'a lot of those people aren't on Instagram. They're more on Facebook, so I just don't share it on Facebook. I keep it on Instagram. Yeah, it's fairly easy for me to do that. I kind of managed so far…So they do know what I'm doing now, but they just don't see it shared when it's happening because that's how I learned that they didn't really understand or thought it was too much'*.

Concealing was a necessary behaviour for Scarlett, as she felt that some family members failed to appreciate the importance of physical activity because of a generational gap in knowledge; a gap, which she had tried to bridge previously through education: *'there's definitely still an old-school way of thinking…in certain generations anyway, that when you're pregnant you don't do anything…You can't do exercise'*. With education being ineffective and this generational gap rendering it problematic for Scarlett to be candid about her active pregnancy, sharing content came at the risk of impacting her *'positive mindset':*

> *'there are a couple of people in the older generations in the family that have kind of always been a bit like: "Oh are you sure you should be doing that?" or "Don't be doing this. Don't be doing that". So I tend not to share with them what I'm doing because I feel like they'll judge or they'll pass a comment and be like: "You shouldn't be doing that" and then that's just going to take away my positive mindset on it that I've got. So I know the people not to share it with because I just don't need – I don't need that kind of negative reaction because I know what I'm doing is fine. I don't want to feel like I have to explain anything to them either, to be honest. I just don't think they'll understand. It's just their mindset and where they come from, from a more traditional perspective…I tend to just not share my experiences on this with them'*.

Thus, in preservation of her motivation and relationship with her body through an active pregnancy, Scarlett drew upon the social contriving tools of social media to limit her exposure to negative social judgement.

**Interview three, (36 weeks)**

Interestingly, by interview three Scarlett no longer shared content with the 'Insta Live' network, as she herself was no longer participating in their classes. Seemingly, as a consequence of reduced 'Insta Live' interactions, Scarlett began to share content with friends and family, albeit in a controlled manner. For example, Scarlett only shared pregnancy yoga content with family/friends, who in-turn validated her physical activity status: *'if I physically say to them: "I'm going to do a yoga session later"…then they give me positive reinforcement because they'll, obviously, say: "Oh, that's amazing. Enjoy it", kind of thing and: "it's amazing that you're still doing stuff for whatever, even doing exercise"'*. Social contrivance is particularly clear above, where Scarlett demonstrated her awareness of the inevitable positive feedback she received when exhibiting specific physical activity experiences to others: *'because they'll obviously say'*. Indeed, predicting their responses implies a degree of social contrivance; as Scarlett has conveyed a social image concerning her physical activity, which is supported and reinforced by others. Social contrivance is also clear where Scarlett explains the proactive effort she must make to obtain these social experiences from family and friends, contrasting these experiences with the expediency and forwardness of the 'Insta Live' community:

> *'But I have to proactively go – I almost have to proactively get that, if you know what I mean? It's not just automatic, like with the Insta Lives, but I have found that it's helped motivate me to do it in the first place. Also their response to me doing it is kind of giving me that kind of boost of like: "Yeah, I am doing my best"'*.

Again, as in interview one, the '*automatic'* properties of the Insta Live community render it a better network for obtaining those specific social experiences, which positions family and friends as a substitute.

Towards the later stages of pregnancy, where Scarlett's physical activity levels had noticeably reduced, engaging in socially accepted pregnancy yoga, meant that Scarlett was more willing to share her activity with friends and family, in replacement of the endorsement she received when sharing content with the 'Insta live' community. Yet, despite altering her posting behaviour, Scarlett continued to limit her friends and family's surveillance of her physical activity behaviour, only telling them proactively when she had engaged in pregnancy yoga:

> *'I guess they would only know – a lot of my friends normally follow up and be like: "Oh, how was your yoga session?" or whatever. And, obviously, then I would say if I hadn't done it. That's the only way they would really know, if I hadn't done it…'I guess my friends or family would only know if we then had a conversation about it afterwards or at a later point. But I do mention it'*.

This implied a deliberate effort to continue to contrive these social experiences by controlling their level of surveillance over her physical activity; this perhaps is a level of control over her identity via social interactions, which Scarlett wished to maintain for a deeper sense of autonomy.

