Fairness in Diverse Teams and Team Performance

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Thesis Summary

While the impact of diversity on team justice climates and team performance are established, little attention has been given to the effects of perceived deep-level diversity, the behavioural mechanisms that lead to the emergence of justice climates in teams and, in turn, team performance, and the potential moderators of these effects. Drawing on similarity-attraction theory and uncertainty management theory, I propose and test a multi-mediation model in which team deep-level diversity negatively impacts team performance by first impacting their communication openness and, in turn, their perceptions of procedural, interactional, and distributive justice climate. Ethical leadership is identified as a moderator, where low ethical leadership heightens the role of team justice climate on team performance. A mixed-method design was adopted. First, a quantitative survey was conducted with 249 employees nested in 58 teams across two large organizations. The findings confirm that perceived deep-level diversity is negatively related to team perceptions of procedural and interactional justice climates (but not distributive justice), and team communication openness mediates these relationships. In turn, the interactional justice climate was found to be a strong predictor of team cohesion, and these effects were heightened when ethical leadership was low. Against predictions, partial support was found for a relationship between interactional justice climate and team performance when ethical leadership was high (not low). To further illuminate these findings, a qualitative study was carried out using semi-structured interviews with 20 employees. These interviews revealed issues of (a) a lack of respect among team members and leaders, (b) a lack of ability to perform, and (c) unequal reward systems that affect justice in diverse teams. In addition to theoretical contributions, this work informs practitioners on the potential influence of deep-level diversity training and other activities that may provide them with a framework for creating a positive team environment.

Keywords: Deep-level diversity, Team justice climate, Team communication openness, Ethical leadership, Team cohesion, and Team performance

DEDICATIONS

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Chapter 1 Introduction

1.0 Chapter Summary

This chapter provides background and introduction to this research in the field of perceived deep-level diversity and its potential role in the emergence of justice climate perceptions in teams. Firstly, the primary constructs are introduced, followed by the research aims, objectives and research questions. Next, the main contributions of this thesis are discussed, and a brief overview of the conducted studies is provided. Lastly, the structure of this thesis is outlined to assist the reader in navigating through this thesis effectively.

1.1 Background and rationale

This research aims to investigate the effects of perceived deep-level diversity on the emergence of justice climates and, consequently, the influence of these justice climate perceptions on team outcomes. The increasing number of work situations in which teams are responsible for achieving collective goals within an organisation has generated significant interest in the topic of justice climate (Colquitt et al., 2002; Naumann & Bennett, 2000). This construct is conceptualised as shared perceptions of how team members as a whole are treated (Roberson & Williamson, 2012; Naumann & Bennett, 2000). A great deal of research on justice climate has recognised team justice climate as an essential requirement for effective team functioning (Li et al., 2015). Research suggests that when employees believe they have been subjected to fair treatment they tend to show a higher level of work performance; have a higher tendency to go beyond the job requirements; have a better attitude towards work and their employment; and enjoy better psychological health (Cohen-Charash & Spector,

2001; Colquitt et al., 2001; Colquitt et al., 2002; Li & Cropanzano, 2009; Martínez-Tur & Moliner, 2017). This is important for organizations because of its implications on the behaviours and attitudes of individuals, such as satisfaction and trust (Colquitt et al., 2013; Mayer et al., 2007; Whitman et al., 2012). Prior research in this field has also been beneficial in predicting important outcomes such as team performance (Naumann & Bennett, 2002); employee commitment and retention (Simons & Roberson, 2003); workplace deviance (Dietz et al., 2003); and citizenship behaviours (Chen et al., 2005).

Historically, most climate research has been conducted at the individual or organisational levels (Moon, 2017; Rupp et al., 2014). However, in the past decade, the focus has shifted to investigating the justice phenomenon at the team level, specifically, the emergence of justice climates in teams. Martínez-Tur and Moliner (2017) mentioned that teams form an ideal context for the emergence of justice climates because teams provide opportunities for team members to share their views and develop similar interpretations of the organisational and team environment. Moreover, Roberson and Williamson (2010) stated that teams offer a unique context in which the construction and nature of justice perceptions vary from the individual context. Scholars began to investigate several antecedents to determine when and why justice climates emerge (Colquitt et al., 2002; Mayer & Kuenzi, 2010; Naumann & Bennett, 2002). Two streams of research emerged, namely, justice climate content (average justice perceptions in teams) and justice climate strength (within-group variance in perceptions in teams) (Fortin, 2008). Within climate strength literature, Naumann and Bennett (2002) found that cohesion and supervisor variability was significant for employee welfare and was associated with a higher agreement. At the

same time, interdependence was important for team motivation and achieving collective goals (Priesemuth et al., 2013). Moreover, leadership was argued to influence the perceptions of procedural justice climate (Ehrhart, 2004; Mayer et al., 2007). These studies emphasised that teams with fair climates tend to outperform and engage in less deviant behaviours (Colquitt et al., 2002). At the team climate level (content), Brown et al. (2005) found ethical leadership to be related to the level of interactional justice climate. The scholars suggested that ethical leaders have greater concerns for their subordinates and, thereby, treat their subordinates with respect, leading to a higher interactional justice climate. At the same time, Colquitt et al. (2002) stated that team size is an important antecedent of procedural justice climate level. Their results showed that larger teams were associated with less favourable climate levels and participated less in team functioning. Within these two streams of research, Colquitt et al. (2002) and Moliner et al. (2005) revealed that justice climate level and strength have differential antecedents and might affect the outcomes differently.

Furthermore, existing research shows that differences in team members' attributes can influence the emergence of justice climates (Colquitt et al., 2002; Roberson & Williamson, 2010b; Rupp, Bashshur, & Liao, 2007). For example, Colquitt et al. (2002, p. 103) investigated team demographic diversity. They found that demographic diversity influences team members' perceptions of procedural justice climate strength and not climate level, indicating that younger and older workers varied in their perceptions of "what is just". Furthermore, Roberson and Williamson (2012) argued that similarities in demographic characteristics among team members would likely enhance their interactions and relationships. In addition, characteristics such as ethnicity, gender, skills, and abilities are more likely to influence member relations and

attitudes, which impact their justice perceptions by creating faultlines in teams (Pelled, 1996; Roberson & Williamson, 2012; Roberson, Ryan, & Ragins, 2017). An important and emerging area of diversity within justice literature is deep-level diversity which refers to the less visible attributes (Harrison et al., 2002). Although the previous research on deep-level diversity and justice climate is limited, there is evidence for team collectivism and individualism (Colquitt et al., 2002; Roberson & Williamson, 2010). Scholars argued that team members with higher collectivism experienced positive procedural justice, which led to harmony among team members (ibid.). In contrast, team members higher in individualism had varying attachment levels to the team (ibid.). In addition, scholars have argued that as important as demographic characteristics are, deep-level psychological attributes become more important for team members as they progress in their interactions over time with their team members. This enables them to develop shared perceptions (Harrison et al., 2002; Roberson & Williamson, 2012). Despite this, currently missing from the research is an understanding of "how differences in team members' attributes, specifically the perceptions of differences, may also impact team-level justice perceptions". To address this limitation, this research draws on perceived deep-level diversity to examine the emergence of justice across all three facets of the justice climate: procedural, interactional, and distributive.

Prior research provides some evidence that perceived deep-level diversity is an important construct for team-level research. For instance, the research on perceived deep-level diversity suggests that diversity effects are conditional on team members' perceptions of diversity (Harrison et al., 2002). In their empirical findings, Harrison and Colleagues (2002) suggested that team members with similar psychological characteristics are more likely to engage in stable interactions because

similarity reinforces their beliefs. Other scholars revealed similar findings (Guillaume et al., 2012; Mohammed & Angell, 2004; Şahin et al., 2019). Overall research on perceived deep-level diversity, thus, stated the view that "people react based on perceptions of reality rather than reality per se", and therefore, its consequence depends on whether differences make subjective sense to team members (Shemla et al., 2016, p. S102). It is, thus, important to highlight that perceived deep-level diversity can provide more insights into how team members' behaviours and perceptions are shaped based on their psychological representation of other team members.

Thus far, it is argued that team members' characteristics influence their behaviours and perception. However, it is equally important to understand how perceptions of justice emerge within these teams, which this thesis aims to investigate. Researchers have advocated the importance of identifying a team-level mechanism that explains the influence of diversity on perceptions of justice climates (Roberson & Williamson, 2010; Colquitt et al., 2002). Specifically, they emphasised that there is a lack of clarity in the literature regarding how team deep-level diversity affects justice climate perceptions (Roberson & Williamson, 2010; p. 278). In efforts to understand the emergence of justice perceptions, team justice scholars explored various mechanisms, namely social network ties which suggest that variability in team member's relationships heightens the deep-level distinctions between members (Roberson & Williamson, 2010); group identification which indicates that the differences influence the group identification in team members that consequently affects the formation of justice climates (Schneider & Reichers, 1983); structural equivalence, suggesting that differences in positions can affect how team members

interact with each other (Roberson & Colquitt, 2005). Although these mechanisms provided potential guidance for the emergence of justice climates, these were mainly *affective or cognitive team processes. In contrast,* ongoing research called for exploring team ***behavioural*** mechanisms that can explain the relationship between deep-level diversity and team perceptions of justice climates (Roberson & Williamson, 2010; p. 293). To address this gap, this thesis refers to an important behavioural process namely team communication openness which is investigated in this thesis as a potential mediator that explains the relationship between perceived deep-level diversity and the emergence of justice climates. This sensemaking behaviour in teams is viewed as a "communication process through which team members make sense of any circumstances that affects them" (Weick, 1995; p. 19). Triana et al. (2021) argued that since deep-level diversity reflects fundamental differences among team members in the way the team members process information, these differences can influence interaction during the course of team members' working together in a team.

However, drawing towards perceptions of justice climate, as much as similarity-attraction plays a role, Goldman and Thatcher (2002) argued that social interaction, such as advice and the amount of information gathered from other team members, may also play a significant role in their decision to perceive (in)justice. Research primarily suggests that in work teams, team members are motivated to discuss organizational life, including justice, and in doing so, they form their perceptions of fairness (Martínez-Tur, & Moliner, 2017). However, the above discussion on team diversity reveals that team diversity tends to affect interactions, which can influence justice perceptions (Colquitt et al., 2002; Martínez-Tur & Moliner, 2017; Whitman et al., 2012). For example, van Knippenberg et al. (2004) and Triana et al. (2021) argued

that similarity among team members influences positive interactions. These positive interactions may likely influence positive perceptions of justice climates. This was evidenced by Roberson (2006a). Her study revealed that teams exposed to fair procedural treatment (rule satisfaction) and unfavourable were more likely to engage in the sense-making activity (communication and discussion) about simulation than were the teams in favourable conditions, thus, forming an agreement on their treatment. However, no diversity variables (gender or age) were found to have influenced perceptions of justice. This, to the knowledge, is the only study that has explored treatment-initiated sensemaking in teams and procedural justice climate strength. This research has investigated participants' reactions to fairness received. As important as this finding is, it did not distinctively capture the emergence of justice perceptions at *climate levels* in *deep-level diverse* teams; therefore, the underlying gap still exists. Much has been only speculated widely from diversity literature by justice scholars in a bid to explain how diversity influences the emergence of justice at the climate level, for example, bond strength, affect related issues, and biases (Colquitt et al., 2002; Rupp & Paddock, 2010; Carter & Phillips, 2017; Guillaume et al., 2012). Roberson and Colquitt (2005; p. 601) contemplated that it would be expected from psychological or deep-level diversity to have similar effects as demographic diversity in the development of team justice perceptions. However, this has not been tested but rather speculated. Roberson and Williamson, 2010 argued that the scholarly work primary focused on the existence of climates (strength and not levels), and the antecedents do not fully explain the emergence of justice perceptions. Thus, research and empirical testing of a behavioural mechanism such as communication is called for in this area (ibid.).

In addition to the above, this thesis also examines a boundary condition of the justice climate effects and team outcomes (team cohesion and performance). In particular, the moderating role of ethical leadership is examined. Rupp et al. (2007b) advocated the importance of understanding how and when justice climate influences different outcomes. Prior research has investigated the boundary conditions of the effects of justice climates on team outcomes (Li & Cropanzano, 2009; Thornton, 2013). However, research on ethical leadership is scarce (Brown et al., 2005; Stouten et al., 2012; van Knippenberg & de Cremer, 2008). Prior research has examined moderators such as team power distance (Yang et al., 2007); employee silence (Tangirala & Ramanujam, 2008); and risk aversion, trust and trait morality (Li & Cropanzano, 2009). van Knippenberg and de Cremer (2008) argued that fair climate perceptions might affect leadership effectiveness, and fair behaviour may be linked to better attitudes and outcomes such as performance and cohesion.

Consequently, leaders who are seen as fair should be more effective in promoting favourable attitudes and behaviours in their followers. They argued that the characteristics of a leader could have implications for the effects of justice climate perceptions. This moderator variable of *ethical leadership,* adapted from Brown et al. (2005), is a leadership style that demonstrates a leader's moral conduct through personal actions and interpersonal interactions with the followers. The rationale behind selecting this variable as the moderator is that ethics is closely relevant to team fairness. Justice represents morality and ethical principles (Greenberg & Colquitt, 2005). Kim (2020) examined the relationship between justice perceptions and ethical leadership and argued that if employees believe their rewards correspond to their efforts and the procedures that lead to those rewards are fairly allocated, they will have

higher confidence in their leader's ethical behaviour. Moreover, Kim (2020) argued that as employees perceive the higher quality of treatment from their leaders, they are more likely to believe their leader is ethical. This is because a leader is an organizational agent who works to enforce fairness in his practice; thus, a fair climate would lead to the perception that the leader is ethical (ibid.). This, to the knowledge, is the only study that has examined justice as an antecedent of ethical justice. This thesis examines ethical leadership as a moderator of the relationship between justice climate perceptions and team outcomes based on the claims that an ethical leader is a moral agent and a trustworthy personality whose decisions can impact team outcomes (Brown & Treviño, 2006). Thus, an ethical leader can shape perceptions of justice climates. When employees perceive that they have received fair treatment, they are likely to instinctively believe that their leader is ethical, which may encourage positive team outcomes. Moreover, although the ethical leadership construct is intertwined with fairness theory, it has remained chiefly detached from justice literature (Colquitt & Zipay, 2015; Fortin, 2008). Examining ethical leadership will add to the literature by identifying if ethical leadership can enhance the effects of justice climate perceptions and augment team cohesiveness and performance.

1.2 Research Questions

Based on the mentioned rationale, the research aims to answer the following research questions:

Research question RQ1: *What is the role of perceived deep-level diversity in influencing perceptions of procedural, interactional, and distributive justice climates in teams?*

Research question RQ2: *Does Ethical leadership moderate the effects of team perceptions of procedural, interactional, and distributive justice climates on team cohesion and team performance?*

1.3 Summary Methodology

This thesis addressed the three research questions above using a multi-method research design employing a large-scale quantitative survey-based study of 58 work teams in two large-scale organisations (service industry) and, second, 20 semi-structured interviews with a cross-section of employees from the same organisation. Specifically, a sequential explanatory study design was employed and is primarily used in social and behavioural sciences research (Ivankova et al., 2006). The design consists of two phases: quantitative and qualitative research (Creswell, 2003). In the first phase, quantitative data was analysed, and in the second phase, interviews were conducted to explain and elaborate on the quantitative results obtained in the first study (Teddlie & Tashakkori, 2009).

In this research, and as mentioned above, the researcher aimed to examine the influence of perceived deep-level diversity on perceptions of justice climates and, consequently, on team outcomes. The research revealed important findings concerning the interactional justice climate, and the qualitative interviews were helpful in explaining those findings by exploring participants' views in more detail. Ivankova et al. (2006) stated that while adopting a sequential explanatory design, it is important to consider the priority given to the quantitative and qualitative design. In this study, priority was given to the quantitative approach, which represented the more significant

aspect of the data collection process. At the same time, a smaller qualitative component was followed in the second phase of the research. The quantitative findings revealed that perceived deep-level diversity significantly predicted negative perceptions of justice climates. Furthermore, team communication negatively mediated the relationship between perceived deep-level diversity and team perceptions of justice climate. Therefore, using qualitative study, an understanding was gained of whether communication about fairness is impeded by deep-level diversity and why the justice-performance link was not found. In addition, the views on diversity management and ways to promote communication about fairness in teams were gathered from the interviews.

1.4 Research contributions

1.4.1 Empirical Research Contributions

This thesis provides three key contributions to the advancement of diversity and justice studies. This thesis contributes to the literature on perceived deep-level diversity by investigating the impact of team diversity on the emergence of perceptions of justice climate at the climate-level in teams. The similarity-attraction theory has not been rigorously tested on perceived deep-level diversity (Harrison et al., 2002; Rupp et al., 2007; Shemla et al., 2016). This thesis proposes a more comprehensive explanation of why perceived deep-level diversity leads to the emergence of justice at the climate level. It is noted that only a handful of empirical studies have provided evidence for understanding the relationship between deep-level diversity and justice climate (Colquitt et al., 2002; Harrison et al., 2002; Roberson & Williamson, 2010). Therefore, this thesis expanded the understanding of the role of deep-level diversity in the emergence of a climate of justice through the behavioural mechanism,

namely team communication openness (Mannix & Neale, 2005; Roberson, 2019; Roberson & Williamson, 2010b) and the moderating role of ethical leadership to reduce the ambiguity caused by fairness perceptions and ethical leadership in teams (Lind & van den Bos, 2002).

While arguing on the similarity-attraction theory, Mannix and Neale (2005) explained that it is not diversity alone that generates consequences, and it would be inconsiderate to suggest the effects of diversity on behaviour without considering the mechanisms that have the deep explanatory power to explain the effects. However, they stated that the underlying mechanism, such as communication, is rarely measured using similarity-attraction theory and instead assumed when attempting to explain the consequences (ibid., p. 44). Similarly, justice scholars have also emphasised that although the emergence of justice climates has been investigated, input and process from the input-process-output models are noticeably lacking from the majority of the research as the central emphasis has been on the existence of climates (as indicated by strength or level). In response to Roberson and Williamson's (2010) request to study how deep-level diversity and a team behavioural process, such as communication, can influence team-level perceptions of justice climates. Therefore, this thesis strengthened the understanding of the role of deep-level diversity in the emergence of justice climates through a behavioural mechanism of team communication openness (Mannix & Neale, 2005; Roberson, 2019; Roberson & Williamson, 2010b).

Moreover, to explain the boundary condition of ethical leadership, this research draws on uncertainty management theory which examines how individuals react to

and deal with uncertainty at work (Lind & Van den Bos, 2002). Research on ethical leadership suggests that it can shape perceptions by influencing followers as leaders serve as role models (Brown & Mitchell, 2010). Ethical leadership helps to develop a positive attitude among team members because they often seek ethical guidance from their leaders; hence, the leader's personal and professional behaviours should serve as an example of normatively appropriate behaviour in the workplace (Loi et al., 2012). Drawing from the above discussion on deep-level diversity, if team members perceive themselves to be diverse in their deep-level characteristics, they will likely incur reduced interactions and experience unfavourable justice perceptions, which ultimately raises uncertainty about their leader's conduct. This uncertainty coupled with fairness could likely be due to supervisors' not fulfilling the criteria of procedural, interactional, and distributive justice climates (Colquitt et al., 2002). Therefore, team members look up to their leader's conduct to determine their level of focus on justice perceptions and impact on outcomes. Thus, arguing from Uncertainty management theory (Lind & van den Bos, 2002), fairness helps manage uncertainties by giving team members enough confidence to engage in favourable behaviours. In contrast, unfair treatment under uncertain conditions makes them more uneasy about attaining goals. Thus, the triggering of uncertainty (low ethical leadership) coupled with fair treatment perceptions can enable team members to maintain unity and favourability towards team membership (cohesion in this thesis) by accepting the leader's conduct. Whereas uncertainty (low ethical leadership) coupled with unfair treatment perceptions engage people in self-protective behaviours such as maintaining their focus on their membership and relationship compared to goal achievements (ibid., p.196). Thus, using uncertainty management theory, the research extends the literature on the role of ethical leadership. Hence, it suggests that ethical leadership

acts as a boundary condition between team members' perceptions of justice climates and team outcomes.

This research offers expansion to the literature in three ways. Firstly, by conducting the research on team deep-level diversity and examining its influence on the team perceptions of justice climate and team outcomes, the research meaningfully contributes to both justice climate content and deep-level diversity literature. The findings suggest that team-perceived deep-level diversity is an important predictor of team perceptions of justice climates. Team communication openness is an important behavioural mechanism explaining the relationship between deep-level diversity and perceptions of justice climates. From here, it follows that team members have a collective impression of their membership and differences (Hentschel et al., 2013; Li et al., 2015). In addition, identifying team communication openness as an exploratory mechanism between perceived deep-level diversity and justice climate perceptions contributes to the literature on justice climate, specifically climate content. Findings suggest that deep-level diversity impedes team members' communication in teams, negatively influencing their perceptions. This aligns with general diversity literature (Colquitt et al., 2001; Colquitt et al., 2002; Cunningham, 2015; Mannix & Neale, 2005; van Knippenberg & Mell, 2016). Finally, focusing on ethical leadership as a boundary condition provides meaningful information on its effects on the relationship between perceptions of justice climates and team outcomes. Thus, this thesis contributes significantly to both diversity and justice literature. With this, this research responds to Roberson's (2019) and Roberson and Williamson's (2010) call to examine the underlying mechanism through which deep-level diversity operates.

1.4.2 Practical Contributions

Beyond the empirical and theoretical contributions, this thesis makes practical contributions by offering valuable insights and recommendations for managers. First, as an emerging concept, perceived deep-level diversity has been considered more important than demographic diversity. Thus, it has been argued that in teams, perceived deep-level diversity becomes relevant to team members over time and consequently significantly influences team functioning (Harrison et al., 2002; Hentschel et al., 2013; Shemla et al., 2016). Scholars note that this diversity can be beneficial or challenging for the managers, employees and the organizations in which teams operate (Mannix & Neale, 2005; Triana, 2018). The findings in this thesis revealed the pessimistic view of perceived deep-level diversity in the team and the negative team process, which highlights the importance of building relationships between team members and their managers (Persson et al., 2021). From the qualitative findings, a few important pieces of training and activities, namely, informal meetings, gatherings, and regular team briefings to discuss fairness issues, were highlighted. Which, if adopted within the organizations and by the managers, can lead to better engagement in communication about fairness, team functioning and relationship building. The broader research suggests that more extended team discussions and team meetings (formal and informal) are linked to positive outcomes (Kauffeld & Lehmann-Willenbrock, 2012; Persson et al., 2021). They reasoned that these activities could help team members and managers develop a standard frame to find solutions to their concerns (ibid.).

Another important factor, namely, giving voice to employees, was highlighted by team members. This is closely related to justice research that argues team

members' perceptions of fairness will likely be enhanced if they are allowed frequent opportunities to voice their concerns with authorities and colleagues to establish a positive team environment (Baldwin, 2006). Additionally, managers can use team-building activities that emphasise the importance of deep-level attributes to stimulate compatibility within their work teams (Seong et al., 2015). The training can involve educating team members on maintaining positive relationships and interactions to reinforce its impacts on team outcomes (ibid.). Also, to manage deep-level diversity, it is important that organizations are closely involved in "person-group and person-job-fit" during the recruitment phase because a team is a referent point for a variety of organizational and team-level phenomena such as interactions, identification, information processing, leadership process and commitment to the team (Seong et al., 2015). The review of scholarship on person-group fit has revealed that supplementary fit (deep-level similarities in goals, values, and preferences) is a greater predictor of team cohesion and team performance (Kristof-Brown & Stevens, 2001; Adkins et al., 1996; Becker, 1992; Good & Nelson, 1971; Burch & Anderson, 2004; Seong et al., 2015). Werbel and Johnson (2001) stated that to maintain a person-group fit, it is important for the newly recruited to share the same characteristics with other group members. Thus, human resources management can identify this fit by carefully determining the recruit's: acceptability of the norms related to communication; attentiveness towards cooperation; and the maintenance roles, such as the tendency to compromise and encourage others and place the individual in a more appealing group. The scholars also stated that a meaningful way to assess this fit is through understanding whether team member possesses: 1) "an ability to work without clear directions from supervisors"; 2) "an appreciation of collectivistic approaches to work efforts"; and 3) "an ability to work patiently through problems"

(ibid., p. 235). Furthermore, improving performance appraisal procedures can be beneficial as Baldwin (2006) suggests that individuals prefer to be assessed on their performance unbiasedly. Thus, the involvement of individuals in deciding the assessment criteria and an opportunity for them to conduct peer and self-ratings on their performance can enhance their perceptions and performance. Furthermore, investment in pieces of training on constructive feedback and authority's engagement in a written summary of feedback is considered substantial (ibid.). Lastly, pieces of training on work ethics and implementation of ethics-related programmes for managers and subordinates can be helpful to the practitioners as research suggests these programs indicate that moral behaviour is encouraged by top management and that management supports ethical judgments on the job, which leads to the less ambiguous environment at work (Delaney & Sockell, 1992).

1.5 Outline of the thesis

This thesis is organised into seven major chapters. Following the introductory chapter, ***Chapter two*** comprehensively reviews the existing literature on diversity and justice. Specifically, it reviews the primary studies on diversity. It directs the readership to the discussion of perceived deep-level diversity, followed by reviewing important recent scholarship on justice climates. The chapters set the foundation for examining the construct of perceived deep-level diversity and identifying the gaps this thesis can fill. ***Chapter three*** focuses on the model development and the theoretical lens that underpins the relationships illustrated in the conceptual model in Figure 1. Notably, it discusses similarity-attraction theory (Byrne, 1971), social information processing theory (Salancik & Pfeffer, 1978) and uncertainty management theory (Lind & Van den Bos, 2002) to provide the theoretical foundation for the relationships depicted in the

model. This chapter further draws on these theories and the literature to develop hypotheses to be tested. The chapter concludes by navigating the readership to the conceptualised model. ***Chapter four*** outlines the philosophical assumptions and provides an overview of quantitative and qualitative studies' research approach, strategy, and design. The chapter also discusses the sampling technique and the sample of the two studies. The chapter concludes with the ethical consideration taken within both studies. ***Chapter five*** describes the method and the findings of the quantitative Study 1. The sample, data collection procedure, measures and data analysis techniques are discussed. ***Chapter six*** describes the sample, analysis, and findings of qualitative Study 2. Using a thematic analysis, the data findings are presented. Lastly, the summary and discussion of findings from studies 1 and 2 are integrated within ***Chapter seven***, followed by explaining theoretical and methodological contributions and the practical implications. This chapter also highlights limitations and concludes with suggestions for future research

Chapter 2: Literature Review

2.0 Chapter Summary

In this chapter, efforts are made to investigate the existing literature on diversity, specifically the classification of diversity and the growing interest in examining deep-level diversity in teams and its effects on team-level outcomes. The focus afterwards is placed on the emergence of facets of justice climates: procedural, interactional, and distributive. The arguments are presented for empirically investigating the potential role of deep-level diversity in the emergence of justice climates and developing an understanding of a behavioural mechanism, namely team communication openness, that explains the role of deep-level diversity in the emergence of justice climates. This chapter also examines the scholarship on ethical leadership that advances the research in the fields of deep-level diversity and justice climates.