Nevertheless, Scarlett had made a transition from her earlier interviews, where she did not want to share nor engage in conversations with family and friends about her physical activity, out of concern that they may pass negative judgement, which she wished to avoid. By interview three, Scarlett had negotiated a dialogue with her friends and family where they support her (gentler) physical activity, and in return, Scarlet obtained social validation from more diverse sources available to her at this stage of pregnancy: *'I think particularly, with my friends and family as well, they know that I liked to keep fit pre-pregnancy as well, so I think they know it's important to me. So they are more likely to sort of ask about it and see how I'm doing with it'*. However, the level and depth of information Scarlett shared with her friends and family was still curtailed, and for some omitted altogether. Indeed, despite actively sharing her physical activity with her family and friends more so at late trimester three, Scarlett still felt obligated to reassure them that her physical activity was safe. In doing so, Scarlett assumed an educator role (*'it's definitely been an education piece'*), which she had done in previous interviews:

> *'they're all supportive of me just doing what's best, obviously for me…all just impressed that I've been able to keep up with the exercise I have to this point…but they're kind of like: "Are you allowed to do that when you're pregnant?" and I'm like: "Yeah". I feel like I'm educating them at the same time because it's quite an old-fashioned view that because you're pregnant, you can't do certain things'*.

In managing negative social judgement, Scarlett continued to make exceptions for her mother and mother-in-law (from whom she continued to conceal her physical activity), by noting that a generational difference renders it difficult for her to appreciate physical activity as a safe pursuit during pregnancy: *'it's a generational thing. People like my mum will still be like: "I don't like the thought of you doing that". So I tend not to have conversations about it with my mum or my mother-in-law'*.

## Kelly

**Interview one, (16 weeks)**

Kelly appeared to avoid or refrain from actively curating a social image concerning her physical activity on social media, which seemed to be out of caution and liability concerns around advocating the active pregnancy to others. In turn, this meant that she shared and concealed her physical activity comparatively less so than other participants. For example, when instructing her Pilates students, Kelly felt obligated to explain her reasons for adaptations, which reflected her safe demonstration of an active pregnancy; yet she also did not want to be seen to be training or informing their knowledge on antenatal or postnatal physical activity: *'the courses can be quite challenging, and they're not postnatal classes. And because they're online as well, I don't feel confident teaching postnatal online and stuff, especially if they haven't seen a physio'*.

In managing her social image, Kelly referenced situations where she encountered negative social judgement concerning her physical activity. Including from her mother: *'I just think some people are still surprised when I say I run…Like my mum doesn't like it that I'm keeping up running, but. She prefers me not to, just in case I fall'*; and from people generally: *'I've also had some experience of people – because I have had such bad sickness and stuff, be surprised that, the little energy that I do have, that I use it for physical activity'*. In order to manage others' judgement and expectations, Kelly spoke about only sharing some of her physical activity on social media, which in turn enabled her to implicitly conceal some of her physical activity: *'I share some of what I'm doing. Obviously, I don't live near a lot of them…I think they are aware of it'*. Kelly distanced herself however, from the idea of concealing her physical activity by sharing limited or curated examples of it, as she considered that her active pregnancy was still public knowledge irrespective of whether she shared or concealed all of her activity: *'I guess maybe I don't share a lot of what I do with people. But I mean, everyone knows*

*I'm still teaching and stuff'*. This perhaps reflects that sharing and concealing behaviour although helps limit eliciting responses from others, this degree of curation does not prevent others from knowing and judging anyway.

Kelly therefore focused on managing her own responses to family members judgement about her active pregnancy. In doing so, Kelly showed *'understanding'* and attributed negative views to generational differences:

> *'I think the older generation, like my mum and my mother-in-law, their shock and horror of me going for a run or continuing to teach throughout pregnancy has really shown me how the generations have changed. Whereas I've got other friends that, maybe, they weren't as active during that pregnancy, but they also aren't horrified by the idea of me being physically active'*.

In further managing views which contradicted her active pregnancy, Kelly drew upon the support of her husband; perceiving him perhaps as the key individual with whom she could share and not conceal her physical activity from: *'my husband is very supportive. He doesn't think anything – he doesn't think I should stop. We're quite matter-of-fact about it. We take extra precautions. Like I bought a heart monitor'*.

**Interview two, (25 weeks)**

At interview two, Kelly seemed more enthusiastic about sharing her active pregnancy with others after receiving positive reinforcement from her midwife and other pregnant women exercisers: *'then also from the yoga group, I think that's quite nice, I just shared, like to just share things…Any comments that I've had have been quite positive'*. Sharing online also seemed to be more of a prominent social experience for Kelly, with Instagram proving a platform of positive reinforcement for her active pregnancy: *'since the last time I spoke to you, everything has been probably more positive. I've had quite a few encouraging comments from photographs, say, that I've uploaded on Instagram. People have been quite encouraging: "Oh, oh you look really well. Keep going"'*.