2.1 Defining Diversity

The concept of diversity in teams, its theoretical prospect, and its implications on team behaviours and team processes call for a critical understanding of the overall concept and characteristics. This involves how diversity is defined and conceptualised in wider social-psychological and management studies. The research to understand diversity is far-reaching, and therefore, diversity has been a subject of growing significance. For decades, management researchers have developed an understanding of diversity in organizations, groups, and teams (Williams & O'Reilly, 1998). Despite this, there have been various definitions of diversity in the literature. These definitions, thus, provide different meanings: such as White (1986) describes

diversity as “diversity is variety” (p.198); Williams and O’Reilly (1998, p.81) broadly defined diversity as “any attribute people use to tell themselves that another person is different”. McGrath, Berdahl, and Arrow (1995, p. 22) defined diversity as “the differences or similarities among members of particular collectivity”; whereas Jackson and Joshi (2011, p. 653) defined the term diversity as the “composition of social units” that assess the distribution of differences in attributes. From a broader perspective, the lack of precision is hence dependent on the types of organizations, their culture, types of workgroups or teams or the nature of the work itself.

2.3 Teams and Diversity in Teams

Teams are embedded widely in organizational structures, and with the growing interest in teamwork in organizations, there has been an increase in team diversity research (Horwitz & Horwitz, 2007). This is because of the sharp rise in the use of teams in organizations to increase competitiveness in this age of globalisation (Güver & Motschnig, 2017). Teams are defined as “a collection of individuals who are interdependent in their task, share responsibility for outcomes, who see themselves and are who seen by others as an intact social entity embodied in larger social systems (for example, business unit or the corporation), and who manage their relationships across organizational boundaries” (Cohen & Bailey, 1997, p. 241). Based on this definition, and applicable to this study, Cohen and Bailey (1997) describes work teams as “work units that are responsible for providing services with stable memberships, working full-time and are well-defined; whereas they are directed by supervisors who instigate decisions about what is done, how it is done and who does it” (p. 242). Thus, the adopted definition of team diversity is “the distribution of differences among members of a team” (Guillaume et al., 2013). As Kozlowski and Bell (2003) argues,

the team-level phenomenon is formed by individuals nested in teams. The scholars mention that “teams do not behave, individuals do, but they do so in a way that creates a team-level phenomenon” (p. 415). This suggests that team members must integrate, synthesize, share information, and coordinate and cooperate to reach their goals (Salas et al., 2008), highlighting the importance of investigating diversity in a team-level context.

2.3.1 Classifications of Diversity

In diversity literature, various characteristics of diversity have been identified. These characteristics are investigated to have different effects on outcomes. Therefore, researchers have tried to develop an understanding of different types of diversity that separate identities. Most research has classified diversity as surface-level and deep-level diversity; task-relevant diversity; and actual and perceived diversity (Fay & Guillaume, 2007; Harrison, Price, Gavin, & Florey, 2000).

The first type of diversity differentiates between attributes visible to individuals from attributes hidden to individuals. For instance, surface-level (or visible) diversity, or demographic diversity, includes characteristics such as age, race, gender, and ethnicity (Horwitz & Horwitz, 2007). These attributes can be readily observed in individuals, whereas deep-level (or less visible) diversity includes characteristics such as personality, attitudes, and values that are hidden and less obvious to individuals in their interactions (Lambert & Bell, 2013). The second type of diversity is task-related diversity, focused on task-relevant differences such as functional expertise, knowledge, skills, abilities, and educational background (Mannix & Neale, 2005). Finally, the third type of diversity focuses on actual or perceived differences. Actual

differences reflect the objective assessment of attributes such as age, gender, personality, and attitudes. In contrast, perceived differences reflect on the subjective assessment of attributes, such as the extent to which team members perceive themselves to be similar or different regarding these attributes (Fay & Guillaume, 2007; Harrison et al., 2002). Given this diversity classification, researchers have conceptualised diversity with attributes that are readily visible (surface-level) or less observable (deep-level) (Harrison et al., 2002; Williams & O'Reilly, 1998). With this understanding, scholars maintained that task-relevant diversity is a category of deep-level diversity (Jackson, 1992; Jehn, Northcraft, & Neale, 1999; Milliken & Martins, 1996; Tsui et al., 1992). Liao et al. (2008) and Van Knippenberg et al. (2004) emphasised that task-relevant diversity, such as functional knowledge, educational background, and skills, reflects the cognitive ability of individuals, which are the essential aspects of *underlying* diversity dimensions.

In this thesis, perceived deep-level diversity is examined. The underlying rationale for incorporating perceived deep-level diversity is that (dis)similarities in deep-level attributes among team members significantly account for team functioning and team members' behaviours. This is because, over time, these deeper-level attributes become more important than surface-level attributes (Harrison et al., 2000; 1998; Robbins & Judge, 2013, p. 76). Moreover, research highlights that different team dynamics emerge due to the differences in perceptions and not the actual reality per se (Hobman et al., 2004; Shemla et al., 2016). Therefore, this research advocates that perceived deep-level diversity could capture a greater understanding of group dynamics. Accordingly, focusing on perceived deep-level rather than actual deep-level diversity provides an opportunity to gather new insights into the team process and

outcomes. This can provide a greater explanation of the effects of perceived deep-level diversity on team behaviours and outcomes.

2.3.2 Surface-level Diversity

Surface-level diversity refers to differences that include noticeable characteristics or demographic attributes such as age, gender, and race (Jackson et al., 1995; Jehn, 1998; Knippenberg & Schippers, 2007; K. Williams & O'Reilly, 1998). In definition, Harrison et al. (1998) defined surface-level diversity as "the differences among team members in overt, biological characteristics that are typically reflected in physical features" (p. 97). These characteristics are evident in individuals' physical features and, therefore, enable individuals to make immediate judgments of their (dis)similarities with others (Jackson et al., 1995; Lambert & Bell, 2013).

Demographic characteristics provide important distinctions on which team members base their behaviours and attitudes. Previous research on demographic diversity has identified it as a "double-edged sword" (Guillaume et al., 2017; Carter & Phillips, 2017) because of the inconsistent findings (Carter & Phillips, 2017). For example, the pessimistic view of diversity entails the social divisions that result in negative social integration and team processes (ibid., p. 34). From the categorization perspective, it is evidenced that demographic heterogeneity in teams leads to lower cohesion, interaction, trust, knowledge exchange and well-being (Meyer, 2017). For example, Guillaume et al. (2014) found unfavourable effects of surface-level diversity on social integration (attachment, satisfaction and quality of social relations). They reasoned that individuals use observable characteristics to differentiate themselves

from others and identify themselves and similar others as in-groups (us) and other dissimilar as out-groups (they) to maintain their identities. Consequently, leading dissimilar individuals perceive their peers and the behaviours of their peers negatively, thus, damaging their quality of social relations.

In contrast, from the similarity-attraction perspective, an optimistic view of demographic diversity has increasingly been reviewed along the “value in diversity” lens, suggesting that “diversity creates value and benefit for teams. For example, Williams and O’Reilly (1998, p. 102) argued that similarity in age enables interpersonal attraction and creates shared values among individuals. From a social-psychological perspective, team members with similar age ranges tend to identify more with their team because they share the same perspectives (Schneid et al., 2014). Similarly, tenure similarity promotes social integration in groups because people identify more with those who simultaneously enter the organization and teams (Williams & O’Reilly, 1998, p.103). Other research has mainly contributed to cultural diversity, including racial, ethnic, and national diversity (Buengeler & Den Hartog, 2015; Ely et al., 2012; Kirkman & Shapiro, 2005). For example, Pieterse et al. (2013) argued that team cultural similarity fosters higher information integration by sharing task-relevant information. In addition, these differences in team members may facilitate team learning behaviour.

Although the investigations on surface-level diversity provided more significant insights into its effects and consequences, researchers have argued the importance of understanding perceived deep-level diversity to examine team interactions and team behaviours (Harrison et al., 1998). For example, Harrison et al. (2002) argued

that over time, heterogeneous teams surpass the effects of surface-level diversity and shift their focus on other team members' deeper-level attributes. They reasoned that as the team members interact at the beginning of their teamwork, they base their views of each other on salient characteristics. In contrast, over time, they learn more about each other and base their views of each other on less observable (deep-level) characteristics. It is essential to understand how perceived deep-level diversity shapes team behaviours.

2.3.3 Deep-Level Diversity

Surface-level diversity has provided a greater understanding of team dynamics. Therefore, much research has focused on surface-level diversity constructs. Although surface and deep-level diversity may often be related (Harrison et al., 2002), researchers have argued the importance of investigating deep-level diversity to understand intra-team dynamics (Hollenbeck et al., 2004).

Deep-level diversity is defined as "differences among group members' personality, attitudes, beliefs, values, skills, opinions and knowledge", also termed as underlying or invisible attributes that are mutable (Harrison et al., 1998, p.98; Jackson et al., 1995). In broader terms, personality represents individual disposition that influences varied trait-relevant reactions (Mischel and Shoda, 1998; Ozer and Benet-Martinez, 2006; Woehr et al., 2006). Values guide the manner of living and decision-making involving the evaluation of moral judgments (the right and significant) toward others (Boer and Fischer, 2013; Gordon, 1972; Torelli and Kaikati, 2009). In contrast,

attitudes guide the behaviours and the manner in which behaviours are perceived (Harrison et al., 2002).

Researchers have mainly investigated *actual* deep-level attributes such as personality, attitudes, values and knowledge. For example, an early empirical investigation by O'Reilly et al. (1991) hinted at the undesirable effects of value diversity. The findings suggested that those members whose values differed from others in their teams showed less satisfaction and commitment with higher turnover rates. Similarly, Barrick et al. (1998) investigated team personality diversity in fifty-one manufacturing teams. The study findings revealed that team members who differed in their personality attributes, especially conscientiousness, were linked with lower cohesion, more significant conflict and lower performance. Moreover, early empirical studies on attitudinal diversity have shown that more significant similarities in teamwork-related attitudes among team members help them stabilise their interpersonal interactions and reduce conflicts and role ambiguities (Harrison et al., 1998; Tsui & O'Reilly, 1989).

Given these arguments, Harrison et al. (2002) argued for the distinction between actual and perceived diversity. In their study, Harrison et al. (2002) evidenced that diversity effects depend on team members' perceptions. Their empirical findings from students working in teams highlighted that, with time, perceived diversity dominates the concerns for actual diversity. Allen et al. (2008) supported this argument that although demographic or surface-level diversity is more existent in teams, the effect of diversity relies on the perceptions (deep-level diversity) of group members. In a similar study, Liao, Chuang, and Joshi (2008) suggested that group members cannot

gather information on deeper-level aspects by only observing their member's physical (surface-level) attributes. Therefore, they learn these differences over time by observing their verbal and non-verbal behaviours (p. 107). They examined actual personality characteristics (agreeableness and extraversion). They evidenced that less agreeable and extraversion personalities felt more dissimilar in deeper-level attributes, and these characteristics were dependent on workgroup comparison on deep-level attributes. They found a significant negative relationship between perceived deep-level dissimilarity and overall job attitude.

There is little consensus on the definition of perceived deep-level diversity. This is because of the variation in conceptualising perceived diversity. For example, Shemla et al. (2016) highlighted three focal conceptualisations: perceived self-to-team differences, perceived subgroup split and perceived team diversity as a whole (p. S92). With the inconsistencies in the literature on the definitions, Huang and Iun (2006) defined perceived diversity as the extent to which group members perceive themselves as similar or dissimilar to others. In contrast, Turbane et al. (2002, p.243) defined it as one’s perception of similarity with another individual regarding underlying attributes, also called self-to-team diversity. In this thesis, therefore, perceived deep-level diversity is conceptualised as the extent to which team members perceive themselves to be different regarding non-visible underlying characteristics (Liao et al., 2008) with reference to team diversity as a whole. The notion of differentiation between self-to-team idealises individual-level phenomenon, whereas team referent highlights the team process.

Lastly, the type of diversity included in this study represents perceptions of personality traits, attitudes, personal values, educational background, work commitment, work objectives and work priorities (Harrison et al., 2002; Liao et al., 2008). It is important to signify that most deep-level diversity research incorporates an individual approach to examining diversity. However, consistent with the previous research (e.g., Harrison et al., 2002; Liao et al., 2008), a composite approach to conceptualising perceived deep-level diversity as “perceptions across a variety of deep-level dimensions” (Liao et al., 2008; p. 112) is adopted for this research. The significance of examining the deep-level diversity construct is because of the implications that perceived deep-level diversity holds for the teams, specifically the emergence of perceptions of justice climates. The scholars suggest that differences in team members' characteristics influence their interactions and, consequently, their perceptions of fairness (Colquitt et al., 2002; Roberson, 2006b).

A growing body of research has explored the implications of team diversity – in particular, team surface-level diversity – for team member perceptions of fairness and justice (e.g. Colquitt et al., 2002; Roberson, 2006b). However, no research has explored the role of deep-level diversity and team processes in the emergence of justice climates. The following section reviews the literature on organizational justice and team justice climates.

2.4 Organizational Justice: A History as an Individual level construct

Organisational justice has historically been conceptualised as a moral phenomenon based on equity, fairness and ethics (Pan et al., 2018). The term

“organisational justice” was introduced and developed as a formal concept by Greenberg (1987). It is referred to as people’s perception of fairness in the workplace. It seeks to understand why and how individuals perceive fairness and the consequences of these evaluations. Therefore, it is concerned with the individuals’ perspectives of what they believe to be fair rather than what is fair (Cropanzano et al., 2007). From varying explanations, organisational justice is identified as a class of motivated behaviour influenced by varied individual and contextual factors (Levy & Norris-Watts, 2004); rather than a concept treated as an emotion, motive or attitude (Rupp et al., 2007). Given this, a dominant theme in the definitions of organisational justice has been employees’ perceptions of how fairly the employees *individually* feel they are treated at work (p. 358). Three dimensions of organizational justice are widely studied: distributive justice, procedural justice, and interactional justice. Initially, research on organizational justice was focused on distributive justice that highlighted equity criteria rationalizing the fairness of outcomes and rewards. The focus later shifted to procedural justice, which concentrates on decision-making principles justifying fair process, and interpersonal justice, which focuses on treatment from organizational authorities (p.359).

2.4.1 Distributive Justice

The wave of distributive justice lasted from the 1950s to the mid-1970s. It was dominated by Adam’s equity theory within the social-psychological literature that focused on distributing resources, rewards and outcomes (Adams, 1963, 1965). Greenberg and Colquitt (2005, p.5) referred to distributive justice as the perception of fairness of resource distribution, such as pay, rewards, promotions, and outcomes. It

concerns more with the perception of whether individuals receive or are allocated their “fair share” (Cropanzano et al., 2007).

Homans (1961) first proposed distributive justice theory within the social exchange perspective. By viewing the social behaviour of an individual as a process of exchange, Homans (1961: p. 75) stated that distributive justice involves fair proportions of rewards. For instance, in an exchange relationship, individuals expect their rewards to be proportionate to their investments. These theoretical propositions led social psychologists to develop further theories of distributive justice (see Colquitt, Greenberg, & Zapata-Phelan, 2005). From this, “equity theory” developed by Adam (1965) became dominant in the context of distributive justice as it preceded Homans’s (1961) focus on individuals’ emotional reactions to justice. Adams (1965), in the empirical study, argued that the equity principle guides the psychological process measured by comparing input-to-output ratios with the ratio of self or others. Therefore, inequity would lead to psychological stress and motivate individuals to create a balance by restoring equity (Cropanzano et al., 2007). Adam’s development of distributive justice theory highlighted varied behavioural consequences as outcomes of inequity, such as anger, emotional distress, and lower productivity (Adams, 1963: 1965).

Many scholars further advanced the theory of distributive justice (e.g. Deutsch, 1975; Eckhoff, 1974; Leventhal, 1976; Schwartz, 1975, 1977) and advocated the principles of equality and need, also known as "equality rule" and "needs rule" (Cook & Hegtvedt, 1983). The equality rule argues that the allocation of outcomes depends on allocating an equal proportion of outcomes to each recipient. In distinction, the

needs indicate the allocation of outcomes based on the recipients' needs (ibid, p. 220). In addition, it specified which combined or lone principles or rules was preferable in varied social situations, such as varied goals, motives and interactions and types of rewards (Colquitt et al., 2005; Colquitt et al., 2001; Cropanzano et al., 2007).

Given the attention to allocation norms, the empirical research on distributive justice remained dominant on the equity principle. The direct test of the theory provided support for Adam's arguments on equity theory highlighting several areas of interest. For instance, the laboratory study by Adams and Rosenbaum (1962) focused on the productivity of individuals and identified that over-rewarded or overpaid individuals were more productive than individuals who were less rewarded or less paid. Further studies explored the performance and satisfaction levels of the individuals. They argued that lower performance levels among individuals resulted from perceived pay inequality in the differentiation of pay distribution and over and under-compensation to individuals (Goodman & Friedman, 1971; Sweeney, 1990; Werner & Mero, 1999). Moreover, Greenberg (1990) expanded the research and investigated theft as deviant behaviour, and his study revealed it as a consequence of underpayment inequity. He supported the theory and stated that workers experiencing underpayment inequity would "pilfer from their employers" in their attempts to address the inequalities (p. 565).

The empirical shreds of evidence supporting equity theory raised important questions on organizational practices, specifically the processes through which equity decisions are addressed (Greenberg, 1990b). Hence, attention was drawn towards

procedural justice matters (ibid, p. 402). This wave – the wave of procedural justice – is reviewed in the next section.

2.4.2 Procedural Justice

The wave of procedural justice lasted from the mid-1970s through mid of 1990s. With pioneering studies attempting to address the concerns on "how" distributive justice perceptions are formed, the focus shifted towards the decision process involved in justice judgments (Colquitt et al., 2005; Greenberg, 1990b). Cohen-Charash & Spector (2001) and Cropanzano et al. (2007) referred to procedural justice as the perception of fairness in the process by which decisions and outcomes are determined and allocated. It concerns more with the role of individuals within the decision-making process (Cropanzano et al., 2007).

Thibaut and Walker (1975) introduced the concept of developed procedural justice theory by investigating dispute resolution procedures. The scholars integrated law, social psychology, and expanded control theory to investigate the justice judgment process by referring to the extent of control offered to disputants over procedures (process control). The extent of direct control disputants had overdetermined their outcomes (decision control). Their experimental investigations found a strong interest of disputants over the desire to maintain process control over decision control (see review Vidmar, 1990). The scholars suggested that the fairness of decision-making procedures influences third-party allocation and dispute resolution decisions regardless of whether the outcome favourability or fairness of the decisions have reached (Tyler, 1989, p. 830). The pioneering studies articulated a psychological model of procedural fairness, which underlined a strong assumption that people are

concerned more with control of the process of “voicing their concerns” and their relationship with the people involved (Thibaut & Walker, 1978; Tyler, 1989, p. 830).

Scholarly investigations mentioned above further highlighted that outcome fairness is a function of procedural fairness perceptions. Consequently, Leventhal (1980) identified justice as a multidimensional construct by arguing that the equity theory of distributive justice ignores the procedures that generate the outcomes (ibid, p.2). The scholar further expanded the justice judgment theory in the procedural justice context, stating that “individuals’ perceptions of fairness are based on justice rules” (ibid, p. 3). Further developing the theory in the organisational context, Leventhal et al. (1980) model of procedural justice judgment highlighted six procedural justice rules: consistency (procedures should be consistent across time and individuals); bias suppression (procedures should not be influenced by self-interest or pre-conceptions); accuracy (procedures should be established on valid information); correctability (appeal procedures should be in place “voice”); representativeness (base concerns should be reflected in values of individuals); and ethicality (procedures should uphold ethical values of individuals involved) (Colquitt et al., 2005).

Empirical investigations highlight procedural and distributive justice's distinctive effects on outcomes. For example, an experimental study by Greenberg (1987b) highlighted that procedural and distributive justice interact and influence behavioural intentions and fairness perceptions. Their findings indicated that individuals considered higher rewards to be fair, ignoring the procedure involved, whereas lower rewards were considered fair only when fair procedures were involved. Other scholars conducted similar studies, and it was recognized that inequity is more resented by

individuals when they perceive that higher outcomes could have been achieved if involved procedures were fair (Folger, 1987; Folger & Cropanzano, 1998).

Leventhal's theory of procedural justice and rules raised important views highlighting interpersonal practices, specifically the perceptions of interactional justice. For example, Leventhal (1980, p.16) pointed toward interactional fairness perceptions by discussing the importance of resolving concerns in a supportive and friendly manner. This drew scholars' attention towards developing the construct of interactional justice in the context of fair managerial practices (Bies, 1986). This final wave, the wave of interactional justice, is reviewed in the next section.

2.4.3 Interactional Justice

The wave of interactional justice began in the mid of 1980s when Bies and Moag (1986) highlighted individuals' sensitivity towards the treatment they receive when procedures are formed (p.44). Bies (1986) further noted that theory and research on procedural justice alone do not explain fairness perceptions in detail. They further argued that as much as individuals are concerned about the formal procedures employed in the decision-making process, they are also apprehensive about the interpersonal treatment they receive from other individuals (p.91). Thus, interactional justice was defined as the quality of interpersonal treatment received by the individuals during the enactment of organizational procedures (Bies & Moag, 1986, p. 44).

Like procedural and distributive justice, Bies and colleagues developed rules of interactional justice perceptions: truthfulness (authorities should be honest in their communication with the individuals); justifications (authorities should provide

adequate rationales for any outcomes resulting from the decision-making process); propriety (authorities should refrain from making improper remarks to individuals); and respect (authorities should treat individuals with dignity and avoid ill behaviour) (Bies, 1986; Folger & Bies, 1989; Bies & Moag, 1986). Bies (1987) empirically tested these rules and found differential effects of justification and respect in fairness perceptions. In addition, in three laboratory studies, Bies and Shapiro (1987; 1988) studied the impact of giving causal accounts and found that perceptions of interactional justice and managerial support were higher when causal accounts were presented for improper managerial actions. Hence, perceived adequacy was the critical factor affecting interactional justice judgments.

Additionally, Greenberg (1990: 1993) argued for two aspects of interactional justice: interpersonal and informational justice. They suggested that interactional fairness can be perceived when an individual is respectful (avoids ill remarks) and appropriately shares information (Cropanzano et al., 2007). Finally, testing the four-factor model of organizational justice in a laboratory study, Colquitt (2001) argued the distinctiveness of the constructs and stated that informational justice is used as a referent for explaining the procedures. In contrast, interpersonal justice concerns the treatment of individuals. The development of these constructs highlighted important organisational aspects, and scholars began theorising these constructs in organisational studies. For decades, these dimensions of justice perceptions have served as the backbone of the field of social psychology. Much scholarly research has linked justice perceptions with several behaviours and organisational outcomes. These studies have remarkably summarised these in many meta-analytic studies (Cohen-Charash & Spector, 2001; Colquitt et al., 2013; Colquitt, Wesson, et al., 2001;

Viswesvaran & Ones, 2002). These studies, in common, highlighted many favourable outcomes such as commitment, satisfaction, organisational citizenship behaviour and job and task performance; and varied behavioural and attitudinal aspects of justice dimensions such as trust in supervisor and organisation, helping behaviours, and counterproductive work behaviours (ibid).

Since all these investigations were focused on the individual level, theorists advanced the research on justice with a growing emphasis on the organisation's team, group, or unit-based structure, leading to a higher-level construct called "Justice Climate". Martínez-Tur and Moliner (2017, p. 2) argued that the generalised utilisation of teams in organisations provides an ideal context to investigate justice at the team level. It is because team members experience similar stimuli, processes and structures and have more opportunities to interact with others than in individual-based work structures. This context, thus, facilitates the emergence of justice perceptions beyond individual differences (ibid.). In social sciences literature, this conception was from the literature on organisational climate, which identified that organisational climate is meaningless without a referent. The referent is the shared perceptions of organisational policies, procedures, decisions and treatment (Schneider & Reichers, 1983). The literature on justice climate and its emergence is reviewed in the next section.

2.5 Team Justice Climate:

2.5.1 From Collectivistic Perceptions to Emergence

The shift towards team-based structures in organizations has stimulated organisations' interest in promoting fairness. Teams-based organizations need multi-

tasking and multi-skilled employees working in teams; however, this team-based structure sparks concerns for fair treatment, procedures and reward allocation (Vincente Martínez-Tur et al., 2017). Whilst scholarship on organisational justice has remained primarily focused on the individual level, many scholars have been mindful of recognising justice as a higher-order phenomenon (Mossholder, Bennett, & Martin, 1998; Naumann & Bennett, 2000). This conception emerged from Tyler and Lind's (1992) relational and group value model, which argued that violating justice norms for one employee in a group violates justice norms for all group members. Testing the theory, Mossholder et al. (1998) employed a sample of individuals working in 53 branches of large corporations. They supported the argument of Tyler and Lind (1992), and their findings predicted variance in individuals' perceptions of work attitudes, namely satisfaction. Although the study did not mention "climate," it highlighted an important theoretical basis for a “collective context” of justice perceptions.

Building on this, Naumann and Bennett (2000) expanded the theory by emphasising the development of a measure of collective justice context, namely “procedural climate”. The authors built on organisational climate literature to introduce the concept as “a group-level cognition of how a group as a whole is treated” (ibid, p.882) and measured the climate construct with an aggregate of how team members perceive justice concerning the procedures. A running theme in the varied definitions of justice climate has been focused on “shared group-level perceptions” and “treatments”. Accordingly, this thesis conceptualises justice at the team level and focuses on employees working in teams in organizations. Thus, a *team justice climate is defined* as *team-level cognition of how a team as a whole perceives the procedures, treatment, and outcomes to be fair* (Colquitt et al., 2002, p. 84). At the team level,

Colquitt et al. (2002) argued that team-based structures provide an ideal context for the emergence of collective perceptions of justice. They defined teams as a collection of employees viewed by others as task-interdependent social entities who collectively share a sense of responsibility and work towards team-level outcomes (ibid, p. 84). The emergence, however, is conceptualised differently by scholars given how emergence is perceived Colquitt et al., 2002). These distinctions are referred to as justice climate "***level or content***" and "***strength or agreement***" (Li & Cropanzano, 2009).

Justice climate *strength* refers to "the degree of agreement among members of the same team on whether the team has been treated fairly" (Li et al., 2015, p. 15). To understand how justice climates emerge, early theorists questioned how individuals know what is fair and argued on the influence of information processing and past experiences or events (Degoey, 2000). For instance, Naumann and Bennett (2000; 2002) suggested that demographic homogeneity, cohesion, and supervisors' visibility will predict a higher procedural justice climate strength. However, their empirical findings from employees working in teams in 40 bank branches supported cohesion and supervisors' visibility, not demographics, as predictors of justice climate strength. Following the group value theory, scholars argued that when a team member is treated fairly by their supervisor, it conveys to the other team members that their interests are protected in a similar situation. Contrary to the above findings, Colquitt et al. (2002) studied precursors of procedural justice climate strength and found negative relationships between team size, age diversity, and procedural justice climate strength. They reasoned that a larger team size reduces bond strength among team members by increasing psychological distance. Whereas for the age diversity effects,

they rationalised that younger and older workers agree less on fairness in teams, leading to less agreement.