Kelly was able to use the sharing tools of social media to obtain reinforcement in opposition to the negative comments she skilfully avoided. This was clear when she explained how she shared content and then obtained the reinforcement from her Instagram followers and her Pilates group, groups in which she holds natural referent power by being followed and being a teacher, respectively: *'…all of the people on my Zoom group or Instagram if I upload something to say: "Oh, I'm doing this 2.5 kilometres today"…everyone is like: "Oh, well done. That's really good. Well done. Really good for you and the baby'*. Kelly explained how the use of social media as a *'curated'* social contrivance tool facilitated the acquirement and avoidance of certain social power relations that could impact her physical activity relationship: *'if you don't want their opinion then there's no point telling them. And*

*pregnancy is so individual…I think it's always hard for them to picture what life is really like…they just see pictures or they just hear how I am, and they're not actually seeing'*. This suggests that a degree of curation is useful when engaging in an active pregnancy, to obtain the requisite encouragement through sharing, and avoiding the harmful judgement/views through concealing or refraining from publication of content on social media.

Furthermore, although Kelly continued to experience negative social judgement from others throughout pregnancy; with a more visible pregnancy precipitating greater concern from others: *'As my bump is getting bigger I have noticed a few comments from friends/family about taking it easy. But to be honest I feel absolutely fine so trying to block them out as much as possible'*. Kelly continued to manage these comments with a degree of empathy and understanding, by attributing comments to a *'generation thing'*, underpinned by care and concern: *'Both my mother-in-law and my mom don't know that I still go running because they both turned around at four months, they were like: "I think you should stop now". And I had a few comments. Not in a mean way, just literally out of concern. So now I don't mention it'*.

**Interview three, (33 weeks)**

By interview three, Kelly described limited instances of sharing physical activity content, which centred on managing her social image of pregnant woman exerciser and moving away from the identity of exercise instructor. To achieve this transitioned social image, Kelly would offer disclaimers to her followers:

> *'If I upload anything on my Instagram about what I'm doing during pregnancy, I always say: "This is what I do. It doesn't mean this is the right thing to do or this is the" – kind of everything comes with a disclaimer really. You've got to be careful because some people aren't trained, and they post information, and you would assume that if you post it an, then it's official, but we all know social media doesn't work like that'*.

This implied a concern around managing her social image, as despite not wanting to be perceived as an Instructor, Kelly still offered instructions to others on how to use social media content, which nevertheless positioned her still as an Instructor or Educator. Caution around others perceptions indicated a sense of personal liability and social responsibility about the intentions and impact of her own social media posts.

## Melanie

**Interview one (26 weeks)**

At interview one, Melanie openly shared her physical activity experiences with friends and family. This seemed to be facilitated by the fact that these individuals shared or at least understood the wider purpose of her physical activity, as a preparedness for birth and postpartum recovery: *'my dad's a really keen cyclist so he's a very active person, and my mum walks a lot. So I've been walking with her. And obviously they know. And my Husband as well, he runs everyday'*. Melanie implies that understanding from her Husband, descended from a mutual need for physical activity in terms of physical and mental wellbeing:

> *'we've definitely talked together about how important physical exercise is for both of us in terms of our mental health and our kind of well-being, and how we might plan that in the future when we've got a tiny baby and toddler and sort of how we're going to work that one out to make sure that we can both still have those times'*.

However, meeting this shared need for physical activity within the multiparous lifestyle, meant that Melanie had to balance her physical activity needs alongside her Husbands, which involved compromise. Indeed, negotiating her physical activity time and relationship produced *'conflict'*:

> *'It does cause a lot of conflict because we're so short of time anyway. We both work full-time pretty much, and with childcare responsibilities, it always feels like: "Okay, well, I want to do this thing on my own", can quite often turn into: "Ugh, but that's the time when I want to do this", or the scheduling thing is really hard. And so the time that we get to do it kind of feels quite hard won'*.

While Melanie described how the *'conflict'* arose from negotiating time for physical activity, it became apparent that her concerns related to managing the *'responsibilities'* of the multiparous lifestyle alone, whilst her Husband engaged in physical activity at a set time without compromise: *'we both know it's really important, but also kind of I'm already worried about him wanting to run or insisting that he will run every morning when I probably will have a new-born screaming and trying to get a toddler ready for nursery'*. It is perhaps the intractable position of her Husband to reserve this time for himself, with her being unable to negotiate an alternative that defined her place in the *'conflict'*. Melanie placated this uncomfortable issue however, by reinforcing their shared need for physical activity despite being disappointed that they could not share this activity together: *'We both know how – the reason it causes conflict is that we both think it's really important…we know how it impacts our mental health positively. I think for both of us, it's that time on our own…we've never been able to run together, which is a shame…I would love to find something that we could do together'*. This perspective however, aligned them as a couple with shared interests, as opposed to a warring couple vying for time to exercise.