Similarly, Degoey (2000) proposed a framework based on event theory, emphasising a social phenomenon, namely "social contagion". This phenomenon facilitates the emergence of justice climates such that "individual's thoughts and feeling about fairness are spread from one individual to another and is then maintained across groups" (ibid, p. 54). Considering these arguments, Roberson (2006a, 2006b) argued that team members' work interdependence and members' attachment to the team influence the emergence of justice climate strength. The scholar found that team members' sensemaking activities given their fair and unfair experiences and events, were related to the emergence of procedural and distributive justice climates (strengths). Mainly, teams exposed to unfavourable procedural and distributive treatment engaged more in sensemaking than others who received fair outcomes and procedural treatment. A similar study by Roberson and Williamson (2010) explored demographic and psychological diversity dimensions to examine the emergence of a procedural justice climate. They observed collectivism and individualism as the dimensions of deep-level diversity. They argued that collectivists attempt to bring members closer within their teams and tend to create a team environment that facilitates solidarity, resulting in a positive justice climate and vice versa. They found no support for collectivism, gender, and racial diversity. Their findings indicated that diversity in members' preference for individualism was associated with their feelings towards other team members and, therefore, led to higher variability in team members' justice perceptions.

Ogunfowora (2013) also extended the investigations on interactional justice climate strength. The scholar found abusive supervision as an antecedent of interactional justice climate strength. Building on the deontic perspective, the scholar argued that team members experiencing higher abusive supervision variability would report differential experiences of injustice from their supervisors, influencing their perceptions of the degree of fairness (lower interactional justice climate strength). Extending this research, Cobb and Lau (2015) examined the influence of the quality of LMX relationships on justice climate strength. The scholars argued that in a quality exchange relationship, leaders conveying respect, giving voice and providing rewards for contributions influence the strength of justice climates. Notably, the variability in the quality of exchange relationships will affect the agreements in fairness perceptions.

In parallel, ***justice climate level*** is referred to as "the extent to which members of the same team believe that their team as a whole has been treated fairly" (Li et al., 2015, p. 15). This stream of research has also received sufficient support for various antecedents. For example, Colquitt et al. (2002) explored demographic diversity and team size as factors influencing the emergence of procedural justice climate (level). Their empirical study showed that larger teams (size) were associated with less favourable procedural climate levels. However, no effect was found on team diversity. They reasoned that members who are less participative in larger teams are less able to voice their concerns and less likely to appeal to any procedures that negatively influence procedural justice perceptions. Extending the literature on the justice climate level, Ehrhart (2004) examined servant leadership as a precursor of procedural justice climate. Ehrhart argued that subordinates value their leader's prosocial behaviour.

This leadership behaviour leads to the formation of quality relationships with subordinates that helps them perceive that their group is treated fairly. Furthermore, Mayer et al. (2007) studied team leader personality (big five dimensions) and posited that a leader's agreeableness is a critical characteristic of an interactional justice climate. The scholars argued that agreeable leaders explain procedures to their subordinates and communicate honestly. Their empirical testing found a positive relationship between a leader's agreeableness and interactional justice climate level.

Also, Cobb and Lau (2015) examined differential leader-member exchange and argued that subordinates react to the perceived mistreatment of others and themselves in teams. Therefore the differential exchange relationships will influence subordinates' perceptions of fairness. The scholars found support for the negative impact on interactional and not procedural or distributive justice climate levels. Similarly, Ambrose et al. (2013) highlighted supervisors' perceptions of fairness as an important factor influencing levels of interactional justice climate. The scholars argued that perceptions of interactional justice are replicated. Therefore, supervisors who perceive their higher authorities to be fair in their treatment towards them will replicate their interactions similarly towards their subordinates in a team. They found a significant effect of supervisors' perceptions of interactional justice on subordinate perceptions. Finally, Buengeler and Den Hartog (2015) extended to diversity literature, studied nationality diversity, and argued that team members with similar backgrounds are likely to discriminate against those dissimilar to their background. Therefore, supervisors' higher level of interactional justice climate will assure subordinates that diversity is valued and that their supervisor is trustworthy in decision-making. Support was found for their arguments that higher nationality diversity was negatively related to lower levels of interactional justice climate.

From the above review, although demographic attributes, leader-member relationships and personality are regarded as important influencers of justice climate perceptions at both climate level and strengths (Barsky & Kaplan, 2007; Colquitt et al., 2006; Crawshaw et al., 2013; Scott et al., 2007), only a few studies have currently explored perceived deep-level diversity as a facilitator of the emergence of justice climate perceptions in teams (Colquitt et al., 2002; Roberson & Williamson, 2010). Hence, it is crucial to understand what happens and how the justice climate, especially at the level, emerges in teams. This thesis argues that justice perceptions are influenced by the differences among team members in terms of deeper-level attributes. It is because deep-level diversity perceptions are known for their complications, as explained in the earlier sections. Opinions and differences tend to increase psychological distance among team members. Hence, the underlying differences are more likely to make team members feel disengaged from each other (Martin, 2014) and induce a feeling of un-connectedness (Tepper et al., 2011).

2.6 The Effects Perceptions of Team Justice Climates on Team Outcomes: Team Performance and Team Cohesion

One of the objectives of this thesis is to study the emergence of justice climate perceptions and its effects on team performance and team cohesion, given the presence of deep-level diversity in teams. It is worthwhile to emphasise the significance of these constructs. Given the increase in globalisation, organizations, through work diverse groups and teams, are determined to achieve their goals (Molina et al., 2016). To maintain long-term survival, organizations direct team members to be

cohesive, perform at their highest, and show positive behaviours (Hermanto & Srimulyani, 2022).

Team cohesion has been regarded as an important determinant of team performance (Chang & Bordia, 2001). However, it is important to note that cohesion is highly associated with the team context in which team members are affected by different factors, such as diversity and fairness (Abu Bakar & Sheer, 2013). And because the level of team cohesion can describe the stability of a team, this thesis treats team cohesion independently of team performance as an outcome. In work (service) teams, goal achievement, is the end objective for each team, without which they cannot function, and therefore, task cohesion has been yielded as an important and relevant outcome.

An important question addressed in this thesis is whether deep-level diversity leads emergence of justice climates. To further extend the knowledge, this thesis also examines the influence of justice climate perceptions on team performance. To rationalise, within teams, diverse team members regularly engage with their immediate managers and directly experience fairness from their managers, influencing their perceptions of justice climates (Fortin et al., 2020). These developed perceptions can ultimately affect their performance and cohesion. Therefore, instead of focusing on the main effect between deep-level diversity and team outcomes, this thesis focuses on the impact of team members' perceptions of justice climates and team performance and cohesion. Hence, the discussion in the below sections mainly provides an overview of the relationship between team members' perceptions of justice climates and team outcomes.

2.6.1 Team Performance

Considerable attention has been given to team performance in organisational behaviour research. Traditionally, scholars conceptualised team performance as the capability of individuals to perform tasks and fulfil responsibilities effectively, identifying it as a task-specific and outcome-oriented behavioural variable (Whitman et al., 2012). Therefore, scholars have emphasised the multi-dimensionality of the construct by focusing on aspects (outcomes and behaviours) (Trinh, 2016). Within team research, team performance is viewed from varied perspectives. In some studies, team performance has been measured by team-generated outputs, namely quantity, quality or satisfaction; consequences a team has for its members; and team member's ability to perform well (ibid, p. 365). At the same time, some researchers have conceptualised it to evaluate team effectiveness, team efficiency, and team attainment of goals (Dayan et al., 2009; Qiu et al., 2009; Van Knippenberg et al., 2004). Given the variation in the conceptualisation of team performance, varied definitions also exist. For example, Bell (2007) defined *team performance* as the extent to which a team accomplishes its goals or missions. In contrast, Goodman et al. (1986) explained it in terms of group effectiveness, maintaining the tendency of team members to work together effectively over time. This thesis defines *team performance* as the manager's perception of how well they think their team members are performing (Jehn et al., 1997).

The concept of team performance has received considerable attention over the past decade. However, scholars have provided limited supporting evidence to understand whether deep-level diversity contributes to improved performance (Triana

et al., 2021). For example, research focused on educational background, tenure, and functional background has supported team performance (Jehn et al., 1999; Pelled et al., 1999). At the same time, studies examining personality, values, and attitudes have also shown that deep-level diversity leads to positive performance (Barrick et al., 1998; Barry, & Stewart, 1997; Webber & Donahue, 2001; Horwitz & Horwitz, 2007; McLeod et al., 1996). Other deep-level diversity research has also focused on factors that may lead to increased performance, such as increased intergroup interactions (Postmes et al., 2005; Worchel et al., 1977); status equality (Phillips & Loyd, 2006); and cooperation and common goals (Roberge & van Dick, 2010). This thesis focuses on the emergence of justice climates, as explained above. Therefore, by extending this examination and including mediating and moderating mechanisms (reviewed in the later sections), the thesis aims to examine the effects of justice perceptions on team performance. In this vein, the following discussion examines the relationship between justice climates and team performance.

There is evidence of the relationship between justice climate and team performance. Climates provide more phase-shifting circumstances that force team members to re-assess their justice perceptions. Therefore, team members tend to perform better if they perceive their climate perceptions are favourable (Colquitt et al., 2002). Henley and Price (2011) emphasised that the prediction that fair treatment of team members improved team performance rests on the impression that when team members are treated fairly, team members are to likely believe that their interests and those of team members correspond. This consequently leads team members to work hard to improve their team performance. Roberson and Colquitt (2005) also stated that team members are motivated by fair treatment, indicating that long-term outcomes

are protected (Lind & Tyler, 1988). Fairness may reassure team members that their interests are protected, and thus, team members will more likely exert efforts to benefit the teams (Naumann & Bennett, 2002; Roberson & Colquitt, 2005). For example, Meta-analytical studies on team justice climates (procedural, interactional and distributive) showed that team perceptions of justice climates are related to team-level behaviours such as team performance. For example, higher distributive justice at the team level motivates team members to combine their efforts, maximise their overall efforts and achieve their rewards (Martínez-Tur & Moliner, 2017).

On the other hand, research on procedural justice climate suggests that in teams, fair procedural justice perceptions guarantee team members that their interests are protected. Hence, to the extent that team members believe their interests are advanced by their manager's fair allocation of processes, they will fulfil their role requirements to achieve performance (Colquitt et al., 2002). Magni et al. (2018) also argued that shared perceptions of team decision-making procedures activate a sense of team harmony and lead the team to incorporate their interest in teamwork to support team functioning (ibid.). Therefore, fairness perceptions in decision-making procedures can contribute to a team's voluntary efforts to perform and achieve its goals. Furthermore, the research on interactional justice climate revealed similar findings. For example, Martínez-Tur et al. (2016) argued that when teams positively evaluate the interpersonal treatment they receive from their managers, managers assume that employees will perform better. Noting that interactions reinforce the relations between team managers and team members, any fair behaviour displayed by the managers toward team members leads to higher performance and achievement of goals (ibid.).

2.6.2 Team Cohesion

Team cohesion is an important group variable that extends the understanding of team dynamics. Traditionally, cohesion has been generalised as a unitary concept focused on members' attractiveness towards their team and their desire to remain in it. Thus, this concept was conceptualised as the social attractiveness of team members towards their team (Hogg, 1992). However, in the past decade, scholars argued on the multi-dimensionality of the construct and identified three distinct constructs: task cohesion which is referred to as the extent to which the team is united towards achieving its work goals; social cohesion, which refers to the degree of members' liking to socialise in their team; and lastly individual attraction that refers to the extent to which team members are attracted to the team (Carless & De Paola, 2000, p. 79; Chang & Bordia, 2001, p. 381). This thesis examines team task cohesion as a potential outcome of the studied effects of perceived justice climates.

In general, team cohesion has mainly been studied from a social perspective. Thus, it has been regarded as a process variable and conceptualised as an indicator of synergistic group interaction or group process (Woehr et al., 2013). However, other studies have examined cohesion as an outcome (Harrison et al., 1998; (Umphress & Stoverink, 2010). However, limited scholars have provided supporting evidence for the relationship between deep-level diversity and team cohesion (Trinh, 2016; Harrison et al., 1998). For instance, research on personality (agreeableness and conscientiousness), values and attitudes have provided favourable support for team cohesion (van Vianen & De Dreu, 2001; Woehr et al., 2013; Liang, Shih, & Chiang, 2015). Similarly, functional and background diversity has also been regarded as a positive predictor of team cohesion (Knouse, 2007). Further research on deep-level

diversity and team cohesion has highlighted factors that link deep-level diversity to team cohesion, such as team coordination (Morgan and Lassiter 1992); positive interactions, productivity, and information sharing (Bettenhausen, 1991); and conflict management (Mello & Delise, 2015). Given the focus of this thesis explained in the above sections, the below discussion is provided to review the relationship between perceptions of justice climates and team cohesion.

Justice scholars have fairly examined the concept of team cohesion, mainly as an antecedent. For instance, Justice scholars have reasonably reviewed the concept of team cohesion, and that too mainly as an antecedent. For example, Naumann and Bennett (2002) were the first to examine team cohesion in the justice climate literature. The scholars argued that team members collectively share justice perceptions; therefore, if one team member is treated unfairly (procedurally) by the supervisor, it is like to be seen as a violation for the entire team. The formation of these shared beliefs and frames of reference is regarded to be strongest in work teams with high cohesiveness. In their study, team cohesion strongly contributed to developing a procedural justice climate (agreement). Furthermore, in a recent meta-analysis, Whitman et al. (2012) examined the relationship between justice climate and unit-level effectiveness. In their investigation, the scholars also studied the processes (organisational citizenship behaviour and cohesion) that facilitates the emergence of fairness. The scholars argued from Roberson and Colquitt (2005) that individuals are likely to influence and be influenced by those with whom they directly interact. This results in forming cohesive groups that socialise and share group norms (p. 597). The findings revealed a strong relationship between team cohesion and interpersonal justice climate. Andrews et al. (2008) also conducted a similar study. They argued

from social identity and social exchange theories that individuals' identification with their group leads to their active contribution towards the group's welfare and a common goal (cohesiveness). Their findings suggested a stronger relationship between facets of justice (distributive, interpersonal and informational) and affective commitment for highly cohesive teams; however, they found no relationship for procedural fairness.

Contrary to the above, only a handful of studies examined team justice perceptions as a predictor of team cohesion. Stoverink et al. (2014) examined the effects of supervisor-focused perceptions on team cohesion. The scholars argued that experiences of justice from supervisors could influence cohesion because teammates who view similarity in their experiences of (in)justice will eventually find themselves attracted to each other. Their empirical study from 80 teams showed that low supervisor-focused interpersonal justice led to higher team cohesiveness. Similarly, De Backer et al. (2011) examined the effects of procedural and distributive justice on cohesion. The scholars argued that when athletes feel that their voice is valued and heard in their training (procedural fairness) and their contributions towards the team are seen as valuable (distributive justice), it results in their overall sense of relatedness (cohesiveness) being satisfied. The scholars found procedural justice, not distributive justice, to be the predictor of cohesion. This is because people are more concerned about procedures than outcomes in forming the evaluations of their leaders to be cohesive.

Given this limited but valuable understanding of team cohesiveness as an outcome of supervisor-focused justice perceptions, this thesis aims to extend the

understanding of this relationship by responding to the call of Roberson (2006a). The scholar emphasised that the extent to which a team member feels their team was treated fairly can be indicative of their status and relationship within the team, which may consequently influence team attitudes, such as cohesiveness that capture the extent to which the team desires to remain together past the completion of its initial task goals (ibid., p. 190).

2.7 Team Behavioural Mechanism as a Mediator

Due to the global influxes of economic convergence, organisations are employing a more diverse workforce. Moreover, because of the broader implementation of team-based work environments and diversity, employees are becoming more concerned about their workplaces and how the organisation's authority figures treat them (Deepak & Perwez, 2019). Although direct links have been established between diversity and justice, an important question of *how deep-level diversity leads to the emergence of justice climates* still demands attention (Rupp et al., 2007b). Justice scholars have generally explored different mechanisms that lead to the emergence of justice climate perceptions. For example, Roberson (2006b) examined group identification. Their study revealed that team members' perceptions of fairness in their memberships were partially attributable to the strong feelings of belonging that resulted from forming team memberships. Similarly, previous researchers have examined structural equivalence (Galaskiewicz & Burt, 1991; Rice & Aydin, 1991). Scholars broadly argued that individuals are structurally equivalent; they put themselves in one another's roles as they form opinions and develop contagion. Their focus on the pattern of relationships allows them to assess their team experiences of fairness.

Additionally, research by Roberson (2006a) examined sensemaking activation by arguing that employees share their perceptions and opinions about organizational or work-related events that serve as a source of social influence. They further argued that the ambiguity about the decisions (procedural justice) remains where employees do not have the authority to formulate and implement the policies and procedures. Therefore, they remain uncertain about why or how certain decisions were made. The experimental study revealed that teams that experienced unfavourable outcomes, but fair procedural treatment were more involved in sensemaking than other teams in different situations. The scholars also examined diversity (gender and ethnicity) and its effects on team sensemaking and justice perceptions. However, both diversity attributes did not correlate with any variables. Hence, the study was limited to only sensemaking and team justice climate. Lastly, social network ties were also proposed by Roberson and Colquitt (2005) as a factor that could lead to the convergence of justice perceptions in teams. Building on the work of Roberson and Colquitt (2005) and Roberson and Williamson (2010) put forth their efforts to bring together diversity and justice literature. The scholars examined social network ties to explain the relationship between deep-level diversity and justice emergence (procedural and interpersonal). Their empirical findings revealed that team members' preference for individualism was associated with higher variability in emotional attachment, which negatively impacted their perceptions of procedural and interpersonal justice climates.

This, to the knowledge, is the only study that has examined a behavioural mechanism to develop an understanding of the relationship between deep-level diversity and justice climate perceptions. However, it is also important to note that this relationship has been established for justice climate *strength,* not climate *level.*

Therefore, the scholars Roberson and Williamson (2010) called for examination of behavioural processes such as communication and coordination to provide a richer understanding of deep-level diversity effects on the emergence of justice climate perceptions. This thesis, therefore, examines "*team communication openness"* that represents team sensemaking behaviour in teams which may explain the relationship between deep-level diversity and justice climate perception[1]. The appropriateness is further explained by its characteristics: open communication is casual in nature and involves seeking, listening, and acting on any information; it involves being receptive and responsive to information; it is important for handing negative information; and lastly, it is valuable for problem identification and problem-solving (ibid). In this regard, suggestions, opinions and complaints are identified as enablers of sensemaking behaviours (Powers, Stech, & Burns, 2010). The review is provided in the section below.

2.7.1 Team Sensemaking Behaviour: Communication Openness

Rutledge (2009) and Weick (1995) referred to sensemaking as a way or process to generate a shared understanding of any arising complexity. As Weick suggests, one of the critical features of sensemaking is that " it Is a communication process through which groups make sense of events or circumstances that affect them" (ibid., p. 19). Weick et al. (2005) and Rutledge (2009) detailed sensemaking's theoretical features to explain how sensemaking occurs in teams. In their arguments, a) communication between members is the primary route through which sensemaking occurs, which later (b) corresponds to the uncertainty and ambiguity faced, and (c)

[1] Team sensemaking behaviour will hereafter be referred to as communication openness in the thesis given the above explanations.

finally, group members begin to use retrospect and ask, in groups, about the situation. Hence, it is widely argued in the literature that sensemaking behaviour is translated through communication (see. Golob, 2018; Powers et al., 2010; Roberson, 2006a). Developing on these arguments, the thesis examines communication openness as a sensemaking behaviour in teams. This behaviour is "the ease of talking to each other and the extent to which understanding is gained when talking to each other" (Rogers, 1987; Schiller & Cui, 2010, p. 39). Communication is regarded as a significant team process that explains how a team interacts (Barrick et al., 2007) and through which information, ideas, and feelings are transmitted and a mutual understanding is reached (Kirrane et al., 2020). Schiller and Cui (2010) stated that the openness in team members' interactions establishes an environment for constructive relationship-building between supervisors and subordinates. As communication depicts the nature of interactions, it also enables team members to construct, interpret, transfer and receive meanings through verbal and non-verbal interactions in their teams (Liu et al., 2021; Marks et al., 2001).

Previous research on team diversity indicates that openness in communication is essential for evaluating the ability of team members to get along and their contribution to the team functioning (Lester, 2002). However, research on deep-level diversity and communication is scarce. For example, Mohammed and Angell (2004) examined communication as a team process to study the relationship between team diversity (surface and deep-level) and relationship conflict. The scholars found that the team process (communication) weakened the adverse effects of deep-level diversity (time urgency and extraversion) on relationship conflict. Their arguments were similar to van Vianen and De Dreu's (2001) on personality attributes, which argued that

extroverts are likely to initiate discussion and be active and energetic in teams, enhancing communication. Kirrane et al. (2020) also argued for a strong association between deep-level diversity and team member interactions. They investigated value diversity (variety and separation). They argued that variety in value fosters higher communication patterns because communication facilitates smooth navigation of boundaries in teams with fewer value differences. Whereas value separation leads to lower interactions resulting in non-consideration of ideas and feelings. Another study by Oetzel et al. (2012) studied deep-level diversity (cultural diversity) (self-construal and face orientation). The researchers argued that individuals with independent self-perceptions regard themselves as distinct beings, capable of expressing themselves and associating with internal emotions and motivations that facilitate their goals. In contrast, individuals with an interdependent self-conception see themselves as part of a greater whole, with personal satisfaction emanating from commitments, sustaining interpersonal relationships, and valuing conformity and cooperation (p. 149). However, the scholars found no support for its effects on team interaction (communication). To develop a further understanding of deep-level diversity and team communication process, Triana et al. (2021) argued that apart from personality and values, attitudinal similarity helps teams process because a similar understanding of challenges in teams facilitates better communication and vice versa. Their findings revealed that diversity in values makes it more difficult for teams to overcome and yield positive team processes than personality and culture diversity.

Based on the above discussion, it is essential to highlight that this process (communication) has only seldom been associated with climate variables (Hofhuis et al., 2016), especially justice climate (with exception: Roberson, 2006a). However, in

some research, team sensemaking behaviour (communication openness) has been suggested as a possible underlying process that explains the relationship between deep-level diversity and the emergence of justice climates (Colquitt et al., 2002a; Rupp et al., 2007b; Rupp & Paddock, 2010) but not empirically measured as a separate process variable. Thus, this thesis builds on the argument that to perceive (un)fairness, employees tend to communicate to find explanations of situations with their team members, which serves as a source of social influence (Meyer, 1994).

2.8 Leadership as a Moderator

The practitioners have given increased attention, especially ethical leadership, because organisations aim to reduce the liabilities associated with unethical conduct (Walumbwa et al., 2017). Furthermore, the promotion of ethical leadership in organizations is warranted because it aims to increase employees' ability to deal with uncertain conditions at work.

Leadership is primarily defined as a process of influence (Vroom & Jaago, 2007). However, some scholars have described it as a process of influencing the activities of a team (Stogdill, 1950). In distinction, others have described it as a process of influencing the behaviours of subordinates towards goal achievement (Hersey & Blanchard, 1988. Given these varied definitions, Forsyth (2019) classified leadership behaviours into two categories: task-oriented and relationship-oriented. Task-oriented leadership is centralised on goal achievements whereby the leader sets standards and defines and assigns roles and responsibilities. Whereas relation-oriented leadership emphasises interpersonal relationship maintenance within the team whereby the leader encourages and supports team members, boosts morale, and reduces conflicts

and tensions (ibid, p. 268). This study centres on the role of ethical leadership as the boundary condition between team communication openness, justice climate dimensions and team outcomes. Thus, the following section will provide an overview of ethical leadership and its characteristics. The section will also seek to justify the choice of leadership behaviour (ethical leadership) for this study. Lastly, it will compare ethical leadership and similar leadership theories, namely transformational, spiritual, and authentic leadership.

2.8.1 Ethical Leadership

Ethical leadership, a recently established concept, has received immense attention in the past decade (Monahan, 2012). Brown, Treviño, and Harrison (2005, p. 120) defined ethical leadership as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making." Instead of defining ethical leadership as an intent or motive (see Gini, 1998), Brown and colleagues (2005) defined it as a behaviour (Stouten et al., 2012). Their definition highlighted several influential characteristics of ethical leaders: (a) they serve as role models for their subordinates; (b) they justify their actions to their subordinates and make ethics salient in their interactions; (c) they define ethical standards and rewards or punish (un)ethical conducts; (d) their initiate fair processes in decision-making (Brown et al., 2005; Mihelič et al., 2010).

Brown and colleagues described ethical leaders along two related dimensions: moral person and moral manager (Brown & Mitchell, 2010; Brown & Treviño, 2006; Brown et al., 2005). (a) The moral person dimension reflects the qualities of an ethical

leader as a person. For instance, a strong moral individual is honest, trustworthy, concerned for other people, and easily approachable. Employees can bring their difficulties and concerns to a moral person and be assured they will be heard. Moral people are known for being honest and principled. Finally, moral people are regarded as having a consistent moral character in their personal and professional lives. (b) On the other hand, the moral manager dimension refers to how the leader uses the instruments of their position to promote ethical behaviour at work. Managers with high morals consider themselves role models in the workplace. They emphasise ethics by demonstrating ethical behaviour to their staff. Moral managers establish and express ethical norms and apply rewards and punishments to maintain compliance (Brown & Mitchell, 2010, p.584).

Brown et al. (2005) conceptualised this construct using social learning theory. One of the fundamental principles of this theory is that ethical leaders serve as role models for good workplace behaviour. Ethical leaders can teach moral conduct to their subordinates through their actions because they are visibly powerful and are in a position in the organisational hierarchy that enables them to gather their followers' responsiveness (Ogunfowora, 2014). However, Brown and Mitchell (2010) argued that effective "ethical" role modelling demands more than just power and visibility (p. 585). They must be morally reliable for ethical behaviours to arise as leaders become worthy of emulation by treating others fairly. Else, subordinates may disregard a leader whose conduct contradicts their ethical affirmations.

2.8.2 Construct Comparison: Ethical Leadership and Transformational, Spiritual and Authentic Leadership

Brown and Treviño (2006) compared ethical leadership with similar leadership styles: transformational, spiritual and authentic. They argued that these leadership theories overlap and all address, in some way, the moral aspects of leadership. Transformational leaders emphasise going beyond self-interest by encouraging their followers to work together for a collective purpose. Spiritual leadership emphasises spiritual values such as integrity, honesty, humility, and admiration and sets a self-example of trustworthiness. Authentic leaders emphasise self-awareness, transparency, openness and consistency in how they act and how other regards them as morally aware of their own and other's moral perspectives (Avolio & Gardner, 2005; Bass & Steidlmeier, 1999; Brown & Treviño, 2006; Walumbwa et al., 2008). These leadership theories enlist morality as a standard leader behaviour; however, the distinctions lie in various construct characteristics (see Figure 1).