Unable to share her physical activity with her Husband, it seems that Melanie shared physical activity updates with others, who encouraged her to champion and take *'pride'* in her physical activity achievements throughout her pregnancy: *'Suggest it to other people? Yeah, definitely. I think there is that kind of pride of: "I'm doing this thing. It's making me feel really good. And I think it's just really interesting, and therefore, sort of I'm telling you because it definitely makes you feel better"'*. Thus, Melanie provides an explanation for *'telling'* or sharing her physical activity news amongst friends, family and pregnant women, which stems from a need to motivate others: *'it's the reason people join [social media resource], isn't it? And post about their workouts because yeah, they kind of want to tell their peers and show their peers what they're doing'*.

Melanie also shared physical activity anecdotes/updates with pregnant women friends who were less physically active than her. Indeed, Melanie experienced a positive response generated from *'telling'* others, as advocating her own physical activity served to motivate others to engage in physical activity: *'I like telling people that I'm doing exercise because it makes me feel good. And I guess there's a bit of wanting my friends who are pregnant like encouraging them to do a bit of activity here and there because it might make them feel better too I suppose'*. However, Melanie makes clear and expresses caution over explicitly sharing or pushing an active pregnancy agenda; she moves from a didactic approach of '*telling'* to offering *'gentle encouragement'* instead: *'I would never kind of – when she has said she'd be walking or whatever, I would always kind of say: "Oh, that's great". So it's a very gentle encouragement'*.

In relation to negative social judgement, Melanie described the surveillance of pregnant bodies by people generally, highlighting their assumed right to observe and judge pregnant women's behaviour:

> *'There's a really strange thing that happens when you're pregnant, where the general public at large feel like it becomes totally acceptable to comment on your body as a thing, as the object…as soon as someone's pregnant, it's like acceptable to just comment on it, which I think is not, and of course it doesn't come from a mean place or anything…But it does though strike me as slightly odd that it's very much, your body is in the public sphere and kind of up for debate as soon as you're pregnant. And I don't like that at all'*.

Here, Melanie reflected on the challenges involved in managing her social image as a pregnant woman, against a flux of opinions on her appearance and exercising pregnant body. Melanie made clear her rejection of aesthetic-based comments about her appearance, while accepting commentary that commended her active pregnancy:

> *'when I've been running outside, people kind of saying: "Ooh, well done. Good for you"…obviously, sort of seeing me running with a bump…which is a much nicer and more*

> *positive interaction than the usual kind of when people comment when you're pregnant, it's like: "ooh, you've got a massive – you're massive"…which is not so welcome'*.

It seems that focusing on her aesthetics perhaps, as mentioned elsewhere (see social comparison), deindividuates Melanie, by assigning her to the collective maternal body corpus. Therefore, it is her maternal body that is being judged; a body which she finds difficult to control and that does not define her preferred social image or identity:

> *'I think the reason it's a positive interaction if I'm working out is because they're not commenting on my body, they're commenting on my activity. And so it's me doing something. It's not just me as an object. And I guess that that goes to the heart of any kind of comment…it's the same as someone praising what you do rather than what you look like'*.

Melanie therefore rejects aesthetic-based comments, because they objectify her as a maternal corpus and not a woman achieving something great. This represents not only a loss of bodily control and identity, but also that, despite her concerted efforts to retain bodily control, she is in fact unwittingly exhibiting and in possession of a disobedient body.

**Interview two, (32 weeks)**

By interview two, Melanie no longer seemed willing or enthusiastic about sharing her physical activity identity as before. This occurred in tandem with a marked increase in feeling *'self-conscious'* about her physical activity and her pregnant body being judged by others, particularly pregnant women exercisers. For example, Melanie touched on the uncomfortable feelings she experienced in her Pilates class: *'I think if it was a normal class – so I think it was literally just the way they set up the room…because it was outdoors in a circle. I think that's why it felt weird, just kind of staring directly at somebody else, while you're trying to clench your pelvic floor. It's a bit weird'*. The idea of being observed by others whilst exercising was an uncomfortable experience, perhaps because it facilitated a setting for judgement about Melanie's physical activity capabilities and her social image. Yet, when reflecting on the social judgement of the exercising pregnant body, Melanie somewhat normalised this observatory behaviour by admitting that she would also make observations: *'it definitely feels more self-conscious. Because I would look at a pregnant person and think – well, not in a judging way, just because you see a massive bump'*.