Figure 1: Similarities and differences between leadership theories

Similarities with and differences between ethical, spiritual, authentic and transformational theories of leadership

	Similarities with ethical leadership	Differences from ethical leadership
Authentic leadership	Key similarities: – Concern for others (Altruism) – Ethical decision-making – Integrity – Role modeling	Key differences: – Ethical leaders emphasize moral management (more transactional) and "other" awareness – Authentic leaders emphasize authenticity and self-awareness
Spiritual leadership	Key similarities: – Concern for others (Altruism) – Integrity – Role modeling	Key differences: – Ethical leaders emphasize moral management – Spiritual leaders emphasize visioning, hope/faith; work as vocation
Transformational leadership	Key similarities: – Concern for others (Altruism) – Ethical decision-making – Integrity – Role modeling	Key differences: – Ethical leaders emphasize ethical standards, and moral management (more transactional) – Transformational leaders emphasize vision, values, and intellectual stimulation

Souce of Image: Brown and Treviño (2006)

Despite the similarities in these leadership theories, ethical leadership is closely related to fairness (Crawshaw et al., 2013). Brown et al. (2005) suggested that ethical leaders divert followers' attention towards moral practices, provide followers with a voice (a fair process), and reward their ethical conduct (p. 120). Moreover, the focus of investigation on supervisor-focused justice climates is because the contextual focus of justice is based on morality (Fortin, 2008a). While working in a team, team members and team leaders form unique relationships with each other. Ethical leaders maintain and strengthen these relationships (Brown et al., 2005; Kim, 2020). Kim (2020) examined the relationship between justice perceptions and ethical leadership. Kim argued that if employees believe their rewards correspond to their efforts and the procedures that lead to those rewards are fairly allocated, they will have higher confidence in their leader's ethical behaviour. Moreover, Kim argued that as employees perceive the higher quality of treatment from their leaders, they are more likely to believe their leader is ethical. Their study, however, only found support for distributive and interactional justice and not procedural justice. It is because a leader is an organizational agent who works to enforce fairness in his practice; thus, a fair climate would lead to the perception that the leader is ethical (ibid.). This, to the knowledge, is the only study that has examined justice as an antecedent of ethical leadership. This thesis examines ethical leadership as a moderator of the relationship between justice climate perceptions and team outcomes based on the claims that an ethical leader is a moral agent and a trustworthy personality whose decisions can impact team outcomes (Brown & Treviño, 2006). Thus, an ethical leader can shape perceptions of justice climates. When employees perceive that they have received fair treatment, they are likely to instinctively believe that their leader is ethical, which may

encourage positive team outcomes. Thus, ethical leadership appears as a moderator between justice climate perceptions and team outcomes.

2.9 Chapter Summary

The literature on deep-level diversity was examined in this chapter, followed by a review of the literature on the emergence of justice climates and team outcomes (performance and cohesion). The following section discusses team sensemaking behaviour and provides grounds for considering communication openness as sensemaking behaviour. Finally, the literature on ethical leadership was reviewed in the last section, and a justification for the leadership style adopted in the thesis was offered. The next chapter outlines the hypothesised model, and the explanation is provided for the relationships using three theoretical foundations, namely Similarity Attraction Theory (Byrne, 1971), Social Information Processing Theory (Salancik & Pfeffer, 1978), and Uncertainty Management theory (Lind & Van den Bos, 2002).

Chapter 3: Theoretical Framework and Hypothesis Development

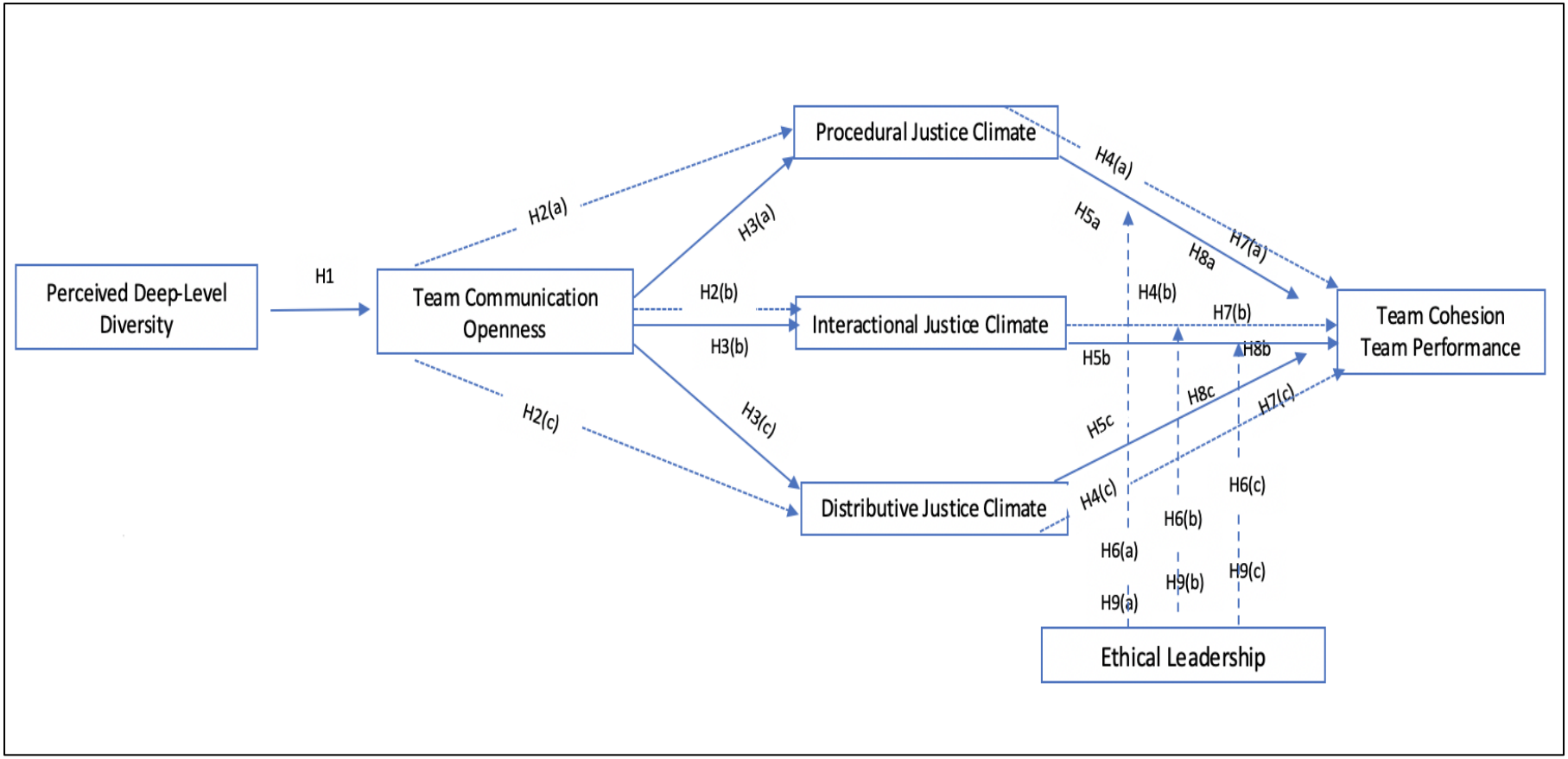
3.0 Chapter Summary

The chapter outlines the hypothesised model. It draws the reader's attention to the theoretical underpinnings as the proposed relationships are developed. Further, it introduces the theories, namely Similarity Attraction Theory (Byrne, 1971), Social Information Processing Theory (Salancik & Pfeffer, 1978) that underpins the proposed relationship between deep-level diversity and team communication openness, followed by introducing its effects on team perceptions of justice climates (procedural, interactional, and distributive). Then as a moderated mediation model is proposed, the forthcoming section will introduce team communication as a mediator to explore the mechanism of the proposed relationship between deep-level diversity and team perceptions of justice climates. Finally, ethical leadership is examined as a potential moderator that explores the interaction between perceptions of justice climate and team outcomes (performance and cohesion). The Uncertainty Management Theory (Lind & Van den Bos, 2002) underpinning the moderator interaction is explained as the hypothesis is developed.

3.1 Conceptualised Model

Figure 2 illustrates the mechanism through which perceived deep-level diversity leads to the emergence of justice climates at the team level and links team members' perceptions of justice climate to team outcomes.

Figure 2 Conceptualised Framework: Team Level Analysis



Specifically, the model proposes that perceived deep-level diversity (among team members) is related to the emergence of procedural, interactional, and distributive justice climates. This proposition aligns with the similarity-attraction theory (Bryne, 1971) that differences among individuals will promote a sense of disconnection, which will converge their perceptions of fairness.

Further, team communication openness has been examined as a strong mediator of the relationship between deep-level diversity and team perceptions of justice climates. Deep-level differences between team members and the resulting lower communication lead team members to form negative perceptions of justice climates. Again building on the similarity-attraction theory, which assumes that individuals are more inclined towards others who are similar to them and are more likely to engage in communication with similar others because they envision that these similar others reinforce their own preferences, values, beliefs, personalities, and attitudes (Riordan, 2000; Tekleab & Quigley, 2014; Williams & O'Reilly, 1998). Also, building on the social information processing theory of Salancik and Pfeffer (1978), the strength of climate perceptions is also explored. Building on the theory, it is argued that individuals can learn about other individuals' behaviours by examining the information and social environment within which the behaviours occur and to which they adapt. And that this social information and influence from similar others enables them to form an agreement about their fair treatment. Based on this, it is proposed that open team communication can lead to a greater understanding of the work environment. This is because open communication involves informal discussion and enables team members to seek, listen and act upon any information at work. The

resulting perceptions of justice climates can lead to greater cohesion and performance. However, it is conditioned on the leader's ethicality.

From a deep-level diversity perspective, it is proposed that the differences will lead to reduced communication and perceptions of justice climate levels. These differences and negative perceptions will create ambiguity in the relationships. However, if the team members engage in greater communication, the positive perceptions of justice climate levels will enable individuals to reassess their attitudes and goals. As uncertainty management theory suggests, when team members are uncertain about their authority figures' morality, there will be increased uncertainty in teams. To reduce this uncertainty, team members will draw on their information on fairness to rationalise their behaviours and attitudes (Lind & Van den Bos, 2002; Van den Bos & Lind, 2002). Thus, perceptions of fairness will help team members resolve the uncertainty arising from their leader's morality. In summary, in this study, the researcher first examines the influence of team perceptions of deep-level diversity on team sensemaking behaviour (communication openness), which consequently, as a behavioural mechanism, leads to the emergence of justice climate perceptions (procedural, interactional, and distributive) at both level and strength. Second, the researcher examined the moderating role of ethical leadership to examine its interaction with perceptions of justice climate levels and team outcomes, namely, cohesion and performance.

3.2 Research Hypotheses

3.2.1 Team perceived deep-level diversity and team communication openness

Teams provide a unique context in which individuals share their perceptions, interpretations, and opinions about different aspects of work, thus, serving as a source of social influence (Roberson, 2006). Research on team diversity and communication indicates that communication promotes free disclosure of information in teams where freedom of expression of experiences happens without judgments (Hofhuis et al., 2016). Previous research in their efforts to understand diversity argued that individuals engage in social interactions (communication), which present people with experiences and events which they interpret to create shared meanings (Roberson & Stevens, 2006a). This study on diversity and social interaction revealed that people interact and use abstract language to recall diversity incidents and to make sense of diversity in the workplace (Roberson & Stevens, 2006). In addition, their study highlighted that in diverse social networks, demographically similar people might have stronger interpersonal relations than dissimilar people, enabling them to collectively interpret and share their views on their experiences (ibid.). This implies that perceptions of deep-level diverse attributes may also be beneficial in predicting sensemaking behaviour (communication openness) in teams.

The similarity-attraction theory is a theoretical approach to studying deep-level diversity (Tekleab & Quigley, 2014). It is one of the dominant theories for understanding these diversity effects. The central premise of the similarity-attraction theory (Byrne, 1971) is that “people prefer others who exhibit similarity in their interactions” (Tekleab & Quigley, 2014, p. 395). Specifically, the theory suggests that

in teams, “individuals are attracted to others who seem similar because they envision that these similar individuals reinforce their own values, beliefs, attitudes, and preferences” (Byrne & Clore, 1970; Riordan, 2000; Tekleab & Quigley, 2014; Williams & O’Reilly, 1998). Also, the theory argues for more accessible communication and positive interaction with similar others (Neuman, Wagner & Christiansen, 1999). From deep-level diversity and communication perspective, Harrison et al. (1998) argued that knowledge of attitude, belief and personality similarity between team members forms the basis of continued affiliation to groups which may enhance interactions such as communication. Building more on diversity and communication, social information processing theory (Salancik & Pfeffer, 1978), on the other hand, builds on the premise that individuals collectively interact to develop stable and socially derived interpretations of events at their workplace. The scholars emphasised that individuals may evaluate their information sources (co-workers and team members in this study) regarding personal relevance, using similar others for comparison (p. 228). Hence, the higher similarity would lead more to the relevancy of views among team members (ibid.), and their motivation to communicate with others is based on their judgments of similarities between them (Mohammed & Angell, 2004; Salancik & Pfeffer, 1978).

From this, one can presume that just as similarities would lead to higher communication, dissimilarities among team members will be more damaging to the interactions and associations, particularly because higher heterogeneity may push people away from each other (Drigotas, 1993; Forsyth, 2019; Harrison et al., 2002; Knippenberg et al., 2004). It is proposed that team members will not engage in sensemaking behaviour (communication openness) in the presence of higher perceptions of deep-level diversity. Therefore, it is hypothesised that:

H1 Team members' perceptions of deep-level diversity are negatively related to team communication openness.

3.2.2 Team communication openness and team perceptions of justice climates

In an attempt to explain the communication and justice relationship[2], Whitman et al. (2012) argued that team members search for justice signals through their interactions (communications and discussions), enabling them to interpret their authorities' behaviours. Martínez-Tur and Moliner (2017) explained further that team members are motivated to discuss their organizational life, including their justice experience. Because it is challenging for team members to access objective information, they communicate about fairness and develop an understanding of justice. Previous research on justice has highlighted the role of communication in shaping justice perceptions (Aggarwal-Gupta & Kumar, 2010). Rupp et al. (2007) stated from socialisation literature that co-workers are key agents in the communication process. Any team member would learn about procedures detailing how they are generally formed and how team members are generally treated in their team. Kozlowski and Bell (2003) noted that through social and work-related communication among team members, team members develop shared meanings in teams. Hence, the scholars argued that within a team, a climate would emerge simply due to team members sharing the same supervisor and experiencing similar outcomes, procedures and treatment from their supervisor. Team members, therefore,

[2] [2] Justice climates as indicated by level and strength were both considered in the thesis. However, the hypotheses for justice climate strength were not formulated in the thesis as the findings were insignificant as reported in Appendix 12.

communicate to seek advice from their co-workers, which plays a role in their individual decision to perceive (in)justice. Therefore, to lead to aggregated perceptions, individuals are likely to be attentive towards group concerns when they think of themselves as team members. Their communication may suggest how the justice perceptions should be interpreted.

Empirical evidence suggests that perceptions are influenced by interaction (communication). For example, Greenberg (1979), in their research on procedural fairness, argued that individuals who engaged in a group discussion about the fairness of allocation rules had a higher confidence level in their allocation decisions. Other research by Zhang and Agarwal (2009) on communication and justice perceptions also suggests the importance of engaging in communication about fairness. Such team members engage in open communication between themselves and their supervisors to receive justification about the decisions undertaken and facilitate their understanding of the undertaken decisions. Similarly, an important aspect of interactional justice is two-way communication, and their open communication between team members signals whether their received treatment from their immediate supervisors is (un)fair, reflecting the value of their team membership. Zhang and Agarwal's empirical findings revealed a positive relationship between communication and procedural and interactional justice. Given that sensemaking behaviour (communication openness) has implications for justice perceptions, it can be presumed that team members engaging in higher communication will ultimately have positive perceptions of justice climates because the discussion among team members and supervisors will facilitate their level of understanding of the decision-making process, treatments and reward allocations. Thus, it is hypothesised that:

H2(a) Team communication openness is positively related to team members' perceptions of procedural justice climate level.

H2(b) Team communication openness is positively related to team members' perceptions of interactional justice climate level.

H2(c) Team communication openness is positively related to team members' perceptions of the distributive justice climate level.

An important aim of this thesis is to understand how justice climates emerge within diverse teams. An important view was proposed by Rupp et al. (2007) that employees in homogeneous teams are more persuaded to communicate with others and team members; via this communication, they learn about the decision-making procedures and how team members are treated by their supervisors. On the other hand, Colquitt et al. (2002) based their discussion on the emergence of procedural justice climate level in diverse teams by arguing that diversity reduces informal or open communication with a team. This communication difficulty could lead to the unfair implementation of procedures based on incomplete information and higher bias. It is important to note that communication in these studies has not been tested as an independent variable but merely adopted from demography literature. Hence, there is no evidence to suggest whether these effects do exist. The support, however, is built from similarity-attraction theory which adds that people intend to communicate with similar others in their attempt to reduce the potential for discomfort in teams and to maintain favourable perceptions (Froehlich et al., 2021). The theory further asserts that similarity on any attribute increases communication, whereas dissimilarity decreases communication (Fay & Guillaume, 2007; Guillaume et al., 2012b), which

affects their view of fair treatment (Duffy & Ferrier, 2003). The explanations in section 3.2.2.1 assert the same view that team members participate in open communication with their superiors to receive justifications for decisions made, reward allocation and deepen their understanding of those decisions.

Additionally, two-way communication is a crucial part of interactional justice. Open communication between team members reveals if the treatment members received from respective supervisors is (un)fair, hence revealing the value of their team membership. However, it is fair to argue that deep-level diversity in teams reduces team members' likelihood of engaging in open communication about any events or fairness among their team members, resulting in lower confidence in the fairness of procedures, rewards, and outcomes. Hence, it is hypothesised that:

H3(a) Team communication openness mediates the negative relationship between perceived team deep-level diversity and team perceptions of procedural justice climate level.

H3(b) Team communication openness mediates the negative relationship between perceived team deep-level diversity and team perceptions of interactional justice climate level.

H3(c) Team communication openness mediates the negative relationship between perceived team deep-level diversity and team perceptions of distributive justice climate level.

3.2.3 Team perceptions of justice climates level and team cohesion

A general conception in justice literature is that when a team member is treated unfairly by the supervisor, it is seen as a violation for the entire team (Naumann & Bennett, 2002). Roberson and Colquitt (2005) argued that individuals are likely to influence and be influenced by those with whom they directly interact. Building on the similarity-attraction theory, greater engagement in open communication will lead to positive perceptions of justice climates. These communications enforce trust in their manager-directed fairness and reinforce cohesion within teams (Chansler et al., 2003). The greater communication and discussion within teams allow team members to understand better the decision-making process. This participation in communication and favourable perceptions within the team improve team cohesiveness (ibid.). Simons and Roberson (2003) stated that fair procedures and treatments signal the affirmation of an individual's position in their team, which strengthens their cohesiveness within the group. Also, the detailed communication and explanations offered by the supervisors on their interpersonal treatment increase their cohesion in the team. Kim (2020) argued that uncertainty and ambiguity are embedded in diversity and create opportunities for prejudice and stereotype-based expectation. However, greater communication could lead to favolurable perceptions of justice as argued in the earlier sections. Under this circumstance, Lind and van den Boss (2002) argued from uncertainty management theory that employees receiving fair treatment would lead team members to maintain a positive affect. It is because fairness reduces the anxiety about being excluded or exploited because of their differences (p. 196). Hence, the favourability of team members' perceptions of fairness creates a climate that promotes positive attitudes towards team membership and overall commitment to

completing the organization's goals (ibid.). According to Phillips et al. (2001), team members who communicate openly with their supervisors and peers perceive greater fairness and are satisfied with their supervisors who actively demonstrate respect and consideration independently of how the team performs, improving cohesiveness. Given the above discussion, favourable team perceptions would lead to positive attitudes (cohesiveness) in teams (Simons & Roberson, 2003). Therefore, it is hypothesised that:

H4(a) Team members' perceptions of procedural justice climate level are positively related to team cohesion.

H4(b) Team members' perceptions of interactional justice climate level are positively related to team cohesion.

H4(c) Team members' perceptions of distributive justice climate level are positively related to team cohesion.

Although team cohesion is an important team-level outcome variable, understanding the relationship between team communication openness and team cohesion is important. Although scarce, research has identified that the level of communication or interaction is a key indicator of cohesion (Umphress et al., 2003). In addition, Roberson (2006a) suggested that greater communication and fair treatment subjected to team members may influence their relationships and attitudes, such as cohesion which assesses the degree to which the team desires to remain united towards completing their tasks.

This thesis argues that for teams to be cohesive, it is important for them to engage in open communication. Team members' engagement in communication will

enable them to construct their understanding of any work-related ambiguities, enhancing their cohesiveness with the team. Social network research has argued that team members become more attracted to each other based on their communicative interactions (Wasserman & Faust, 1994). On the other hand, Roberson (2006a) argued that team members' fairness perceptions might provide supplementary information regarding their team's status and relationship, influencing team behaviours such as cohesion. Their fairness perceptions will capture the long-standing likelihood of the team member's desire to remain together (p. 190). In this regard, the attraction or bonding of team members towards completing the task will be enhanced based on their perceptions of fair climates, which can be better understood when team members communicate openly about fair treatment. It is because members, given their perceptions and engagement in communication, will exhibit more inclination towards fulfilling role requirements and may exert extra effort to benefit their teams. Similarly, as the team members feel their treatments are fair based on their communication, their behaviours may expand to more instances of helping within teams (ibid, p.190). It is hence, presumed that although higher deep-level diversity negatively influences the team members' perceptions of justice climates (grounded within the similarity attraction paradigm), it is notable that a higher level of team open communication is more likely to lead to positive perceptions of justice. Their favourability of perceptions of justice climates will lead to higher team cohesion. It is, therefore, hypothesise the following:

H5 (a) Team members' perceptions of procedural justice climate level mediate the positive relationship between team communication openness and team cohesion.

H5 (b) Team members' perceptions of interactional justice climate level mediate the positive relationship between team communication openness and team cohesion.

H5 (c) Team members' perceptions of distributive justice climate level mediate the positive relationship between team communication openness and team cohesion.

It is widely argued in the literature that leaders have power over their employees and the functioning of their teams (Brown et al., 2005). Because of their position as leaders, subordinates depend on them for guidance, and their conduct in the workplace thus serves as a model of normatively appropriate behaviour (Loi et al., 2012). Ethical leaders are seen as honest, trustworthy, and remarkably regarded for their concern for their subordinates (Brown & Treviño, 2006). The characteristics of an ethical leader (trustworthy, fair and moral) conform to the elements of justice climates (procedural, interactional and distributive). Therefore, ethical leaders promote a fair climate in the workplace and proactively communicate ethical standards and expectations to their subordinates (Brown & Mitchell, 2010; Brown et al., 2005). Xu et al. (2016) stated that team members who experience a fair climate and ethical leadership exhibit positive beliefs in their organisations and leaders. Halbusi et al. (2017) argued that employees tend to consider the fairness of outcomes, procedures and interactions while assessing the ethical behaviours of their leaders. In this regard, justice climate perceptions will become salient for the employees, altering their attitudes such as cohesion.

Ethical leadership helps to develop positive attitudes among team members because they often seek ethical guidance from their leaders; hence, the leader's

personal and professional behaviours should serve as an example of normatively appropriate behaviour in the workplace (Loi et al., 2012). Drawing from the above discussion on deep-level diversity, if team members perceive themselves as diverse in their deep-level characteristics, they will likely incur reduced open communication and experience unfavourable justice perceptions, which raises uncertainty about their leader's fair conduct. This uncertainty, coupled with lower fairness, could likely be due to supervisors' not fulfilling the criteria of procedural, interactional, and distributive justice climates due to communication difficulties (Colquitt et al., 2002). Therefore, team members look up to their leader's conduct to determine their level of focus on justice perceptions and impact on outcomes.

The uncertainty management theory (Lind & van den Bos, 2002) offers insight into why and when fairness is important. According to this view, one of the primary functions of fairness is to equip individuals with a means of coping with fairness. Initially, uncertainty management theory assumed that the workplace provides individuals with possibilities for personal gain and exploitation, where uncertainty motivates entities to review their confidence in managers continually. Individuals must therefore focus on their justice judgements to manage such complicated interactions and relationships (Crawshaw et al., 2013, p. 891; Van den Bos & Lind, 2002). So, fairness supports team members in coping with uncertainty because it motivates them to participate in positive behaviours. In contrast, unfair treatment in uncertain situations makes them more apprehensive about achieving their objectives. Hence, the combination of ambiguity (low ethical leadership) and perceptions of fair treatment might enable team members to preserve unity and favourable feelings about team membership (cohesion) by accepting the leader's behaviour. In comparison, ambiguity

(low ethical leadership) and feelings of unjust treatment may motivate people to engage in self-protective behaviours such as retaining their attention on their membership and relationships instead of goal accomplishments (ibid., p.196). Therefore, drawing on uncertainty management theory, it is argued that uncertainty raised due to unethical leadership may divert team members' attention towards fairness-related information. Information on fairness provides reassurance and a sense of security which appease the discomfort caused by uncertainty (Cropanzano, Fortin, & Kirk, 2015). It is, therefore, hypothesised that:

H6(a) The positive effect of team communication openness on team cohesion via procedural justice climate is stronger when perceptions of ethical leadership are low compared to high.

H6(b) The positive effect of team communication openness on team cohesion via interactional justice climate is stronger when perceptions of ethical leadership are low compared to high.

H6(c) The positive effect of team communication openness on team cohesion via distributive justice climate is stronger when perceptions of ethical leadership are low compared to high.

3.2.4 Team perceptions of justice climates level and team performance

Team performance is the team member's perception of how well they think they are performing (Jehn et al., 1997). Prior research suggests that team justice climates are important predictors of team performance. However, the consensus has not been maintained yet. For example, Colquitt et al. (2002) argued that as team members agree to their treatment, the impact of justice climate perceptions on team

performance will be more substantial. Colquitt and colleagues (2002) found support for the argument. The findings showed that team performance was consequently low when members perceived their procedural justice climate was unfair. Climates provide more phase-shifting events that cause team members to re-assess their justice judgments. Therefore, team members tend to perform better if they perceive their climate perceptions are favourable (ibid). Henley and Price (2011) emphasised that the prediction that fair treatment of team members improves team performance rests on the impression that when team members are treated fairly, team members are to likely believe that their interests and those of team members correspond. This consequently leads team members to work hard to improve their team performance. Roberson and Colquitt (2005) also stated that team members are motivated by fair treatment, indicating that long-term outcomes are protected (Lind & Tyler, 1988). Fairness may reassure team members that their interests are protected, and thus, team members will more likely exert efforts to benefit the teams (Naumann & Bennett, 2002; Roberson & Colquitt, 2005). Specifically, research suggests that when employees feel they have been treated fairly, they tend to show a higher level of team performance and a greater tendency to go beyond their job requirements (Li et al., 2015).

Examining the differential effects of facets of justice climates on team performance, Naumann and Bennett (2002) argued that team members subjected to positive procedural justice engage more in higher team performance. Furthermore, similar arguments were made by Lipponen and Wisse (2010), suggesting that higher distributive and procedural justice climates lead to higher performance. This was because shared perceptions of justice affect team performance through feelings of

respect and team pride. Building from the previous sections, Diversity can lead to inequality of outcomes and rewards (Greenberg & Colquitt, 2005), which may lead to uncertainty in teams. However, as argued before, open communication among team members can enhance their perceptions of treatment, rewards and procedures. Per uncertainty management theory, this perception of fairness gives team members the confidence that they will ultimately receive good outcomes. Therefore, team members are more likely to feel favourable towards the organization and in pro-organizational behaviours such as performance (p. 196). Hence, it can be argued that when team members are highly engaged in communication, they tend to believe that their treatments, allocation of rewards and procedures leading to those rewards have been fairly implemented. Therefore, their favourability of perceptions of justice climates would lead team members to perform better (Vicente Martínez-Tur et al., 2016). Given these distinctions, it is proposed that all three dimensions of justice climates are important predictors of team performance.

H7(a) Team members' perceptions of procedural justice climate level are positively related to team performance.

H7(b) Team members' perceptions of interactional justice climate level are positively related to team performance

H7(c) Team members' perceptions of distributive justice climate level are positively related to team performance

Justice research has limited evidence of the relationship between team communication and team performance (Roberson, 2006a). However, team discussions have been found to have been higher in uncertain conditions in teams. For instance, Roberson (2006a) argued that team discussion was higher for teams

that received adverse outcomes in their simulation than those that received positive outcomes. The scholar argued that team members are likely to perform less if the procedures are fair, but the outcomes received are unfair. This is because unfavourable outcomes increase their sensitivity towards justice, as they will engage in information-seeking behaviours to understand the cause of such outcomes. Considering this, it is argued that any team ambiguity concerning the work environment will increase the team members' sensitivity toward justice because ambiguity promotes social exclusion, evokes negative emotional responses, and leads the team members towards lower trust (Herr et al., 2018).

With greater open communication, team members may understand the fairness of procedures, rewards and interactions with their supervisors. Hence, team members are likely to develop favourable perceptions that are useful for behaviours and attitudes, such as team performance (Magni et al., 2018; Magni, Ahuja, & Maruping, 2018). For example, when team members feel they are treated fairly, they believe there are no inconsistencies in their fair treatment. Hence, based on the relational model of justice (Tyler & Lind, 1992), scholars argued that team members feel reassured that their interests and memberships are protected, leading to a greater possibility that team members will perform well (Colquitt et al., 2002; Priesemuth et al., 2013). It is again argued from the earlier proposition that in the presence of perceived deep-level diversity, it may be difficult for team members to maintain their relationships within their team (Allen et al., 2007), which may negatively affect their perceptions of justice climates. However, by having greater communication, the team members may form an understanding of their fair treatment, which would indicate that they are valued and that their distinctiveness within their team is maintained. Whereas

lack of communication could lead to team members believing their leaders are biased and unfair, creating ambiguities in their relationships. Therefore, unfair climates may prompt adverse reactions such that team members may engage in behaviours that no longer promote team performance (Dietz et al., 2003; Priesemuth et al., 2013). Thus, it is meaningful to argue that lower communication could create faultlines in their memberships and increase inconsistencies in the fairness perceptions of team members, which may alter team members' perceptions and behaviours, leading to lower team performance. It is, therefore, hypothesised that:

H8(a) Team members' perceptions of procedural justice climate mediate the positive relationship between team communication openness and team performance.

H8(b) Team members' perceptions of interactional justice climate mediate the positive relationship between team communication openness and team performance.

H8(c) Team members' perceptions of distributive justice climate mediate the positive relationship between team communication openness and team performance.

The relationship between team perceptions of justice climates and team performance has been widely explored (Ambrose et al., 2019; Colquitt et al., 2002; Magni et al., 2018; Vicente Martínez-Tur et al., 2016; Masterson et al., 2000; Naumann & Bennett, 2002; Whitman et al., 2012). It has been argued, as previously explained, that team perceptions of justice climate can provide team members with information that can influence the outcomes. In essence, as team members feel they are treated fairly, they will be motivated to perform better than those who feel treated unfairly.

Whitman et al. (2012) team members with higher perceptions of the distributive justice climate will expand their efforts to earn the desired outcomes. Their combined efforts based on higher perceptions of justice will indicate higher performance. Furthermore, Colquitt et al. (2002) argued that procedural justice climate perceptions influence individuals' perceptions of authority legitimacy and their desire to follow the rules and choices. Therefore, positive perceptions of procedural justice climates will lead to greater team performance. In contrast, negative perceptions of justice climates within the teams will lead to lower team performance. Similarly, Nielsen (2015) argued that perceptions of interpersonal treatment from authority figures guide their reactions towards authority figures and the organisation, which further influences their job behaviours, such as performance.

Moreover, it is argued that a leader's ethicality can influence their behaviours (Xu et al., 2016). Simply put, if team members perceive their leaders as ethical, they will engage in beneficial behaviours for the team. However, if the team perceives poor ethical leadership, they will likely engage in deviant behaviours (Brown & Mitchell, 2010). Because ethical leaders are seen as moral persons and moral agents (Brown et al., 2005), if the team member's perception of ethical leadership is low, it is highly likely to create uncertainty among team members, as explained in the previous sections. Also, in light of the preceding discussion on deep-level diversity, if team members perceive themselves as diverse in their deep-level characteristics, they are likely to experience reduced open communication and unfavourable justice perceptions, which raises doubts about their leader's fair conduct. This ambiguity and unfavorability of fairness may result from supervisors failing to meet the criteria for

procedural, interactional, and distributive justice owing to communication challenges (Colquitt et al., 2002).

Therefore, uncertainty management theory argues that if the leader is perceived to be ethical by team members and they are a recipient of fair procedures, rewards and interactions, team members may conclude that their supervisor is trustworthy and will believe that the organizational decisions and policies can be accepted. This will increase team members' performance aspirations. In the case of the opposite, unfair treatment coupled with low fairness would result in the rejection of organizational policies, the supervisors will be highly distrusted, and team members' performance goals will be abandoned. Given this, this thesis draws on uncertainty management theory to argue that team members will use the information on the fairness perceptions and make it more salient to manage their feelings of uncertainty (Lind & van den Bos, 2002, p. 196). It may be because when confronted with an ethical or unethical leader, team members will turn to their impression of their fair or unfair treatment to help them decide how to perform in their teams. It is, therefore, hypothesised that:

H9(a) The positive effect of communication openness on team performance via procedural justice climate is stronger when perceptions of ethical leadership are high.

H9(b) The positive effect of communication openness on team performance via interactional justice climate is stronger when perceptions of ethical leadership are high.

H9(c) The positive effect of communication openness on team performance via distributive justice climate is stronger when perceptions of ethical leadership are high

Chapter 4 Research Methodology

4.0 Chapter Summary

This chapter provides a discussion on the methodological design adopted in this research. It begins with a brief overview of the nature of knowledge. The chapter then proceeds to the discussion of the philosophy of knowledge. Next, it explains the ontological, epistemological, axiological, and methodological underpinning of varied paradigms to explain what forms knowledge, how it is accessed, and how it is communicated. Finally, the paradigms, namely positivism, post-positivism, interpretivism/constructivism, and pragmatism, are discussed in the sub-sections.

Furthermore, the chapter discusses the mixed-method research design which underpins this research. Then, the sub-sections discuss the quantitative research design, its sampling method, sample size, measures adopted, and the approach to data collection and analysis technique. Lastly, the chapter will discuss the qualitative research method, sampling and approach to data collection, analysis technique (thematic analysis), data reliability and validity and the ethical considerations associated with the qualitative study.

4.1 Research Philosophy: The Nature of Knowledge

Research philosophy refers to “a system of belief and assumption about the development of knowledge” (Saunders et al., 2019, p. 130). It explains the researcher’s approach to their study (Wilson, 2014). As Wilson (2014) and Easterby-Smith et al. (2015) suggest, understanding one’s research philosophy enables the researcher to identify an appropriate research design for the study and informs how

the knowledge is to be gathered, analysed and interpreted, allowing the researcher to address the formulated research questions effectively. However, this depends on the researcher's philosophical belief that accentuates the explanation of the development of knowledge (Saunders et al., 2009).

The systematic knowledge about a social phenomenon rest on beliefs and assumptions about its ontology, epistemology, axiology, and methodology. In philosophy, ontology refers to assumptions about the nature of reality, defined as the study of being (Matthews & Ross, 2010, p. 23). Ontological questions concern whether reality is objective and really exists or subjective and merely perceived (Symon & Cassell, 2012). It seeks to understand "how the researcher perceives the reality" (Wilson, 2014, p. 11) and "how it exists and what can be known about it" (Rehman and Alharthi, 2016, p. 51). Accordingly, researchers need to establish their position regarding their perceptions of how a social phenomenon truly exists (Grønmo, 2020). In essence, it determines "whether social entities can and should be considered objective entities with a reality external to specific social actors, or as social constructions built up through the perceptions and actions of these actors" (Bryman & Bell, 2019, p. 406). The former ontological position is objectivism, and the latter is subjectivism (Matthews & Ross, 2010). Traditional researchers embrace a dominant view that there is merely one true reality that is apprehendable and that can be identified and measured; such a belief of reality is assumed by realism and is widely supported by positivism (Ponterotto, 2005). In contrast, other researchers adopt the alternative view that there are multiple realities that are apprehendable and equally valid, constructed in the individuals' minds; such a belief is assumed by constructivism or interpretivism (ibid).

Furthermore, closely associated with ontology is the concept of epistemology. While ontology debates the nature of reality and existence, epistemology is concerned with the theory of knowledge and assumes the best way of inquiring into the nature of the world (Easterby-Smith et al., 2015, p. 46). Thus, epistemology is about how a phenomenon is known and how it can be investigated. (Slevitch, 2011). In essence, it is a philosophical belief concerned with developing knowledge. It concerns “how we know what we know, and what are the valid ways to reach the reality” (Neuman, 2014, p. 95). Hatch and Cunliffe (2013, p. 11) highlighted the interrelatedness of ontology and epistemology by arguing that an epistemological assumption determines the kind of knowledge is objective or subjective, which then address what an ontological assumption determines as real. In essence, the scholars argued that, like ontology, the epistemological position of obtaining knowledge about reality could be either objective or subjective. The objective epistemological assumption states that the truth about the social world can only be learned through observable and measurable facts, from which generalisations can be drawn about the social reality. In contrast, subjective epistemological assumption asserts that reality can only be learned from perceptions and interpretations (Saunders et al., 2019).

A third important philosophical assumption is axiology which refers to “the role of values and ethics in the research process” (Saunders et al., 2019, p. 134). As stated earlier, a researcher’s ontological assumptions about the nature of knowledge influence the epistemological choices that the researcher makes. Therefore, axiology questions how the researcher deals with their values and those of the participants in the research process (ibid, p. 159). Accordingly, axiological assumptions per research

paradigms include value-free, value-laden and value-driven (Okesina, 2020). Value-free axiology assumes that obtained knowledge must be separated from the researcher's values. Therefore, it explains that research should be undertaken in a value-free way whereby the data gathered about a social phenomenon exists independently of the researcher and maintains a less biased and objective stance (Okesina, 2020, p. 59). Value-laden axiology, in contrast, assumes that researchers account for their biases and those of the participants and, therefore, remain attached to the research process (Saunders et al., 2019).

Furthermore, it explains that values cannot be entirely excluded from the research process, and thus, researchers are prejudiced by their beliefs, cultural experiences, and upbringing (Saunders et al., 2019, p. 149). Lastly, value-driven axiology assumes that values are a desirable aspect of the research. Therefore, it maintains that researchers make various choices to investigate a social phenomenon; thus, their values are bound to influence the research process (ibid). Accordingly, the researcher's ontological, epistemological and axiological position determines their methodological approach to the research (Blaikie & Priest, 2017; Saunders et al., 2009). More specifically, these well-thought-out assumptions inform the researcher's choice of methods, strategy, data-gathering techniques, and analysis procedures for the study (Saunders et al., 2016).

A methodological approach is a plan of action that establishes the choices and use of particular methods (Crotty, 1998). Somekh and Lewin (2005, p. 346) defined methodology as "the collection of methods or rules by which a particular piece of research is undertaken and the principles, theories and values that underpin a

particular research approach". Thus, it explains how we know what we know and allows us to understand what knowledge actually is (Adams et al., 2007). A methodology is an overall approach to research, while the method refers to techniques or procedures used to collect and analyse data (Crotty, 1998; Mackenzie & Knipe, 2006). These interrelated assumptions (ontology, epistemology, axiology, and methodology) that provide a philosophical and theoretical framework for research investigation are critical components of the research paradigm (Denzin & Lincoln, 2018, p. 195; Okesina, 2020). Bryman and Bell (2019) defined “paradigm” as “a set of beliefs and assumptions about how the world works and how knowledge of it is to be gained” (p. 333). Generally, it is “a whole system of thinking that includes basic assumptions, the important questions to be answered, and the research techniques to be used” (Neuman, 2014, p. 96). Since the research paradigm determines the context of the study (Ponterotto, 2005), the researchers need to identify their position surrounding the beliefs and assumptions to adopt the approaches that are well-matched with the researcher’s investigation (Saunders et al., 2009, p. 108). Given this, three main paradigms, namely positivism, interpretivism and pragmatism, are discussed in the next section.

4.2.1 The Positivist Paradigm

Positivism attained prominence as a truth-seeking paradigm in the nineteenth century (Aliyu et al., which assumes that “reality exists independently of humans” (Rehman and Alharthi, 2016, p. 53). Positivism is based on the philosophical viewpoint of natural scientists who work with observable reality to generate law-like generalisations. Referring to the importance of what is “posited” - hence “given” (Saunders et al., 2016, p.144), positivism is concerned with the value of what is

supplied in general, with a more stringent focus on considering pure data as well as facts without being impacted by human interpretation or bias (Alharahsheh & Pius, 2020; Saunders et al., 2016). Ontologically, positivists assert that a single reality can be investigated, and this approach to investigation is based on realism (Aliyu et al., 2014; Crotty, 1998; Neuman, 2014; Walliman, 2006). Epistemologically, positivists share the assumption that the world exists as an objective reality independent from the observer's mind and it is logically knowable (Porta and Keating, 2008, p. 23). Positivism, thus, emphasises a) dualism, where the researcher is isolated from the research objects (research participants); b) objectivism, where the researcher uses rigorous procedures to observe the participants objectively; c) value-free, where the researcher is carried out without bias (ibid). The axiological position of positivists is that it is value-free, as mentioned above. This maintains that the researcher remains detached, neutral and independent of the research participants and investigative inquiry (Crotty, 1998; Saunders et al., 2019, p. 136). Moreover, this is ensured by adopting systematic methods such as statistical procedures that control the researcher's influence on the research process and participants (ibid). Therefore, methodologically, positivists use existing theory to develop, test and confirm the hypotheses, also known as deductive reasoning. As Symon and Cassell (2012, p. 19) state, “positivists aim to produce generalisable knowledge by testing hypothetical predictions deduced from a priori theory”. In this regard, the goal is to explain causal links between variables, allowing for generalisation and the identification of universal behavioural principles (Adams et al., 2007).

Although positivism is widely used to investigate a social phenomenon, it has been criticized for rejecting various sources of understanding of the social

phenomenon that derives from human experiences or interpretations (Fox, 2008). Furthermore, positivism is criticised because it is difficult to articulate a single fact about the nature of the social environment. Thus, it has been dedicated to eliminating subjectivity from knowledge growth and rejects any place for reflexivity among researchers (ibid.). The growing criticism of aspects of positivism led to an alternative view, namely post-positivism.

4.2.1.1 The Post-Positivist Paradigm

Post-positivism has ontological beliefs similar to positivism, that there is one true reality. However, post-positivism assumes a position similar to critical realism, which argues that reality is objective, exists independently of the observer, and can only be apprehended imperfectly due to the complexities of social phenomena (Rehman and Alharthi, 2016). In other words, as Guba and Lincoln (1994, p. 110) state, “the ontology is labelled as critical realism because of the posture of proponents that claim about reality must be subjected to the widest possible critical examination to facilitate apprehending reality as closely as possible (but never perfectly)”. Epistemologically, post-positivism assumes a modified dualist/objectivist position which asserts that “the researcher may have some influence over the subject of the study, but objectivity and researcher–participant independence remain essential criteria for the research process” (Guba & Lincoln, 1994, p.110; Ponterotto, 2005, p.131). Axiologically, post-positivists reject the value-free inquiry (Miller, 2005, p.60). In other words, post-positivists strive to maintain a neutral position; however, they remain aware of any values that might compromise neutrality (ibid, p. 61). Furthermore, post-positivism follows the principle of theory falsification (instead of theory verification; positivism), which contends that “scientific theories can never be

proven as true" (Scotland, 2012, p. 10). This is ensured by modified experimentation and manipulations (Guba & Lincoln, 1994). Thus, while there are no claims to absolute truth or value-free inquiry, there is a conviction that progress may be made if researchers show caution in their theorising and study and are critical of theoretical assumptions and empirical arguments (Miller, 2005, p. 61).

Both positivists and post-positivist perspectives seek to understand objective realities, which leads to predictions and control of phenomena, thus, emphasising the investigations of causal relationships – advocating primarily for quantitative confirmatory research (Creswell, 2009). However, scholars have argued that post-positivists are searching for meanings in social phenomena, leading to value-led axiology, such as studying discourse or narratives (Ryan, 2006). Thus, qualitative and quantitative research may be appropriate depending on the study.

As a critique of positivism and post-positivism, an alternate paradigm emerged: interpretivism (Bryman & Bell, 2019). This paradigm is discussed in the next section.

4.2.2 The Constructivist Paradigm

Constructivism or interpretivism originated from the epistemological critique of positivism. It offers an alternative to the type of social research typically done by positivists. According to interpretivism, social researchers' function is comprehending the subjective meanings of people's behaviours (Bryman & Bell, 2019). Interpretivism argues that individuals act based on the meanings they ascribe to their own and others' actions (ibid.). Ontologically, constructivists assume that reality is constructed in the minds of the social actors rather than it being a true external reality (ibid.). Thus,

adhering to the relativist position, it assumes multiple constructed realities (Guba & Lincoln, 1994). Guba and Lincoln (1994) argued that “realities are apprehendable in the form of multiple, intangible, mental constructions, socially and experientially based, local and specific in nature (although elements are often shared among many individuals and even across cultures), and dependent for their form and content on the individual persons or groups holding the constructions” (p. 110). Epistemologically, according to Ponterotto (2005, p. 129), constructivists have a transactional and subjectivist approach, arguing that reality is socially constructed and, as a result, the dynamic interaction between researcher and participant is central to capturing and describing the participant's "lived experience".

Furthermore, constructivists adopt several approaches to interpreting social realities. For example, the hermeneutic approach studies cultural artefacts. It suggests that individual construction can only be elicited and refined through interaction between the researcher and the participants (Guba & Lincoln, 1994). This interaction between the researcher and the participants provides access to hidden in-depth meanings to actions and experiences through reflection (Saunders et al., 2009). On the other hand, the phenomenological strand of interpretivism that studies existence focuses on "participants' lived experience, that is, the participants' recollections and interpretations of those experiences, is mainly concerned with generating meanings and gaining insights into those phenomena" (Saunders et al., 2019, p. 812). From the axiological position, constructivists assumed that the researcher's values, lived experiences and that of the participants could not be divorced from the research process (Okesina, 2020). In essence, the researchers adopt an empathetic stance. Thus, the challenge is for the researchers to dwell on the social world of the

participants and understand their experiences from their viewpoint (Saunders et al., 2019). Moreover, unlike positivists or post-positivists, interpretivism inductively develops a theory or a pattern of meanings and, thus, focuses on qualitative research methods to gather the research participants' views (Creswell, 2009).

4.2.3 Pragmatism

Pragmatism is a worldview that arose from long-standing philosophical disagreements between positivism and interpretivism (Creswell, 2009; Saunders et al., 2006). Drawing on the characteristics of positivism and interpretivism paradigms, pragmatists do not commit to one system of philosophy and reality (Sekaran & Bougie, 2016). Instead, pragmatists believe research on observable, objective phenomena and subjective meanings can produce helpful knowledge (ibid, p. 29). Thus, rejecting the view that social phenomena can be studied and the truth about the real world can be assessed using a singular methodical technique (either quantitative or qualitative) (Creswell, 2009). Instead, pragmatism assesses truth as “tentative and changing over time” (Sekaran & Bougie, 2016, p. 29). In this way, emphasising the socially constructed nature of research, pragmatism describes research as “a process where concepts and meanings are generalisations of our past actions and experiences and interactions we have had with our environment” (ibid, p. 29). These varied perspectives, ideas and theories allow pragmatists to understand the realities of the world and, therefore, endorse pluralism (Maarouf, 2019; Sekaran & Bougie, 2016).

Accordingly, to deal with the ontological differences, Morgan (2007) argued that the pragmatic research approach is “intersubjective” (p. 71). In other words, pragmatists ontologically assume the existence of one reality and argue that

individuals have multiple interpretations of this reality (Maarouf, 2019, p. 6; Morgan, 2007). This moves the pragmatists' view from pure predictions to understanding social phenomena (Blaikie & Priest, 2017). Epistemologically, pragmatists assume that research may focus on “what works” (Saunders et al., 2015) and, thus, steer clear of the debates on the nature of truth and reality and instead emphasise practical understandings of the real-world phenomenon (Kelly & Cordeiro, 2020; Patton, 2015). Given this, Maarouf (2019) conceptualised this epistemological position of pragmatism as "double-faced knowledge, " meaning that any knowledge can be seen as observable or unobservable based on the ontological stance of the researcher and not on the nature of knowledge itself. Thus, pragmatists dwell on choosing approaches that serve the research aims. Axiologically, in social sciences, a phenomenon is meaningful for the researcher prior to the research process. For pragmatists, this pre-understanding and pre-judgments form the research's basis, so the research is purely value-driven (Okesina, 2020). In essence, “reality matters to pragmatists as practical effects of ideas, and knowledge is valued for enabling actions to be carried out successfully” (Saunders et al., 2019, p. 151). Methodologically, Onwuegbuzie & Leech (2005) pragmatists emphasise a false dichotomy between qualitative and quantitative approaches to investigating a phenomenon. Accordingly, pragmatists advocate integrating both approaches in a single study to understand a social phenomenon (Creswell, 2009; Onwuegbuzie & Leech, 2005). This alternate view has formed the philosophical paradigm for mixed-methods research (Teddlie & Tashakkori, 2009).

4.3 Research Paradigm in Team Deep-level Diversity Research

Research within the field of team diversity is dominated by a positivist or post-positivist approach that is more focused on the realist or critical realist paradigm

(Jackson & Joshi, 2011). Thus, the related research mainly adopts quantitative research methods (methodology; see meta-analysis of surface and deep-level diversity by Guillaume et al. (2012) and a study by Hentschel et al. (2013) and Harrison at al. (2002) on perceived deep-level diversity). Given the focus on positivist and post-positivist approaches, the field's extensive research is focused on the use of questionnaire surveys in their attempt to test the theoretical propositions empirically. As outlined in section 4.2.1, the paradigm underpins the assumption of an objective reality that can be measured using rigorous methods and yields generalisable laws explaining the relationships between diversity and outcome variables (Guba & Lincoln, 1994).

Given the above understanding, Harrison et al. (2002, p. 1031) analysed deep-level diversity using "fit paradigms" concerned with the psychological associations among individuals in teams. Generally stated, the fit is the "individual sense of 'fitting in' or when it does not exist, 'feeling like a misfit'"; and is also referred to as "general compatibility" (Kristof-Brown & Billsberry, 2013, p. 4). Research protocol in these paradigms directly measures the person-environmental fit or perceived fit that a team member believes exists in their team (ibid.). However, epistemologically, both paradigms assume differently. For example, the person-environment fit assumes the reality of being significant for the researcher; thus, individual differences are seen as the primary influence variables on behaviours. In contrast, perceived fit assumes reality to be significant. However, following the post-positivist approach, the fit paradigm reduces measurement constraints and recognises that people's descriptions of their psychological states represent objective knowledge. However, such occurrences cannot be seen or objectively measured (Kristof-Brown & Billsberry,

2013). Since perceived deep-level diversity is more closely analysed using the perceived fit paradigm (Harrison et al., 2002), it advocates for investigators to comprehend how individuals make sense of their associations with others in their teams and the impact these associations may have on their behaviours (Kristof-Brown & Billsberry, 2013, p. 6). Thus, these associations include the perceptions of diversity among team members regarding work attitudes, personal values, personalities, priorities, and commitments (Harrison et al., 2002).

The distinction between this paradigm and interpretivism is that the broader research in team-level perceived deep-level diversity examines its outcomes and consequences, as mentioned above, to predict and explain relationships. The limited research on perceived deep-level diversity among team members relies widely on the non-observable phenomenon (for example, perceptions of dissimilarities among team members) (Hentschel et al., 2013). However, it can be measured using theory-laden observations (Lee & Lings, 2008). Similarly, qualitative investigations using interviews to deeply understand the deep-level differences and the emergence of team justice climate perceptions are not present. As noted in chapter two, nearly all scholarship on deep-level diversity employs quantitative methods (for example, Roberson & Williamson, 2010). This suggests that qualitative investigations of the phenomenon, investigating both the occurrence and emergence of perceptions due to perceived deep-level diversity, could benefit the research (Zanoni & Van Laer, 2015; Kristof-Brown & Billsberry, 2013).

4.4 Research Philosophy and Approach in this Thesis

This study thus adopts a pragmatic rather than purely positivist or interpretivist perspective. This research considers knowledge to be both constructed and reliant on the reality of the world one experiences or lives in (Teddlie & Tashakkori, 2009, p. 70). The researcher thus assumes that knowledge is socially shared and the social actor's perceptions of the world are influenced by their social experiences (Kaushik & Walsh, 2019). For example, the perceptions of deep-level diversity and its impact on the emergence of perceptions of justice climate in teams is a valued social phenomenon, and an understanding of this perceived reality is significant for the researcher as these perceptions are socially constructed, within teams, in this research context (ibid.). It is because individuals have their respective interpretations of that reality (Morgan, 2007), and this reality can be captured intersubjectively through research participants (ibid.). In axiological terms, the researcher makes value-driven judgments throughout the research process, from choosing the study variables to observing and interpreting findings. Thus, the researcher's values guide her through selecting a research topic and adopting the appropriate research methodology.

As anchored in the pragmatic paradigm, this study adopts the mixed-methods approach to answering the research question(s). A mixed methods research integrates both field methods, such as observations and interviews (qualitative data), and traditional methods, such as surveys (quantitative data), to gain a plausible understanding of the social phenomenon (Creswell, 2009, p. 14; Ivankova et al., 2006). As pragmatists argue, combining methods complements each other and allows for a more robust analysis (Ivankova et al., 2006). Moreover, pragmatists argue for "what works or is efficient in a given situation" (Morgan, 2007, p. 31). Thus, the

rationale behind adopting a pragmatic research approach is the researcher's main effort to understand the phenomenon of perceived deep-level diversity deeply, the emergence of justice climate perceptions and the underlying process involved in team settings in Arab organizations (see figure 2).

Although the researcher emphasises the maturity of theory and research in the field, such that the constructs in this study are well established, there are unanswered questions that are yet to be investigated (Roberson, 2006; Roberson & Williamson, 2010; Roberson et al., 2017). This being said, the research lacks the understanding and explanation of the phenomenon, such as perceived deep-level diversity, sense-making and its role in the emergence of justice climate perceptions and its influence on team performance and cohesion (ibid.). As argued by Hentschel et al. (2013), "people have a wider impression of their team's diversity, and thus, these diversity perceptions are often shared by team members" (p. 36). Therefore, it fits well with the current research that seeks to empirically discover causal relationships and use narratives to capture team members' thoughts and experiences to gather a broader understanding of their lived experiences through adopting a pragmatic tradition.

4.5 Research Design and Strategy: Mixed Methods Research

In social sciences and management research, the legitimacy of employing a mixed-methods approach is expanding (Creswell, 2003). As explained above, this research adopts a mixed-methods approach to investigating the social phenomenon. It is because the mixed-methods approach builds on the strengths of both methods, whereby no single method alone can completely understand the research problem (Onwuegbuzie & Leech, 2005). Furthermore, integrating quantitative and qualitative

methods complements the research (ibid.). Therefore, the researcher first adopts a quantitative method and uses survey design as a methodology. Using a hypothetical-deductive approach, the researcher can draw inferences about the relationships between perceived deep-level diversity, perceptions of justice climate and the mediator, moderators and outcome variables in the current study. The researcher then adopts a qualitative method and uses interview design as a methodology to supplement the quantitative analysis. Using this qualitative data and adopting both deductive and inductive approaches, the researcher is able to make inferences by linking concepts and explaining the occurring phenomenon (Morse, 2006). The use of mixed methods will allow the researcher to make generalisations for wider businesses in pursuit of adding value for managers.