In managing her social image and maintaining a physical activity relationship, while Melanie seemed to be critical of social experiences that facilitated observations and judgement from others; it seems that Melanie also wished to avoid generating observations of her behaviour on social media, as she became more critical of its surveillance and social contrivance features:

*'You get that notification from Instagram that says whatever it is, is starting a live – and you know that they're doing a workout, and you have that kind of moment just being: 'Oh, I could be doing that. But I'm busy". But yeah. There is that thing of: "Oh, should I be doing that? Am I making the lazy choice?"'*

Such observations about the negative affect of sharing content on social media, may have also influenced Melanie to not freely post content without considering the impact it may have on others:

*'it kind of makes you feel guilty. And really you shouldn't feel guilty for slobbing on the sofa when you were up at six with a toddler and at work all day. The thing I often wonder about is how awful it must be for people who lose their babies and are still inundated with ads for baby clothes and pregnancy stuff'*.

**Interview three, (36 weeks)**

Unlike interview two, Melanie now seemed more willing to share her *'bump'*, allowing it to exhibit itself and not concealing it from public view. This transition had taken time and acceptance to reach a point where social surveillance and managing her image need not conflict anymore; or if they do, she will not try to settle the contention, but retain inner peace with her own body and stage in pregnancy:

*'I was more self-conscious at the beginning, because I think now I've got used to my body being different. So I kind of am sort of fine about it. I think I was quite self-conscious at the beginning about my body just changing shape and having a bump and kind of feeling like the bump was really big…I'm more relaxed into it now'*.

It appears that with attaining a sense of bodily control and achievement through physical activity, Melanie seemed more willing to exhibit a social image that encompassed her pregnancy. In terms of sharing her social image elsewhere, Melanie implicitly mentioned her Husband as a contentious social experience; as despite their shared enthusiasm for physical activity, he did not expressly or overtly credit her progressive achievement in retaining bodily control:

*'my husband runs, but he's not interested in what I do [laughter]. Although I overheard him saying to one his friends about how I've been doing all this exercise. And he sort of sounded quite proud. But he would never say to me that he's proud of me for doing it, you know what I mean? He's a typical man'*.

This social interaction however showed a marked change in Melanie's perspective from interview one, where a lack of agreement and shared physical activity between them was regretfully attributed, by Melanie, to her Husband's seriousness towards physical activity. Whilst this stirred despondent emotions previously, by interview three, being perhaps so content regarding her sense of bodily achievement, Melanie exhibited emotions of indifference and acceptance: *'I'd quite like him to be, but*

*he's never been a kind of complimentary kind of a person. It would be quite odd if he did start doing that. It's fine. It obviously doesn't bother me that much. I've been with him for 11 years so [laughter]'*.

On the subject of social judgement, although Melanie continued to feel *'self*-conscious' of other's observation and comments about her pregnant body, this did not seem to deter her from engaging in physical activity as before. For example, where Melanie stopped attending Pilates class previously, due to feeling uncomfortable of others' observations, she continued to attend swimming at a public pool, despite feeling somewhat of a spectacle of *'amusement'* amongst other swimmers: *'I was all right getting in, and then getting out [laughter] I just couldn't work out how to do it and ended up sort of shifting myself up and then having to do an eskimo roll to get out of the pool, causing quite a lot of amusement amongst the other swimmers'*. This is particularly telling of how Melanie feels about her pregnant body and managing her social image, as by interview three, Melanie seems able to disregard the observations of others in pursuit of a physical activity she enjoys. Furthermore, Melanie continued to manage the impact of negative judgement on her social image, by downplaying the level of self-consciousness that she experienced: *'it definitely feels more self-conscious. Because I would look at a pregnant person and think – well not in a judging way, just because you can see a massive bump…It's not self-conscious in a kind of debilitating way. It's just. I guess, I'm aware of it a bit more'*. This comment again, as in interview two, normalizes the public surveillance of the pregnant body; after criticising aesthetic-based comments so vehemently in interview one, this shows a coping mechanism, which avoids internalising comments about her pregnant body. This coping mechanism is perhaps telling of her *'countdown'* to birth and motherhood; meaning as she has exceeded her physical activity and bodily-control goals, she also has nothing more to prove, therefore no social experience whether positive, negative or neutral, can impact this sense of achievement.