Creswell et al. (2003) identified two main mixed-methods designs: concurrent and sequential. In sequential designs, either the quantitative or qualitative data are collected in the initial phase, followed by gathering the other data type in the second phase. In contrast, concurrent designs co-occur in the qualitative and quantitative data collection (Castro et al., 2010, p. 344). Within the two major categories, Creswell et al. (2003) further identified three strategies based on (a) the level of emphasis given to the qualitative and quantitative data (equal or unequal), (b) the process used to analyze and integrate the data, and (c) whether or not the theoretical basis underlying the study methodology is to bring about social change or advocacy (Castro et al., 2010, p. 3). In the concurrent design, triangulation, nested and transformative strategies, whereas in sequential design, explanatory, exploratory and transformative strategies were identified (Creswell, 2003; Ivankova et al., 2006).

The concurrent triangulation strategy is used to characterise correlations between variables of interest more precisely by combining qualitative and quantitative data. Both qualitative and quantitative data are collected during the same stage in a concurrent nested strategy, albeit one type of data is given greater weight than the other (Creswell et al., 2003). Concurrent transformational strategy is conceptually motivated to launch social change or advocacy, and this design may be utilised to support varied viewpoints (Castro et al., 2010). In contrast, the sequential explanatory strategy is characterised by an initial quantitative phase followed by a qualitative data collection phase, and the two methods are integrated during the interpretation phase. The sequential exploratory strategy typically involves the initial phase of qualitative data collection followed by quantitative data collection. The data is both analysed and integrated in the interpretation phase. Unlike the aforementioned sequential strategies, there is no dominance of sequence in the sequential transformative strategy. Thus, the researcher takes guidance from a particular theoretical orientation to adopt a sequence (Creswell, 2003; Ivankova et al., 2006; Kroll & Neri, 2009).

This research adopts a sequential explanatory mixed-methods design involving two distinct phases (Creswell & Clark, 2011; Lee, 2018; Teddlie & Tashakkori, 2011). The quantitative, numeric data is gathered and analysed first, whereas the qualitative, textual data is gathered and analysed in the following sequence. This helps explain or elaborate on the quantitative findings obtained in the first sequence. In this thesis, and as explained in the above section 4.4, the initial quantitative data was used to identify the correlations between perceived deep-level diversity, team perceptions of justice climate and outcomes whilst recognising the important role of sense-making behaviours and ethical leadership. At the same time, the qualitative interviews were

used to reflect on team members' real experiences to explain how perceptions of deep-level diversity lead to the emergence of justice climate perceptions and diverge sense-making behaviours, as observed in the first phase of the study.

One of the critical aspects of the sequential explanatory mixed-methods approach is the distribution of weight or priority in adopting the sequence (Creswell & Clark, 2011; Lee, 2018; Teddlie & Tashakkori, 2011). n this research, the priority is given to the quantitative approach (deductive) because the research is theory-laden, and thus, it focuses on finding the correlations between the focal constructs. Furthermore, it is because the constructs modelled in the theoretical framework (Figure 2) are measurable, quantifiable and pre-validated. Another reason is the testing of conceptual framework in an Arab context as opposed to the Western context; consequently, the findings are likely to differ. As Creswell (2003, p. 25) argued, sequential explanatory mixed-method design can also help examine, in detail, any surprising results emerging from the quantitative phase. Since diversity research is regarded as a double-edged sword due to the inconsistencies in the findings (Carter & Phillips, 2017), it is likely for this research to observe the same. Given this understanding, studying team members' perceptions makes the explanatory phase necessary. Hence, the qualitative method explores rich and in-depth knowledge about why their perceptions lead to divergence and taps into their experiences, feelings and emotions.

This current thesis, accordingly, involves two studies. Study 1 is the primary quantitative study to test the hypothesised model using a structured questionnaire survey conducted in two organisations with employees working in teams and their

respective managers. Whereas Study 2 explores the unanticipated results from Study 1 and involves semi-structured interviews with employees and managers working in teams in the same organisation. According to the quantitative data, there is no association between justice and performance; and team communication was mainly examined to reflect any task and non-task-related communication that occurs in teams. The qualitative study directed the focus of communication towards fairness. So viewpoints were acquired to reflect whether fairness-related communication is hampered due to the predominance of deep-level diversity.

4.6 Sampling, Data Collection and Analysis Technique for Quantitative Study

4.6.1 Section Outline

This section focuses on the quantitative methods, precisely the sampling procedure, and the approach to data analysis. The first sub-section will highlight the sampling methods and sample size adopted in the first study. Particularly, both sampling techniques, probability and non-probability, are outlined, followed by a discussion on access issues and the approach to model testing. Next, the moderated-mediation model is discussed, which specifies the difference between moderation, mediation, moderated-mediation and mediated-moderation data analysis techniques and the rationale behind adopting the analysis technique.

4.6.2 Sampling Method

In quantitative tradition, surveys involve adequate sampling, such as determining and selecting a group of participants from a larger or total population (Walliman, 2006; Bryman, 2016) to test the hypothesised model. However, as Walliman (2006) explains, there are important considerations to make before a sample

is selected. For example, when a survey is conducted to gather evidence, or when the cases are selected to be studied, an important consideration arises: “how representative is the information gathered of the whole population?” (p. 75). Therefore, the researcher has to identify how similar the features of the chosen cases are to that of the wider population or the sampling frame. This study recruited work teams in organisational settings to evaluate the constructs. Therefore, the survey is representative of their team memberships.

Two sampling techniques are widely used in quantitative sampling: probability and non-probability. Probability sampling is based on the random selection of cases in which each individual in the population has an equal probability of participation. In contrast, non-probability sampling is based on a non-random selection of cases in which the respondents are selected based on their availability (Creswell and Creswell, 2018, p. 212). Probability sampling has been considered the standard sampling technique in quantitative methods to make generalisations about a whole population; however, according to Lee and Lings (2008), probability sampling requires a complete sampling frame. Therefore, if the research aims to develop generalisable information, as with quantitative research, a complete list of the population may not exist. As a result, accessing a list of the population from whom the sample can be chosen may not be easy (Matthews & Ross, 2010, p. 162). Furthermore, the research question is concerned with employees working in teams. Thus, a sampling frame for the overall population working in teams in all middle eastern organisations cannot be accessible due to the organisational “gatekeepers” unwillingness to disclose all population information to the researcher (ibid.).

Additionally, this study utilises a non-probability sampling technique, specifically convenience sampling. Non-probability sampling is focused on smaller samples, and the inclusion of such samples in most circumstances is due to their convenience. This sampling method is widely used in organisational research because it provides researchers with the ease of accessing the population and, therefore, is advantageous due to its ease of implementation (Saunders et al., 2009). However, because generalisability cannot be maintained in a convenience sample, it is important to determine whether the chosen sample can provide a significant and meaningful understanding of the research questions and objectives (Easterby-Smith et al., 2015; Lee & Lings, 2008). In this research, the research questions, as explained earlier, intend to investigate the deep-level differences in team members' characteristics and the emergence of justice climate perceptions and team outcomes. Hence, to generalise the results from the study, respondents of the quantitative study must be individuals working in teams. Furthermore, each team needed to have a respective leader/manager. This representation of the sample, to ensure the data quality, was based on pre-defined criteria of the team as described in the literature (Sundstrom et al., 1990) and described as follows "Each participant must be working in a team and each team must have a manager/leader". Given this, the sample should be appropriate for the research.

4.6.3 Participants and Sample Size

As mentioned, the sample was obtained using the convenient, non-probability sampling approach. To recruit participants for this study, companies across different sectors in Dubai, United Arab Emirates and Riyadh, Saudi Arabia, were contacted to gain access. Firstly, the headquarters of large-scale organizations (mainly banks and

telecommunication) were personally visited by the researcher, and meetings were requested with the Managers to discuss the access. However, upon discussion with managers, the access was denied due to the sensitivity of the research theme, specifically “fairness perceptions”. Given this, personal and professional contacts were explored to ease the process of access. The researcher contacted individuals (mainly managers) through cold calls and emails. Two large companies in the restaurant industry thus agreed to participate in the research. Given the criterion set to employee companies based on teams, the CEOs of the companies were visited to ensure the criterion was met. The criterion was 1) each team must consist of two or more employees and have a manager/leader; 2) team members share some degree of task interdependence and 3) team members are above 18 years of age. The ease of access and their fulfilment of the above criteria was the main reason for employing these companies in this research. Company X offered to provide 53 teams comprising 280 participants across 11 branches, whereas company Y offered 96 participants across 23 teams. Participants were, however, contacted through appointed coordinators within the human resources department of the companies. Details of the sample are provided in section 5.1.2.

One of the more significant concerns about sampling is deciding the appropriate sample size. Bryman and Bell (2019) suggests that sample size affects the statistical significance of the hypothesised model. VanVoorhis and Morgan (2007) argue that a general rule of thumb is a minimum of 50 participants to statistically examine correlations or relationships between variables (p. 48). Similar guidelines were suggested by Onwuegbuzie and Collins (2015). They argued that at least 64 to 82 participants are required for correlational models (p. 288). VanVoorhis and Morgan

(2007) also argued that Green's (1991) formula could be used to determine regression sample size. The formula suggests N>58+m for multiple correlations and N>104+m for single predictors (where N is the number of participants and m is the number of independent variables). Since the only predictor variable is perceived deep-level diversity in this study, the sample size of 249 exceeds the recommendation and is suitable for testing the hypothesised model. The number of teams and team members per team necessary to analyse the team-level constructs is an essential factor to consider. Although there is no consensus on the number of team members per team, DeChurch et al. (2017, p. 376) suggested 2 to 20 individuals. In contrast, Kozlowski and Ilgen (2006, p.79) suggested three members as the minimum team size since "teams of three or more enable coalitions and related interpersonal interaction complexities that are absent in dyads". Given this, three members per team were considered the minimum criterion for teams to be included in this study.

4.6.4 Approach to data analysis

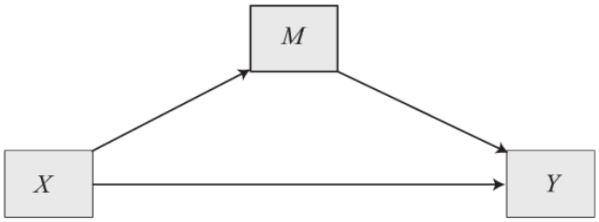
SPSS (IBM Statistical Package for the Social Sciences), AMOS and Process Macro by Hayes were used to analyse the collected data and test the hypothesised model. Firstly, to confirm the fit of the overall measured model, AMOS for confirmatory factor analysis (CFA) was used. Once the model fit was obtained, the descriptions of mean, standard deviations, internal consistency reliabilities, and correlation coefficients between studied variables were examined using IBM Statistical Package for the Social Sciences (SPSS Version 26). Considering the structure of the data and the nature of the conceptualised model that involves mediation and moderation-mediation, PROCESS Macro for SPSS Version 3 by Hayes (2017) was used to test the model. Process Macro helps researchers understand the process of effect

occurrence by estimating moderation, mediation, and direct and indirect effects and identifies any boundary conditions of those effects whilst controlling for any influential variables in the measurement model (Hayes, 2018). To test the models, one of the strengths of PROCESS Macro is that it allows effective analyses of complex models. Although other SEM tools exist such as MPlus, PROCESS permits the estimation of effects in singular commands whilst examining the effects with multiple mediators and moderators (Hayes, 2018).

The hypothesised model includes mediation and moderated-mediation analysis, as previously stated. Thus, explaining the moderation and mediation analysis and the difference between moderated mediation and mediated moderation is helpful in understanding why this is being implemented. Moderation analysis seeks to determine whether the size or sign of the effect of X on Y depends on or interacts with a moderator variable W (Hayes, 2018). Mediation analysis establishes the extent to which a causal variable X, influences the outcome variable Y, through one or more mediator variables M (ibid.). To illustrate, figure 3 demonstrates the moderator and mediator effect models below.

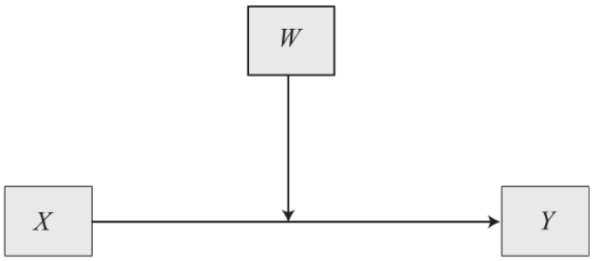
Figure 3 *Moderation and Mediation Models*

Mediation Model



A simple mediation model with single mediator variable M causally located between independent variable X and dependent variable Y. Source: Hayes (2018, p. 7)

Moderation Model



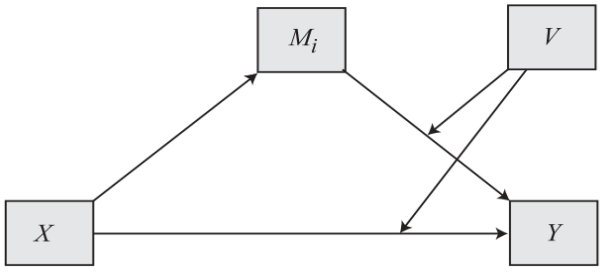
A simple moderation model with single moderator variable W causally influencing the effect size or sign of independent variable X on dependent variable Y. Source: Hayes (2018, p. 8)

Muller et al. (2005) and Hayes (2018) argued that moderation and mediation could be integrated within the same model to assess the moderation of a mediated effect or a mediation of a moderated effect termed as moderated mediation and mediated moderation. The distinction between mediated moderation and moderated mediation models is based on “which individual path in the mediational chain varies as a function of the moderator variable” (Morgan-Lopez & MacKinnon, 2006, p. 78). In simple terms, Mediated moderation is defined as a mediation model involving an interaction term. In moderated mediation, the nature of the mediated relationship is contingent on the levels of some moderator variable (Iacobucci, 2008, p. 48,50; Preacher et al., 2007, p. 193). Hayes and Rockwood (2020, p. 26) stated that because a mediation process is a combination of effects that can be moderated, it follows that mediation can be moderated. Thus, statistically, moderation of mediation manifests itself in the form of an indirect effect that depends on a moderator, meaning that it is a function of a moderator. Thus, focusing on the conditional process, two models are widely used namely first-stage conditional process model and second-stage conditional model (ibid.). In the first-stage model, the moderator variable V operates on

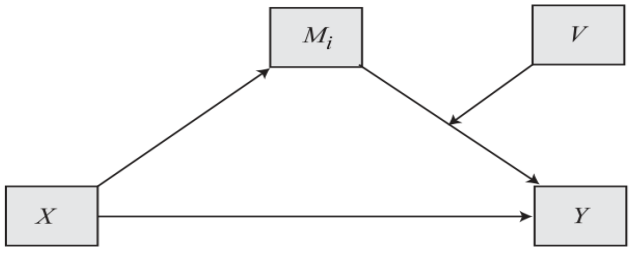
the first stage of the mediation process whereby the effects of $X \rightarrow M$ is a function of the moderator variable V but the effect of $M \rightarrow Y$ is independent of the moderator V and any other variable in the model. In the second-stage model, the moderator variable V operates on the second stage of the mediation process whereby the effect of $M \rightarrow Y$ is a function of V but the effect of $X \rightarrow M$ is independent of the moderator V (ibid.). To illustrate, figure 4 demonstrates second stage moderated mediation and mediated moderation models applied in this thesis below.

Figure 4 ***Moderated Mediation and Mediated Moderation Models***

Mediated Moderation Models



Mediated Moderation Model



Given the distinction, mediation and moderated mediation models are proposed in the thesis. The rationale behind this decision is that the hypothesised model investigates the mechanism that explains the impact of deep-level diversity perceptions on team performance and cohesion. Thus, the underlying behavioural mechanism, justice climate perceptions and ethical leadership are considered pathways. More specifically, a causal mechanism is first specified among (a) perceived deep-level diversity (X), justice climate perceptions (Y) and sense-making (M). Secondly, controlling for the effects of (a) deep-level diversity, a causal and conditional mechanism is specified among sense-making (X), outcome variables (Y), justice climate perceptions (M) and ethical leadership (V).

4.6.5. Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a type of factor analysis which deals with the measurement models and assess the relationships between observed and latent variables (Brown, 2006). CFA is the most commonly used statistical procedure in social sciences (Brown, 2015). The purpose of CFA is to identify the extent to which variation and covariation exist among a set of indicators (Brown, 2006). It further tests whether the set of items defines a theoretical construction and also examines the existence of the theoretical constructs (Brown, 2015). This thesis used a CFA to determine the distinctiveness of the measures used in Study 1. The findings of the CFA are discussed in Chapter 5.

Several measures of fit exist and are commonly used to determine the model fit. The fit indices test whether the hypothesised model fits the observed data. Therefore, multiple fit indices were examined to evaluate the goodness of fit for the

measurement model. The fit indices include the Chi-Squared test, Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), the Standardized Root Mean-Squared Residual (SRMR) and the Root Mean Square Error of Approximation (RMSEA) (Byrne, 2005).

The chi-squared test is an overall test of model fit and assesses the magnitude of discrepancy between the sample and the covariance matrices (Smith & McMillan, 2001). Thus, a value close to zero indicates strong relationships between variables and suggests an acceptable fit (ibid.). The comparative fit index (CFI) (Bentler, 1980) measures approximate fit and measures the overall covariation in the observed model. The values of this statistic range between 0.0 and 1.0, where 0.0 indicates poor fit and 1.0 indicates a good fit. A threshold of CFI values of 0.90 indicates an acceptable model fit (Awang, 2012; Hu & Bentler, 1995) and the use of values greater than 0.95 as an adequate fit (Hu & Bentler, 1998; 1999). Bentler's (1995) SRMR measures the standardised difference between implied and observed covariance matrices. The values of this index range between 0.0 and 1.0, where 0.0 indicates poor fit and 1.0 indicates a good fit, whereby a smaller value of SRMR less than 0.08 indicates an acceptable fit (Hu & Bentler, 1998; 1999). Steiger's (1990) root mean square error of approximation (RMSEA) index measures the difference between implied and observed covariance matrices per degree of freedom. Hu and Bentler (1999) recommended a criterion of RMSEA values of less than 0.06 for an acceptable model fit. In contrast, Browne & Cudeck (1993), MacCallum et al. (1996) and Hooper et al. (2008) recommended values less than 0.08 for a good model fit. Lastly, Bentler and Bonett's (1980) Tucker-Lewis's index (TLI), also known as the Non-Normed Fit Index, is an incremental fit index and the values of this index range between 0.0 and 1.0. The TLI or NNFI index, compared to Normed Fit Index (NFI; not reported in this study),

bypasses its sensitivity to sample size and is not required to range between 0 and 1. Also, the recommended values for this index are as low as 0.80 (Hooper et al., 2008). However, Bentler and Bonett (1980) and Schumacker and Lomax (2010, p. 76) suggested values close to 0.90 as an acceptable threshold value for the model fit. Hu and Bentler (1998, 1999) and Marsh et al. (2004) emphasised that these rules of thumb are not the golden rules as they are to be interpreted and applied based on the specifics of the specified model for research.

4.6.6. Approach to Data Aggregation

Based on the longstanding debate on composition, Chan (1998) proposed five models that specify the functional relationships between different constructs at different levels of analysis: individual level, team level, and organisational level. Those five models are (a) additive model, (b) direct consensus model, (c) referent-shift consensus, (d) dispersion, and lastly (c) process composition (ibid., p.235). The additive model specifies a straightforward relationship between constructs at a different level. Thus, taking a mean of lower-level constructs to operationalise higher-level constructs regardless of the variance among units is considered appropriate in this model. Direct consensus is the most used model in organisational research. The within-group consensus of lower-level units is determined as a function of aggregation at a higher level. Like direct consensus, the referent-sift consensus model also accounts for the index of the within-group agreement to form a higher-level construct. However, the important difference between the two models is that in a referent-shift consensus model, there is a shift in the referent prior to consensus assessment. It is a new referent combined to represent a higher-level construct. For example, a direct referent such as “I” indicates the direct referent model. In contrast, the referent-shift

consensus model uses “we or us” as references to the construct at a higher level. In the dispersion model, the within-group dispersion scores serve to operationalise the primary constructs. Lastly, process models are concerned with composing some mechanisms from the lower level of conceptualisation to the higher level (Chan, 1998; Klein et al., 2001).

A referent-shift consensus model has been adopted in this thesis because functional relationships between constructs such as perceived deep-level diversity, team communication openness, justice climate perceptions, leadership, and performance and cohesion are established at the “team level”. Chan (1998) argued that the within-group agreement must be determined to aggregate the constructs at the team level when adopting a consensus model. For this study, although theoretical support is maintained from previous research to conceptualise the constructs at the team level (For example, Colquitt et al., 2002; Hentschel et al., 2013; Roberson, 2006), it is nevertheless essential to establish that each team share adequate variance to distinguish between teams. Therefore, both within-group interrater reliability RWG(j) (James, Demaree, Wolf, et al., 1984) and interclass correlation coefficients ICC(1) and ICC (2) are estimated (Bliese, 2000). According to Bliese (2000), ICCs determine the degree of reliability of the group mean, whereas RWG(j) determines the degree of homogeneity or agreement among individuals (James et al., 1984). These indices are analysed and presented in the study 1 data analysis chapter for this study.

4.7 Sampling, Data Collection and Analysis Technique for Qualitative Study

4.7.1 Section Outline

This section focuses on the approach to qualitative data analysis. As explained earlier in section 4.5, in the qualitative study, attention is paid to findings that go beyond the quantitative findings. This is explained in the sections below. The sub-sections will describe the sampling and data collection procedure and the approach to the qualitative data analysis.

4.7.2 Sampling Procedure

To obtain insights into a phenomenon, individuals or events, Onwuegbuzie and Collins (2015) recommended a purposive, non-probability sampling approach. Purposive sampling enables the researcher to purposefully select individuals, groups and settings that can provide a greater understanding of the underlying phenomenon (ibid.). This qualitative study aims to obtain deeper insights into how deep-level diversity influences the perceptions and behaviours of individuals working in teams. Thus, purposive sampling was adopted as the sample included in this study was restricted to the companies that participated in the quantitative study in phase one. The sampling was also convenient or opportunistic, where participants available and willing to participate in the study at the time of company and branch visits were considered. Although the researcher intended to include participants from the population of both companies (X and Y) that participated in study 1, Company X demonstrated a greater sample size than Company Y. Thus, the sample from company X was considered for the qualitative study. However, conducting the qualitative study within company X did not detract from the findings because companies X and Y shared similar work ethos, such as working in a team setting,

interdependence, similar work culture, and equally diverse. In addition, the individuals were the employees of the participative organization in study 1 and fulfilled the criterion of “working in a team”, as detailed in the quantitative study.

4.7.3 Participants and Sample Size

In this qualitative study, as explained earlier, the participants were recruited from Company X, which participated in the quantitative study in Riyadh, Saudi Arabia. To gain access, permission to contact the coordinator was obtained from the company's CEO. As permission was obtained over a telephone conversation, the coordinator was contacted via email to discuss the data collection process. The recruited participants were individuals (managers and employees) from company X working in teams. The participants were contacted through the appointed coordinator in the company's human resources department, and in-person visits were made to the branches to conduct the interviews with participants willing to participate during the researcher's visits. This process is detailed in Study 2, chapter 6.

Due to the explanatory nature of this qualitative study, it was essential to obtain a sample large enough to reach theoretical data saturation (Saunders et al., 2018). Onwuegbuzie and Collins (2015, p. 289) argued that in a qualitative study, the sample size should not be small that data redundancy or data saturation is difficult to achieve. At the same time, it should not be too large that a deep, case-based oriented analysis becomes difficult. The scholars established that different sample size recommendations are followed in qualitative studies. For example, a sample size of 6-12 is recommended for focus groups, whereas for interview studies, a sample between 12-20 participants is recommended (p. 288). Other scholars have provided similar

recommendations (Sim et al., 2018, p. 621, Lincoln & Guba, 1985, p. 235). For this study, interviews were conducted, and the researcher interviewed 20 individuals working in teams. These 20 individuals comprised a balance of ten managers and ten employees. Dawadi et al. (2021, p. 29) stated that since the purpose of mixed-methods sequential explanatory design is to synthesise varied results into a complementary picture of the issue being studied, the sample size is considered appropriate. Furthermore, the scholars provided a rationale that a sample size smaller in the qualitative study and larger in the quantitative study supports the researcher's attempt to get an in-depth qualitative exploration and thorough quantitative examination of the occurred phenomenon (Creswell and Plano, 2018; Dawadi et al., 2021).

4.7.4 Approach to Data Analysis

To analyse the data, a thematic analysis using the software NVivo 12 was conducted to gain an in-depth understanding of the perceptions of deep-level diversity and its influence on the emergence of justice climate perceptions and team outcomes. From the quantitative findings, the justice-performance relationship was not found, and team communication was generally measured to reflect any task and non-task-related communication that happens in teams. With the qualitative study, the focus of communication was directed towards fairness. Therefore, views were obtained to reflect whether fairness-related communication is hindered due to the prevalence of deep-level diversity. And further, insight was gained to understand the justice-performance relationship. The specific addressed open questions were as follows:

- Regarding team deep-level differences, participants were asked to respond to the question: *“Do you think your team is diverse in terms of differences in*

personality, attitude or values? If so, can you give an example of these differences?"

- Regarding team communication about fairness, participants were asked to respond to the question: *"Do you and your teammates (including the manager) discuss or talk about any fairness issues in your team? Can you give me an example? What issues do you discuss? Do you find it easy to talk about fairness issues with your team? Why and why not?"*
- Related to team performance, the participants were asked to respond to the question: *"In your opinion, is your team performing well? Could you explain your answer?" and "How are team members rewarded for their efforts and performance? Do you think team members are rewarded fairly? Why? Is this important? Why/why not?". Is this team rewarded or recognised as a whole? Are these team rewards/recognitions fair?"*
- *Similarly, for performance, managers were asked: "Do you think your team is performing well? Why/Why not?" and "How do you ensure your team members are rewarded fairly?*
- To understand the consequences of fairness, team members were asked to respond to the question: *"Does your line manager treat all team members fairly? Why/why not? Is this important? Why/why?"*
- To understand diversity training, the participants were asked to respond to the following question: *"Does your organisation provide any support or training to help you work effectively in diverse teams? Could you describe the support or training? Is it effective? Could it be improved?"*
- To understand how communication about fairness can be improved, the participants were asked to answer: "how do you think you can improve

communications about fairness in your team? Do you think your line manager has a role in this? Why/*Why/why not?".*

- To understand how reward distributions can be improved, team members were asked to respond to the question: *"Do you think the way team members are rewarded or recognised could be improved? How? Why?"*

4.7.5 Thematic Analysis

Thematic analysis is a broadly used analytical technique in qualitative research (Terry et al., 2017), which aims to comprehend narratives using interpretation to uncover the latent meanings related to the social phenomenon (Alhojailan, 2012). Although other qualitative techniques exist to analyse the interview data, such as content analysis, it is important to emphasise that despite sharing its similarities with thematic analysis, content analysis tends to focus more on the micro-level (Braun & Clarke, 2006). The scholars argued that content analysis provides frequency and allows quantitative analysis derived from the initial qualitative data. Whereas in thematic analysis, themes tend largely not to be quantified (see exceptions: Boyatzis, 1998); instead, it identifies a set of meanings and patterns within the data that deeply explains through interpretation the studied phenomenon (ibid.). Braun and Clarke (2006) argued that thematic analysis could be induced from the gathered raw data or deduced from the theory and literature (p. 83). In essence, thematic analysis reveals the distinctive nature of the individual's conceptualisation of the inquiry in investigation. As stated in the earlier sections, knowledge is based on the experiences of the individuals and their perceptions are influenced by their experiences. This perspective, therefore, emphasises the content of individuals' perceptions, thoughts, and feelings about the observed phenomenon in the study. For instance, in this study, the

conceptualisation of deep-level diversity in teams is concerned not with the accuracy of the representation of deep-level attributes but with the meanings individuals attach to their differences, which further leads to the emergence of justice climate perceptions and outcomes. Therefore, a thematic analysis will guide the researcher to establish insights into how these meanings are developed and transformed.

Moreover, as defined by Braun and Clarke (2006) and Joffe (2012, p. 209), “thematic analysis is a method for identifying patterns of meanings in a dataset”. To identify these patterns of meanings, codes and themes were developed in this study. Both theoretical and data-driven approaches were taken to identify the codes and themes. The theory-driven approach is driven by preconceived themes, the researcher’s theoretical interest, and prior findings Braun and Clarke (2006, p. 83). In contrast, in a data-driven approach, the themes identified are linked strongly to the raw data without linking it to the preconceived codes (ibid.). Given the explanatory nature of this study, findings from study 1 and the knowledge from the literature were considered to develop the codes. Thus, as the data was approached, attention was given to the emergence of any new codes and themes that were significant for the area of inquiry. Following Braun and Clarke’s (2006) process for theme and code identification and development, the raw data in this these was first initially coded, and themes were identified using established taxonomies of justice climate (see Colquitt, 2001), communication openness (Rogers, 1987), ethical leadership (Brown et al., 2005) and deep-level diversity (Harrison et al., 2002). Further, similarity patterns were determined amongst transcripts to identify distinct information to develop new codes and themes such as diversity management and cohesiveness. The coding format followed in this thesis is shown in Table 4.7.4.1

Table 4.7.1. 1: The Coding Format

Addressed Question	Data Extract	Initial Codes	Theme	Main theme
TM/Q1	---	---	---	---
	---	---	---	---
TM/Q2	---	---	---	---

Source: Braun and Clarke (2006)

Before the analysis, interviewees were assigned pseudo references, for example, TM1, TM2, TM3… TM20, where TM refers to team members. The raw data collected was placed in the data extract column. The emerging initial codes were assigned to extracted data in the next colum, the theme was devised from the initial codes, and the main theme was recognised based on the collective theme, as shown in the analysis in chapter 6. For example, interviewees were asked, “do you think there are any personality, attitudinal or value differences among team members? If so, can you give me an example of the differences? An example of data extracted from two different interviews is shown below in table 4.7.4

Table 4.7.1. 2: The Coding Format

Addressed Question	Data Extracts
Do you think there are any personality, attitudinal or value differences among your team members? If so, can you give me an example of the differences?	They be like moody somehow […] many of us are calm, and many of us are quiet. It depends on everyone’s attitudes. Also, there are some or in many cases, bad attitudes. Others are not. So yeah.
	I would give you an example of a person. His personality is good but attitude is very aggressive and he is moody. Say, he is working and manager gave him a small remark about say why the pen is like this? It should be like this. He gets so aggressive and loses his mood and his work based on this remark. He says I don’t want to work; I want to go home

Based on these statements in which team deep-level differences are discussed, many meanings can be assigned, and codes can be generated, such as “deep-level diverse team”, “diversity in attitudes among team members”, “personality differences”, and so on. Considering this, Joffe (2012) stated that drawing a frame with no standard category is difficult; thus, researchers should build codes relevant to the research in the investigation and extract a wider theme that fully highlights the constructs. An example of data coding, initial theme and main theme from the above data extract is shown in table 4.7.4.3. Using NVivo, similar codes were generated, and themes were identified for variables of interest represented in chapter 6.

Table 4.7.1. 3: The Coding Format

Data Extract	Initial Codes	Theme	Main theme
They be like moody somehow… many of us are calm … in many cases, bad attitudes. Others are not. So yeah.	Attitude differences among team members	Differences in deep-level attributes	Deep-level differences in personality and attitudes
I would give you an example of a person … so aggressive and loses his mood and his work based on this remark. He says I don’t want to work I want to go home	Attitude and personality differences among team members		

4.8. Ethical Considerations

The ethical considerations, as argued, pertain to quantitative and qualitative research methods designs and, thus, are essential to consider in mixed methods research (Creswell, 2014). As Punch (1998, p. 281) stated, all social research involves ethical issues as it involves gathering data from individuals and about them. An important aspect of research ethics is that participants are protected throughout the research process (ibid.). For instance, participants’ anonymity, protection,

management, and data handling are involved in quantitative research. Whereas, in qualitative research, complex interactions between participants and researcher are involved, and thus, in addition to participant's protection, anonymity and data management and handling, more emphasis is given to research transparency and participant's consent to avoid exploitation or harm to participants during the research process (Roomaney & Coetzee, 2018). Patton (1990) argues that this is because, in qualitative research, participants' social environment and their experiences are explored, examined, and interpreted.

As mixed methods research, and as explained above, the thesis aims to understand and explain deep-level diversity and its impact on the emergence of justice climate perceptions and team outcomes using interviews and questionnaires. The data collection process followed the American Psychological Association's guidelines, also referred to as the ethics code for both studies. Aston University, Research Ethics Committee, approved both studies (see appendix 2 and 6: (record reference number ABSREC004 V1: 18/07/2019 for the quantitative study 1; and record reference number ABSREC030 V1: 21/04/2021 for qualitative study 2). The researcher, therefore, presented the questionnaire guide for study 1 and the interview guide for study 2 to her supervisors and then to the University Research Ethics Committee to determine the appropriateness of the questions involved in both studies. Following the general ethical principles, the research ensured the safeguarding of the welfare of the participating individuals and the reputation of companies. All participants were provided with necessary documents before collecting data, such as a covering letter and an information sheet explaining the study's aim and importance. Transparency was maintained throughout both studies to ensure all respondents were made aware

of the study agenda. Furthermore, the participants were informed that their participation was voluntary, and their withdrawal decision would not affect their employment or associations within the company. The participants were ensured that the collected responses would be anonymous and not identified to maintain confidentiality. Moreover, participants were informed that the responses would only be stored in a protected device and accessible by the researcher alone.

Moreover, the questionnaires were coded for the quantitative study to ensure anonymity was maintained for each participant. These codes were confidential and were only known to the researcher herself. The respondents returned the paper-based responses in provided sealable blank envelopes. These envelopes were stored in a safe box at the researcher's residence, whereas the online questionnaires were stored in a password-protected device and Aston Cloud. However, these questionnaires will only be stored for up to six years and destroyed once the publications are complete. Lastly, to safeguard the reputation of the participating companies' pseudo names were given to address the companies in this thesis. For the qualitative study, informed consent was obtained before collecting the data. Also, before commencing the interview, the participants were again briefly explained the research agenda for transparency and were given a chance to raise any concerns. The participants were informed that the interviews would be recorded, and therefore, the researcher sought continuous consent during and after the data collection process. Furthermore, the participants were informed of their right to withdraw from this study before and after their interviews (Adams et al., 2007). Also, considering the harmful consequences of exposing the respondent's identities, the participants were informed how the collected data would be used in this thesis and for future publications. The participants were made aware that each participant was given a pseudo-name to maintain their

anonymity (Denzin & Lincoln, 2018). However, the raw interview recordings and transcripts will only be stored for up to six years. Per the university guidelines, they will be destroyed once the publications are complete.

Chapter 5 Quantitative Study: Methodology, Data Analysis and Findings

Study 1: Quantitative Analysis and Findings

5.0 Chapter Summary

This chapter opens with an overview of the research design in terms of procedure, sample characteristics, and study measures. Furthermore, the statistical data analyses used in this study are described, followed by the presentation of findings. This section particularly includes findings from the mediation, moderated mediation analysis. Finally, the chapter closes with a discussion of the findings.

5.1 Method

5.1.1 Procedure

The data was collected from managers and employees working in teams in two organizations located in the Middle East. The data collection took place in October 2019. The surveys were developed and administered using Qualtrics software in one organization, whereas paper-based surveys were administered in the other organization. As discussed earlier, access to the organizations was gained through personal and professional contacts. In company X, a face-to-face meeting was arranged with the company's CEO and human resources manager. During this meeting, a university-approved access letter was provided, as well as the questionnaires for them to review and further discuss any concerns. Similarly, in company Y, the CEO was approached through email, and the access letter and the questionnaires were shared for review. Because this study was conducted at the team

level, it was noted that each team must have a manager or a leader, and the team must consist of at least three to five members, including the manager, to be considered for participation in the study. Once access was obtained in companies X and Y, internal coordinators were appointed to recruit participants for the study. Furthermore, the internal coordinators supplied the lists of employees working within well-defined teams to the researcher. These lists were used to develop codes that were allocated to each participating individual for the purpose of team identification for the researcher's use only.

Prior to distributing the surveys, the internal coordinators produced internal memoranda to inform the participants of the planned study. The internal coordinators were emailed an invitation letter and the participant's information sheet by the researcher. The sheet outlined the research objectives and the scope of the study, the information about their anonymity and confidentiality, the voluntary nature of their participation, their right to withdraw from the study at any time and the time required to complete the survey. Within company X, the researcher distributed paper-based questionnaires along with the participant information sheet (see appendix 3), a cover letter, and a self-addressed (return) sealable blank envelope. The researcher delivered these documents in sealed envelopes, and the participants returned the filled questionnaires in the sealed envelopes provided to them and left the envelopes in the secure safe locked box kept at the head office by the researcher. On the other hand, online questionnaires were distributed to participants in company Y using Qualtrics software. The software generated emails directly to the participants with the invitation and the link to complete the survey. Before sending the survey link, the

internal coordinator emailed all participants the participant information sheet[3]. Moreover, the researcher's contact details were provided to all participants should they need clarification or withdraw their participation.

5.1.2 Sample

In total, 376 questionnaires were distributed to employees working across 76 teams. From company X, 53 managers and 227 subordinates were enrolled in the study (74.5% of the overall survey), X, whereas from company Y, 23 managers and 73 subordinates (25.5% of the overall sample) were enrolled in the study. From this sample, 274 participants completed the surveys comprising 70 managers and 204 employees (72.8% retention rate). For this study, the manager's response was mandatory for their teams to be considered; thus, 25 responses were excluded. Given this exclusion, 249 responses were included in this study, totalling 58 teams (50 from company X and only 8 from company Y).

The participants were only eight females (3.2%) and 241 males (96.8%). Those aged between 26-35 years (61.8%) were the most prevalent age group, followed by 18-25 years (20.1%), 36-45 years (14.5%), 46-55 years (2.8%) and above 55 years (0.8%). The wider proportion of the population was representative of migrant workers, such that 83.9% were non-Saudis and 11.2% were non-Emirati nations, making it the majority with only 4.8% of Arab nationals (Saudis) and zero Emirati nationals.

[3] Independent T-Test was conducted to compare the mean scores on the dependent variables (justice climate level). The test showed that the 171 individuals from company X and 20 individuals from company Y reported equally on procedural justice (M_x =3.31; M_y = 3.53) ***t (189) = -.996, p = .07*** and distributive justice (M_x =3.5; M_y = 2.8) ***t (189) = 2.49, p = .54*** and not for interactional justice (M_x =3.8; M_y = 4.3) ***t (189) = -2.94., p = .005***.

M_x = Mean of company X
M_y = Mean of company Y

Moreover, most participants held diplomas (44.6%), followed by 42.2% undergraduate degree holders, 9.2% postgraduate degree holders, and 2.8% attended school or equivalent. Of the respondents, 53.4% of the subordinates earned less than 4000 Saudi Riyals or Emirati Dirhams per month, 12% earned between 4000 and 6999 Saudi Riyals or Emirati Dirhams, 5.2% earned between 7000 and 9999 Saudi Riyals or Emirati Dirhams and only 3.6% earned a salary of above 10,000 Saudi Riyals or Emirati Dirhams per month. The average subordinates' team tenure was 2.9 years (32.5 months), and the team size ranged from three to six. Lastly, the average time spent by the subordinates with their managers was one year and six months. The comparison of demographics of the two companies is attached in Appendix 9

5.1.3 Measures

Perceived deep-level diversity

A seven-item scale developed by Harrison et al. (2002) was used to measure perceived deep-level diversity. Team members and managers rated their responses on a 5-point Likert scale, which asked the team members (team managers and employees) to what extent they are 1 = "very different: to 5 = "very similar" on seven deep level diversity variables (personal values, attitudes, personality traits, educational background, work commitment, work objectives). A sample item was "The personal values of the team members are… "very different" to "very similar". To measure deep-level dissimilarities, the response order was reversed so that the highest value represented higher dissimilarities. The coefficient alpha for the perceived deep-level diversity was 0.78.

Justice Climate Perceptions:

As adopted by Colquitt (2001), justice climate measure has been widely used in justice research (Colquitt et al., 2002; Li & Cropanzano, 2009; Mayer et al., 2007). This measure was created as a standard measure that generalised the distinctions between the justice constructs (Colquitt, 2001; Li & Cropanzano, 2009). The dimensions adopted are as follows:

Procedural Justice Climate:

Adopted from Colquitt (2001), a seven-item scale was used to measure procedural justice, rated by employees on a 5-point Likert scale with anchors of 1 = “to a small extent” and 5 = “to a very large extent”. The sample item measured was: To what extent… “Has your team been able to express its views and feelings during those procedures? 1 = “to a small extent” and 5 = “to a very large extent”. The coefficient alpha for procedural justice was 0.91

Interactional Justice Climate:

Adopted from Colquitt (2001), a four-item scale was used to measure interpersonal justice, rated by employees on a 5-point Likert scale with anchors of 1 = “to a very small extent” and 5 = “to a very large extent”. A sample item measure was: To what extent… “Our team manager/leader has treated us in a polite manner?” 1 = “to a very small extent” and 5 = “to a very large extent”. The coefficient alpha for interpersonal justice was 0.87.

Distributive Justice Climate:

Adopted from Colquitt (2001), a four-item scale was used to measure distributive justice, rated by employees on a 5-point Likert scale with anchors of 1 = “to a very small extent” and 5 = “to a very large extent”. A sample item measure was: To what extent… “Our outcomes (rewards, pay, compensation) reflect the efforts we as a team have put into our work?” 1 = “to a very small extent” and 5 = “to a very large extent”. The coefficient alpha for distributive justice was 0.94.

Justice Climate Strength:

Procedural justice, interactional justice, and distributive justice climate strength were operationalised as the degree of within-group agreement on justice perceptions. It was measured by calculating the average deviation index (AD_m index). This index measures the wooden group variability; therefore, for each team, the index was multiplied by -1, which suggested higher scores as higher within-group agreement. Many scholars have used this procedure to operationalise climate strength (Gonzalez-Roma et al., 2002; Roberson & Williamson, 2012; Moliner et al., 2005).

Team Communication Openness

Team communication openness was measured using three peer-to-peer items developed by Rogers (1987). Team members (employees and managers) were asked to respond to each statement on a 5-point Likert scale ranging from 1 = “strongly disagree” to 5 = “strongly agree”. A sample item measure was “team members communicate to listen to complaints from each other?” The Cronbach’s α for sense-making behaviour was 0.90.

Ethical Leadership

Ethical leadership was measured using a widely used 10-item scale developed by Brown et al. (2005), and it was rated by team members (*employees)* on a five-point Likert scale from “1- strongly disagree to 5- strongly agree”. As a fairly established and widely used scale, this was used to measure a combination of characteristics, including integrity, ethical standards, considerate treatment of employees, and accountability (ibid.). An adapted example item is “Our manager… disciplines employees who violate ethical standards”. The coefficient alpha for ethical leadership was 0.94.

Team performance

Team performance was assessed using three items scale adopted from Greer et al. (2011). Team managers responded on a five-point Likert scale with anchors of “1- strongly disagree to 5- strongly agree”. The sample item is “This group performs well at work.”. The coefficient alpha for manager-rated team performance was 0.69.

Team Cohesion

Team cohesion was measured using a four-item scale by Chang and Bordia (2001). Employees responded to each statement on a 5-point Likert scale ranging from 1 = “strongly disagree” to 5 = “strongly agree”. Example items are “Team members unite in trying to reach its goals for performance” and “Team members try to help if any members have problems”. The coefficient alpha for manager-rated team cohesion was 0.89.

Control Variables

Employees and their respective managers provided demographic information, such as age and team tenure. Furthermore, the information on team size was obtained from their employer. For the study, therefore, age was assessed by asking respondents to indicate their age as under 25 years, 26-35 years, 36-45 years, 46-55 years, or above 55 years. For team size, the number of members in each team was adopted as specified by the company in this study. Team tenure was measured with an open question asking each participant, “How long have you worked in this team in years and months?”. For the analysis, the number of total months a member worked in the team was calculated by converting years to months. Further, for the analysis, the diversity coefficients for age were computed using the coefficient of variation (Harrison et al., 1998; Pfeffer & O’Reilly, 1987) calculated by dividing the standard deviation by the mean at the team level (Liang et al., 2015).

Prior scholarship on diversity and justice climate suggests that team contextual factors such as age, team size, and tenure should be controlled, as these have influenced team functioning and team perceptions of justice climates. For example, age as a visible demographic attribute tends to create shared values among similarly aged team members and promote conflicts and communicational difficulties among team members dissimilar in the age. This has been shown to impact procedural and interactional justice climate levels. (Colquitt et al., 2002; Naumann & Bennett, 2002; Stoverink et al., 2014). Similarly, tenure diversity promotes social integration in teams because people see themselves as similar to those who enter the organization and team simultaneously as their other team members compare to others. Therefore, the favourability emerging from a long time spent with team members can increase the

favourability of the perception of justice climates and vice versa (Caldwell, Liu, Fedor, & Herold, 2009; Harrison et al., 2002). Lastly, the perceptions of justice climates are negatively impacted by team size. Colquitt et al. (2002) and Liao and Rupp (2005) found team size to negatively influence justice climate level perceptions (procedural and interactional). It was found that members in larger teams participate less and, therefore, are more detached from each other, impacting their treatments and voice in decision-making. Based on these discussions and given the focus of this thesis on deep-level diversity, these surface-level attributes are controlled for in this thesis.

5.1.4 Operationalisation of Measures

In this thesis, both team members and their respective managers were asked to complete the questionnaires. From the variables, team members and their managers provided ratings on deep-level diversity and team communication openness. It is because it was important to understand whether or not the team as a whole was diverse in its deep-level characteristics. The diversity between leaders and managers and among subordinates indicates the quality of relationships (Luethke et al., 2020). On the other hand, communication openness between members and leaders and among team members is essential in a team setting (Knippenberg & Schippers, 2007; Kozlowski & Bell, 2012). This open communication makes team members and team leaders receptive and responsive to others to handle any negative information (Rogers, 1987).

Furthermore, Team managers' ratings were collected for team performance. Since performance quantifies team members' contributions to the organization, supervisors are considered the best source of ratings (Cho et al., 2022). However, in

this domain, self-ratings of performance have been linked with higher bias. For example, the meta-analytic correlation of self- and supervisor-rated work performance is relatively weak (r =.22, Conway & Lance, 2010). Additionally, it is noted in research that self-evaluations often exceed supervisor ratings (Cho et al., 2022). Self-assessments are often viewed as improper for employment choices and research due to their tendency for inflation and lack of association with supervisor ratings (Spector, 2006). Similarly, team members rated cohesion because cohesion was referred to as team attitude and examined as a reaction to their justice perceptions (supervisor-focused) in teams. Also, team members rated ethical leadership. To fully understand team members' attitudinal reaction to their manager-directed fairness, it was important to include ratings from team members only. Otherwise, leaders' ratings of their own fair behaviours and ethical leadership would lead to higher biased ratings.

Lastly, the perceptions of justice are multi-sourced: supervisor-focused or peer-focused (Rupp & Paddock, 2011). In this thesis, the source of fairness is supervisors. Supervisors are frequently viewed as climate engineers who "shape the meaning employees attribute to these organizational characteristics" and "play an important role in the development of climate" (Walumbwa et al. , 2010, p. 520; Li et al., 2013, p. 6). The ratings were gathered from team members. Li et al. (2013) stated that when a source of fairness perceptions is specified, individuals may be able to reflect on the fairness they have encountered from the defined source. If all members of the same unit share an identical reference point, the variability in their reaction that would otherwise occur if the source was not included may be reduced. This approach may statistically reduce construct contamination issues and increase operational accuracy,

enhancing the strength of the correlation with important outcome variables. Hence, the inclusion of the manager's rating would not be appropriate.

5.2 Analysis

Before the hypothesis testing, a CFA was conducted to confirm the fit of the overall measured model, and therefore, AMOS 26.0 software was used to test the model fit. As the model fit was achieved, the descriptive statistics were conducted, followed by the moderation and moderated mediation analyses using PROCESS Macro for SPSS Version 3 by Hayes (2017) to test the proposed hypotheses.

This thesis applied PROCESS Model 4 and Model 14 to test the hypothesised model. PROCESS Model 4 is a simple mediation model explaining "how" the causal process occurs. It estimates the indirect effects of the independent variable X (deep-level diversity) on the dependent variable Y (procedural justice climate, interactional justice climate, and distributive justice climate) conditioned on the mediator variable M (team communication openness). It also estimates the direct effect that indicates the causal influence of the independent variable on the dependent variable that is not explained by the mediator (James and Brett 1984). PROCESS further quantifies the proportion of variance (R^2med) for mediation analysis, attributing the interaction of independent and dependent variables through the mediator (Hayes, 2017).

Model 14, on the other hand, is used to test for moderated mediation hypotheses. As Hayes (2018) argued, moderation answers the question of "when or for whom" the influence has taken place. In essence, it is the moderation of the mediation effect that estimates the indirect effect of the independent variable X (team communication openness) on the dependent variable Y (team performance and team

cohesion) through mediator variables *M* (procedural, interactional and distributive justice climates), where the effects are contingent on a moderator variable or the boundary condition *V* (ethical leadership). Furthermore, researchers commonly use the standard deviation above and below the mean to interpret the conditional effects; however, Hayes (2018) suggests using the 16^{th}, 50^{th} and 84^{th} percentiles of the distribution of the moderator variable *V* (ethical leadership). This interaction of the moderator variable with the predictor variable can further be assessed using the Johnson-Neyman technique (J-N) that estimates the regions of significance and insignificance within the range of the moderator variable specifying different treatment effects (Hayes, 2018).

Considering the above, Model 4 and Model, 14 were used in this study. For moderation analysis, the 16^{th}, 50^{th}, and 84^{th} percentiles of the distribution of the moderator variable were analysed. Furthermore, Johnson-Neyman (J-N) technique was used to assess the regions of the significance of the moderator variable. 5000 bootstrap confidence intervals were applied. Lastly, to test the moderated mediation hypotheses, the researcher also reported the *index of moderated mediation* introduced by Hayes (2015). The index is the interaction term that estimates the relationship between the moderator *V* and the size of the indirect effect of $\mathrm{X}\rightarrow\mathrm{Y}$ through M.

5.2.1 Data Aggregation

Given the nature of this research, all measures were created by aggregating individual responses to form team-level constructs. The questionnaires were self-administered at the team level using the referent shift consensus model (Chan, 1988) because this research focuses on the understanding of all constructs at the team level.

Therefore, each team member was asked to refer to their immediate team members (including the team manager) while responding to the questionnaire. A statement was provided to ensure participants refer to their "Main Team" as they respond to the questions. The statement was as follows:

> *"The following questions, and all subsequent questions regarding your team, ask you to refer to the team that you spend the most time at work in and that you work in to deliver the majority of your roles and responsibilities. I refer to this as your "Main Team"."*

Therefore, to statistically justify and aggregate the data, a revised model was used, and two indices of the within-group agreement were estimated: with-in-group interrater reliability RWG(j) for j-items (James et al., 1984; Lindell et al., 1999) and interclass correlation coefficients ICC(1) and ICC (2) (Bliese, 2000). According to James (1982), ICC determines the degree of reliability of the group mean, whereas RWG(j) determines the degree of homogeneity/agreement among individuals (Bliese, 2000). The standard cut-off value for RWG(j) is 0.70, ICC (1) is 0.10, and ICC (2) is 0.60 (Bliese, 2000; Kenny & la Voie, 1985). The aggregated scores for RWG(j), ICC (1) and ICC (2) are shown in table 1.

Table 1 RWG(j), ICC1 and ICC2 values

Constructs	*RWG(j)*	*ICC 1*	*ICC 2*
Perceived Deep-Level Diversity	0.82	0.30	0.72
Procedural Justice Climate Level	0.92	0.50	0.86
Interactional Justice Climate Level	0.90	0.56	0.93
Distributive Justice Climate Level	0.86	0.54	0.90
Team Communication Openness	0.92	0.50	0.84
Ethical Leadership	0.97	0.53	0.88
Team Cohesion	0.95	0.46	0.78

5.2.2 Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was conducted to test the model's goodness of fit with the validated scales. The analysis also aimed to confirm that all items load into their respective variables, as evidenced in the previous studies. For a CFA, scholars have identified a minimum sample size of 200 (N > 200). For example, Comrey and Lee (1992) and Boomsma (1982) suggested a sample size of 200 as a minimum to conduct a CFA. However, a few scholars, for example, Kline (1994), Ding et al. (1995) and Gorsuch (1983), recommended an absolute minimum sample size of 100 (N > 100). In this study, because the constructs were aggregated to establish a team-level analysis, the sample size at the aggregate level is 58. At the same time, the sample size at the non-aggregated level is 249. It is important to note that the data is multi-sourced; therefore, the employee-rated constructs form the individual-level sample of 191. In contrast, manager-rated constructs form the manager-level sample of 58. Considering the sample size requirements, the sample size of team members at the non-aggregated level (191 and 249) meets the requirement criterion. Therefore, a CFA was conducted for the measured model with perceived deep-level diversity,

team sense-making behaviour, procedural justice climate, interactional justice climate, distributive justice climate, ethical leadership, and team cohesion. Due to the comparatively smaller sample size of 58, it was not possible to include the measure of team performance in the CFA.

The fit indices of the seven-factor model were below the minimum threshold (see table 5.1). To improve the model fit, the model was evaluated using modification indices. Modification indices are an aspect of model evaluation focused on specific relationships in the model. Modification indices reflect an approximation of how much the overall X^2 will decrease if the fixed or constrained parameter is freely estimated (Brown, 2015). Examining carefully, items were removed from constructs given theoretical justifications (Smith & McMillan, 2001).

To obtain the goodness of the measurement model, some modifications were made to the model by removing a few items from the constructs. Turning first to the modification indices related to covariances, misspecification was associated with the error terms related to items of different constructs in the model (Byrne, 2013). Firstly, it was identified that the procedural justice item “Have those procedures upheld ethical and moral standards” produced high modification indices with another item of procedural justice such as “Has your team been able to appeal the outcomes arrived at by those procedures” (e34↔e35; MI = 39.57). Also, distributive justice items “Our outcomes (reward, pay, compensation) as a team reflects what we contributed to the organization” and “Our outcomes (reward, pay, compensation) as a team are justified, given our performance) produced high modification indices (e27↔e28; MI = 13.96). Similarly, it was identified that the interactional justice items “Our team manager/leader has refrained from any improper remarks or comments” and procedural justice item

“Has your team been able to express its views and feelings during those procedures” also produced high modification indices (e24↔e29; MI = 13.23). It is noted that due to the team-level nature of the study, referents were used for participants to respond to the questionnaire, and therefore, instead of referring towards an individual, the participants were asked to respond to the items considering their team as a whole by refereeing to their “Main Team”. Hence, these mentioned items could have produced high modification indices because of higher similarity in the content and wording whilst acknowledging the referent used. For example, for procedural justice items, the items referred to team members “being able to appeal” and team members recognising “ethical and moral standards”; for distributive justice items, the items referred to “reflect what we have contributed” and “justified given our performance”; and for interpersonal justice item, the item referred to “propriety” and procedural justice item referred to “freely expressing views and feeling”. For all these items, participants could find higher level similarities in the context such that team members may perceive “appealing” as being identical to “ethical and moral practice”, “contributing to the organization” in terms of “delivering high/low performance” and, “improper remarks or comments” and “express views and feelings” in terms of “being respected during decision-making or general provision of voice”.

Furthermore, it was identified that the Ethical leadership item “Disciplines employees who violate ethical standards” produced high modification indices with procedural justice “has your team influences outcomes arrived at by those procedures” (e12↔e30; MI = 20.16). Whereas ethical leadership items “Managers/Leaders make fair and balanced decisions” and “Managers/Leaders ask team members what the right thing is to do when making decisions?” produced high modification indices (e15↔e20; MI = 21.05). It was noted that scholars (Brown et al., 2005; Engelbrecht et

al., 2017) explained the various dimensions of ethical leadership, such as fairness, decision-making, ethical guidance, power sharing, and behaviours. Considering this and likewise above, it was likely that team members, while responding to the ethical leadership questions, perceived the items to have similar contexts referring to justice domains within decision-making and decision control. Similar wordings like making fair decisions and asking what the right thing is to do could have caused higher correlations. Also, covariances were relaxed of differences in “work priorities” and “work objectives” in deep-level diversity scale given that both represent the work goals. The measurement error covariances thus correspond to the higher degree of overlap in item content, and it occurs when, although items are worded differently, they represent a similar question (Byrne, 2013; Ünal et al., 2017). Considering the modifications, these removed items PJ1.7, IJ1.4, DJ1.4, EL1.2 and EL1.5 improved the model fit. CFA of the seven-factor model using employee-level data (N = 191) with the modifications demonstrated an acceptable fit, as shown in Table 2.

Further, a CFA was conducted at the individual level with both manager and employee data (N = 249), demonstrating an acceptable fit (see table 3). Due to these modifications being post-hoc, subsequent hypotheses testing was conducted with both the original scales and the revised scales that had the aforementioned items removed. It was found that the findings were identical, and no major disparities in the analysed results were identified. Therefore, the researcher proceeded with the analysis using the modified model in this study. Also, the identical findings indicate that removing the aforementioned items did not alter the constructs of the measurement model.

Table 2 Model Fit at the Employee level

Model Factors	Model	Chi-square	df	p-value	SRMR	RMSEA	CFI	TLI
Seven Factor Model (perceived deep-level diversity, team communication openness, procedural justice climate, interactional justice climate, distributive justice climate, ethical leadership, team cohesion)	Initial Model	1487.4	681	.000	.0592	.08	.85	.84
Seven Factor Model (perceived deep-level diversity, team communication openness, procedural justice climate, interactional justice climate, distributive justice climate, ethical leadership, team cohesion)	Revised Model	956.4	505	.000	.0551	.07	.90	.89

Note N= 191. df = Degrees of Freedom; SRMR = Standard Root Mean Square; RMSEA = Root Mean Square Error of Approximation; CFI = Comparative Fit Index; and TLI = Tucker-Lewis Index

Table 3 Model Fit (Overall Model)

Model Factors	Model	Chi-square	df	p value	RMSEA	CFI	TLI
Seven Factor Model (perceived deep-level diversity, team communication openness, procedural justice climate, interactional justice climate, distributive justice climate, ethical leadership, team cohesion)	Initial Model	1504.7	681	.000	.07	.85	.83
Seven Factor Model (perceived deep-level diversity, team communication openness, procedural justice climate, interactional justice climate, distributive justice climate, ethical leadership, team cohesion)	Revised Model	961.8	505	.000	.06	.90	.88

Note N= 249; the data is multi-sourced and includes data from managers and employees. df = Degrees of Freedom; RMSEA = Root Mean Square Error of Approximation; CFI = Comparative Fit Index; and TLI = Tucker-Lewis Index.

5.3 Results

5.3.1 Descriptive statistics

Table 4 presents the means, standard deviations, correlations, and internal consistencies (Cronbach alphas) for the independent, dependent, mediator, moderator, and control variables. The reliability statistics for all measures are also presented in the table. The values for each measure showed internal consistency with acceptable values above .70 (Nunnally & Bernstein, 1994). Although the team performance measure showed internal consistency of 0.69, Hinton et al. (2004, p. 364) argued on the appropriate cut-off points. They suggested that a generally accepted rule is that the reliability alpha values above .60 indicate acceptable reliability. Research has accepted alpha values of 0.69 for team performance (Carter et al., 2018). The testing proceeded with the hypotheses of team performance and all other variables as specified in the model.

The analysis of patterns of correlations indicated that the key variables, with a few exceptions, had significant associations with each other[4]. According to Cohen (1988, p. 77-81), the correlation coefficients (positive or negative) in order of .10 are considered as “small”, .30 as “medium”, and above .50 as “large” in terms of the magnitude of size effects (Hemphill, 2003). In this study, moderate and significant negative correlations were found between perceived deep-level diversity and team communication openness ($r = -.35$, $p < .01$), procedural justice climate ($r = -.43$, $p < .01$), interactional justice ($r = -.34$, $p < .01$) and stronger correlation with distributive justice climate ($r = -.59$, $p < .01$). Stronger positive and significant correlations were found between team communication openness and procedural justice climate ($r = .55$,

[4] The model was tested for climate level variables. The test of the strength variables revealed insignificant findings for all relationships and are therefore, presented in Appendix 12.

p < .01), interactional justice climate (r= .70, p < .01), ethical leadership (r= .73 p < .01), team cohesion (r= .82 p < .01), and moderate correlation with distributive justice climate (r= .47, p < .01). Strong and significant positive correlations were found between ethical leadership and procedural justice climate (r= .66, p < .01), interactional justice climate (r= .65, p < .01), distributive justice climate (r= .65, p < .01), team cohesion (r= .67, p < .01). No significant correlations were found between team performance and any variables. The control variables, team size and age, were also insignificant and correlated with any constructs. Finally, team tenure was found to be significantly and moderately correlated with team communication openness (r= .39, p < .01), procedural justice climate (r= .38, p < .01), interactional justice climate (r= .33, p < .05), ethical leadership (r= .38, p < .01), and weak but significant correlation was found with team cohesion (r= .27, p < .05).

Table 4 Means standard deviations, correlations and reliability estimates for the independent, mediator, moderator dependent and control variables

		M	SD	1	2	3	4	5	6	7	8	9	10	11
1.	Perceived deep-level diversity	2.49	0.46	***(0.78)***										
2.	Team communication openness	4.14	0.46	-.35**	***(0.90)***									
3.	Procedural justice climate	3.37	0.69	-.43**	.55**	***(0.91)***								
4.	Interactional justice climate	3.93	0.70	-.34**	.70**	.62**	***(0.93)***							
5.	Distributive justice climate	3.40	0.89	-.59**	.47**	.66**	.61**	***(0.93)***						
6.	Ethical leadership	4.12	0.50	-.46**	.73**	.66**	.65**	.63**	***(0.93)***					
7.	Team cohesion	4.20	0.58	-.31*	.82**	.42**	.74**	.50**	.67**	***(0.89)***				
8.	Team performance	4.20	0.45	.06	-.06	-.08	-.18	-.13	-.06	-.17	***(0.69)***			
9.	Team size	5.22	0.75	-.14	-.11	-.18	-.05	.1	.06	.02	-.2	--		
10.	Team tenure	2.91	3.10	-.09	.39**	.38**	.33*	.11	.38**	.27*	.18	-.18	--	
11.	Age	0.25	0.16	-.17	-.19	-.1	-.06	-.07	-.04	-.18	-.07	.06	.03	--

*Note: N = 58, team-level aggregated data. ** correlation is significant at p < 0.01, * correlation is significant at p < 0.05. Cronbach's alpha coefficients (α) are presented in parentheses.*

5.3.2 Test of Multicollinearity

Multicollinearity indicates dependence or lack of independence between the variables in the measurement model (Farrar & Glauber, 1967). It exists when an independent variable in a measurement model is exceedingly correlated with one (collinear) or more (multicollinear) independent variables (Allen, 1997). Consequently, the variables with higher interdependence produce more significant standard errors of regression coefficients and are problematic since it weakens the statistical significance of the independent variable(s) (Allen, 1997). According to Hair et al. (2010), to assess the collinearity, the most straightforward approach is to examine the higher correlations among independent variables generally above 0.90 in the correlation matrix. However, other researchers have suggested that higher correlations above 0.80 indicate detrimental levels of dependence (Field, 2013; Farrar & Glauber, 1967). In this study, the correlation matrix (Table 5.4) highlighted one correlation coefficient of team cohesion above 0.80, exceeding the determined guidelines. Despite considering higher correlations as the implication of collinearity, researchers suggest that it may not be true (Alin, 2010), therefore, recommending further tests to identify multicollinearity.

To assess the combined effects of more than one independent variable (multicollinearity), it is suggested to examine the variance inflation factor (VIF) and tolerance by regressing independent variables against each other (Hair et al., 2010). Tolerance assesses the degree of variability of independent variables that is not explained by other independent variables, whereas variance inflation factor (VIF) explains the tolerance value and quantifies the degree of dependence between variables whereby higher tolerance values of > 0.2 and lower VIF values of $VIF < 5$ correspond to no multicollinearity (Hair et al., 2010, 2011; Dormann et al., 2013). This

study found no tolerance values less than 0.23 and VIF values greater than 4.3. The analytics gathered from the VIF, and tolerance indicators and the correlation matrix provide substantial support for non-multicollinearity, suggesting that the measurement model is reliable for further testing and analysis.

5.4 Test of hypotheses

5.4.1 Results of the main effects: Perceived deep-level diversity, team communication openness and team justice climates perceptions

Hypothesis H1 proposes a negative relationship between team-perceived deep-level diversity and team communication openness. As predicted and shown in table 5, the effect of perceived deep-level diversity on team communication openness was significant and negative $(\mathrm{b} = -.37, \mathrm{t}(53) = -3.17, \mathrm{p} < 0.05)$.

Table 5 Effects of perceived deep-level diversity on team communication openness

	H1: Team Communication Openness			
	B	**SE**	**t**	**p**
Constant	5.3531	0.5306	10.0888	0.0000
Controls				
Age	-0.7286	0.3208	-2.2708	0.0272
Team size	-0.0500	0.0713	-0.7014	0.4861
Team tenure	0.0526	0.0172	3.0683	0.0034
Perceived deep-level diversity	-0.3693	0.1164	-3.1727	0.0025

Note: N = 58.

Hypothesis H2 proposed a positive relationship between team members' communication openness and their perceptions of H2(a) procedural justice climate, H2(b) interactional justice climate, and H2(c) distributive justice climate., In table 6, the relationship was positive and significant between team communication openness and team perceived procedural justice climate $(\mathrm{b} = .47, \mathrm{t}(52) = 2.45, \mathrm{p} < 0.05)$, team communication openness and team perceived interactional justice climate $(\mathrm{b} = 1.0, \mathrm{t}(52) = .18, \mathrm{p} < 0.05)$ as well as team communication openness and team perceived distributive justice climate $(\mathrm{b} = .59, \mathrm{t}(52) = 2..44, \mathrm{p} < 0.05)$. These results support hypotheses H1 and H2a, H2b and H2c.

Table 6 Effects of team communication openness on team perceptions of justice climates

	H2a: Procedural Justice Climate				H2b: Interactional Justice Climate				H2c: Distributive Justice Climate			
	B	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**
Constant	3.385	1.2601	2.6862	0.0097	-0.0416	1.1899	-0.0349	0.9723	3.1069	1.5939	1.9493	0.0567
Indirect Effect												
Team Communication Openness	0.4696	0.1909	2.4598	0.0173	1.0020	0.1802	5.5591	0.0000	0.5903	0.2414	2.445	0.0179
Controls												
Age	-0.4201	0.4671	-0.8993	0.3726	0.1819	0.4410	0.4124	0.6817	-0.5229	0.5908	-0.8852	0.3801
Team Size	-0.1335	0.0995	-1.342	0.1854	0.0176	0.0939	0.1878	0.8518	0.0803	0.1258	0.6378	0.5264
Team Tenure	0.0454	0.0259	1.7538	0.0854	0.0158	0.0244	0.6470	0.5205	-0.0122	0.0327	-0.3723	0.7112

Direct Effect of IV	**Effect**	**SE**	**t**	**p**	**Effect**	**SE**	**t**	**p**	**Effect**	**SE**	**t**	**p**
Perceived Deep-level diversity	-0.5186	0.1765	-2.9388	0.0049	-0.1465	0.1666	-0.8790	0.3835	-0.9632	0.2232	-4.3156	0.0001

Note: N = 58.

5.4.2 Results of mediation: Team communication openness on the relationship between perceived deep-level diversity and team perceptions of justice climates

Table 7 presents the results of the proposed indirect effects. H3 proposed that team communication openness mediates the negative relationship between perceived deep-level diversity and team perceptions of H3(a) procedural justice climate, H3(b) interactional justice climate, and H3(c) distributive justice climate. The mediation hypotheses were significant, and team communication openness was found to mediate the negative relationship between perceived deep-level diversity and procedural justice climate $(\mathrm{b} = -.17, \mathrm{SE} = .08 \text{ at } 95\% \text{ CI } [-.35, -.02])$ and interactional justice climate $(\mathrm{b} = -.37, \mathrm{SE} = .12 \text{ at } 95\% \text{ CI } [-.62, -.13])$. There was no support for a distributive justice climate $(\mathrm{b} = -.21, \mathrm{SE} = .12 \text{ at } 95\% \text{ CI } [-.45, .03])$.

Table 7 Mediating effects of team communication openness on the relationship between perceived deep-level diversity and team perceptions of justice climates.

Mediation Effects	Team Communication Openness			
	Effect	SE	LLCI	ULCI
H3a: Perceived deep-level diversity →Procedural Justice Climate	-0.1734	0.0850	-0.3548	-0.0226
H3b: Perceived deep-level diversity →Interactional Justice Climate	-0.1734	0.0850	-0.3548	-0.0226
H3c: Perceived deep-level diversity →Distributive Justice Climate	-0.2180	0.1221	-0.4551	0.0306

Note: N = 58. Bootstrap sample size 5000

5.4.3 Effects of team perceptions of justice climates on team cohesion

Hypotheses 4 proposed a positive relationship between team members' perceptions of H4(a) procedural justice climate, H4(b) interactional justice climate, and H4(c) distributive justice climate and team cohesion. To test this hypothesis, perceived deep-level diversity was added as a control alongside age, team size and team tenure. The results indicated a significant and positive relationship between team member's perceptions of interactional justice climate and team cohesion $(\mathrm{b} = .29, \mathrm{t}(49) = 3.08, \mathrm{p} < .05)$. There was no support for H4(a) and H4(c). Thus, there was no significant relationship between team perceptions of procedural justice climate and team cohesion $(\mathrm{b} = -.17, \mathrm{t}(49) = -1.82, \mathrm{p} = .07)$ and team perceptions of distributive justice climate and team cohesion $(\mathrm{b} = .07, \mathrm{t}(49) = 1.01, \mathrm{p} = .31)$. The results are shown in table 8.

Table 8 Effects of team member's perceptions of justice climates on team cohesion

	Team Cohesion			
	B	**SE**	**t**	**p**
Constant	-.1821	.7725	-.2357	.8146
H4a: Procedural justice climate	-.1700	.0932	-1.8238	.0743
H4b: Interactional justice climate	.2908	.0944	3.0802	.0034
H4c: Distributive justice climate	.0777	.0767	1.0134	.3159
Controls				
Perceived deep-level diversity	.0100	.1179	.0845	.9330
Age	-.1744	.2683	-.6499	.5188
Team size	.0466	.0583	.7988	.4283
Team tenure	-.0043	.0153	-.2779	.7822

Note: N= 58.

5.4.4 Results of mediation: Team member's perceptions of justice climates on the relationship between team communication openness and team cohesion

Hypotheses 5 proposed that team members' perceptions of H5(a) procedural justice climate, H5(b) interactional justice climate, and H5(c) distributive justice climate mediate the positive relationship between team communication openness and team cohesion. The effects of perceived deep-level diversity were controlled. The support was found for H5(b) and not H5(a) and H5(c). The results indicated a significant and positive indirect effect of team communication openness on team cohesion via team members' perceptions of interactional justice climate $(\mathrm{b} = .29, \mathrm{SE} = .14 \text{ at } 95\% \text{ CI } [.03, .58])$. Whereas no significant indirect effects were found for both team members' perceptions of procedural justice climate $(\mathrm{b} = .-07, \mathrm{SE} = .06 \text{ at } 95\% \text{ CI } [-.22, .00])$ and team members' perceptions of distributive justice climate $(\mathrm{b} = .04, \mathrm{SE} = .15 \text{ at } 95\% \text{ CI } [-.06, .17]$. The results are shown in table 9

5.4.5 Interaction effects of team member's perceptions of justice climates and ethical leadership on team cohesion

Expanding on the previous hypotheses, this hypothesis 6 proposed that the positive effects of team communication openness on team cohesion via team member's perceptions of H6(a) procedural justice climate, H6(b) interactional justice climate, and H6(c) distributive justice climate are stronger when ethical leadership is low compared to high. The interaction effects of all three dimensions of justice climates and ethical leadership were explored. A significant negative interaction effect for team members' perceptions of interactional justice climate and ethical leadership ($\theta_{X \rightarrow M}$ = -.57, t (45) = -3.90, p < 0.05) was found.

Table 9 Mediating effects of team perceptions of justice climates on the relationship between team communication openness and team cohesion

	H5a: Procedural Justice Climate				H5b: Interactional Justice Climate				H5c: Distributive Justice Climate			
	B	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**
Team communication openness & Team cohesion	**-.0798**	**.0608**	**-.2285**	**.0017**	**.2914**	**.1419**	**.0384**	**.5899**	**.0459**	**.0573**	**-.0609**	**.1701**

Note: N = 58

The significant interaction effect indicates that the indirect effect between team sense-making and team cohesion through team members' perception of interpersonal justice climate depends on ethical leadership. However, no significant interaction effects between team member's perceptions of procedural justice climate and ethical leadership ($\theta_{X\rightarrow M}$ = .11, t (45) = .59, p = .55) and team member's perceptions of distributive justice climate and ethical leadership ($\theta_{X\rightarrow M}$ = .12, t (45) = .90, p = .36) were found. The conditional effects indicated that the indirect positive effects of team communication openness on team cohesion via team members' perception of interactional justice climate are stronger at the 16th and 50th percentile of ethical leadership. The index of moderated mediation was significant $(\mathrm{b} = -.57, \mathrm{SE} = .25 \text{ at } 95\% \text{ CI } [-1.06, -.08])$, suggesting complete moderated mediation. Thus, support was found for H9(b).

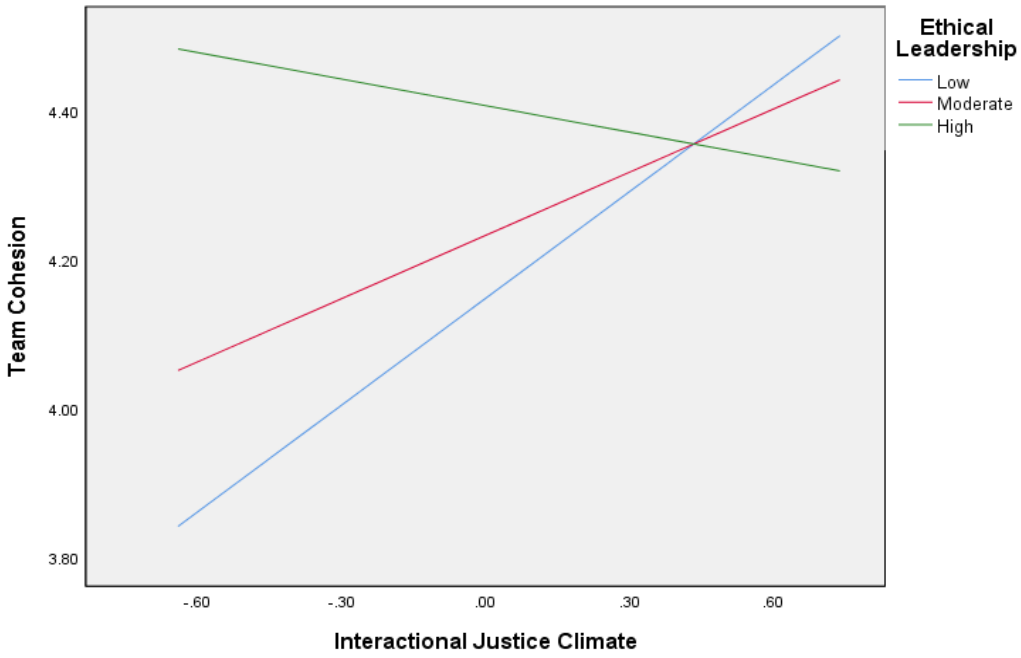
Furthermore, no support was found for procedural justice climate H6(a) and distributive justice climate H6(c). The indirect positive effects of team communication openness on team cohesion via team perceptions of procedural justice climate were not found to be conditioned on ethical leadership. The index of moderated mediation thus was also insignificant $(\mathrm{b} = .05, \mathrm{SE} = .10 \text{ at } 95\% \text{ CI } [-.22, .22])$. Similarly, the indirect positive effects of team communication openness on team cohesion via team perceptions of distributive justice climate were also not found to be conditioned on ethical leadership. The index of moderated mediation thus was also insignificant $(\mathrm{b} = .07, \mathrm{SE} = .11 \text{ at } 95\% \text{ CI } [-.13, .34])$. The results are presented in table 10, and the interaction plot is presented in figure 5.

Table 10 Moderated Mediation Model: Test of conditional effects of ethical leadership on the relationship between team communication openness and team cohesion via team perceptions of justice climate

	H6a: Procedural Justice Climate				H6b: Interactional Justice Climate				H6c: Distributive Justice Climate			
Conditional Indirect Effect at Ethical Leadership	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**
Interaction (J x EL)	0.1121	0.1899	0.5902	0.558	-0.5707	0.1461	-3.9055	0.0003	0.1283	0.1416	0.906	0.3698
Moderated Mediation Model	**Effect**	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**
16th Percentile	-0.105	0.0672	-0.2481	0.0116	0.4782	0.195	0.1101	0.8778	-0.0169	0.0726	-0.1901	0.1064
50th Percentile	-0.0871	0.0586	-0.2261	0.0022	0.2832	0.132	0.0503	0.5639	0.0089	0.0521	-0.1067	0.1136
84th Percentile	-0.0501	0.0992	-0.3204	0.0737	-0.1189	0.1518	-0.4289	0.1892	0.0622	0.0888	-0.1188	0.2481
	Effect	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**
Index of moderated mediation	0.0526	0.1083	-0.2201	0.2271	-0.5719	0.2559	-1.0662	-0.0826	0.0757	0.1192	-0.1379	0.3418

Note: N= 58. Bootstrap sample size 5000

Figure 5 Interaction between Team member's perception of interactional justice climate and ethical leadership on team cohesion



5.4.6 Effects of team perceptions of justice climates on team performance

Hypothesis 7 proposed a positive relationship between team members' perceptions of H7(a) procedural justice climate, H7(b) interactional justice climate, and H7(c) distributive justice climate and team performance. To test this hypothesis, perceived deep-level diversity was added as a control alongside age, team size and team tenure. There was no support for H7(a), H7(b), and H7(c). Thus, there was no significant relationship between team perceptions of procedural justice climate and team performance $(\mathrm{b} = -.10, \mathrm{t}(49) = -.72, \mathrm{p} = .46)$, team perceptions of interactional justice climate and team performance $(\mathrm{b} = -.17, \mathrm{t}(49) = -1.26, \mathrm{p} = .21)$, and team perceptions of distributive justice climate and team performance $(\mathrm{b} = .03, \mathrm{t}(49) = .32, \mathrm{p} = .74)$. The results for hypotheses 7 are shown in table 11.

Table 11 Effects of team member's perceptions of justice climates on team performance

	Team Performance			
	B	**SE**	**t**	**p**
Constant	5.8480	1.1408	5.1264	.0000
H7a: Procedural justice climate	-.1004	.1377	-.7291	.4694
H7b: Interactional justice climate	-.1760	.1394	-1.2626	.2127
H7c: Distributive justice climate	.0367	.1132	.3244	.7470
Controls				
Perceived deep-level diversity	-.0740	.1741	-.4253	.6725
Age	-.3094	.3962	-.7809	.4386
Team size	-.1205	.0861	-1.3987	.1682
Team tenure	.0416	.0227	1.8359	.0724

Note: N= 58.

5.4.7 Results of mediation: Team member's perceptions of justice climates on the relationship between team communication openness and team performance

Hypothesis 8 proposed that team members' perceptions of H8(a) procedural justice climate, H8(b) interactional justice climate, and H8(c) distributive justice climate mediate the positive relationship between team communication openness and team performance. The results indicated no significant indirect effects of team communication openness on team performance via team member's perceptions of procedural justice climate $(\mathrm{b} =. -04, \mathrm{SE} = .08 \text{ at } 95\% \text{ CI } [-.19, .17])$, team member's perceptions of interactional justice climate $(\mathrm{b} = -.04, \mathrm{SE} = .08 \text{ at } 95\% \text{ CI } [-.19, .17])$, and team member's perceptions of distributive justice climate $(\mathrm{b} = .02, \mathrm{SE} = .07 \text{ at } 95\% \text{ CI } [-.09, .20]$. Thus, no mediation effect was found. The results of the hypotheses are presented in table 12.

5.4.8 Interaction effects of team member's perceptions of justice climates and ethical leadership on team performance

Hypothesis 9 proposed that the positive effects of team communication openness on team performance via team members' perceptions of H9(a) procedural justice climate, H9(b) interactional justice climate, and H9(c) distributive justice climate are stronger when ethical leadership is high. The interaction effects of all three dimensions of justice climates and ethical leadership were explored. No significant negative interaction effect between team member's perceptions of procedural justice climate and ethical leadership ($\theta_{X \rightarrow M}$ = -.50, t (45) = -1.59, p = 0.11) was found, team member's perceptions of interactional justice climate and ethical leadership ($\theta_{X \rightarrow M}$ = .47, t (45) = 1.9, p = .05) and team member's perceptions of distributive justice climate and ethical leadership ($\theta_{X \rightarrow M}$ = -.04, t (45) = -.19, p = .84).

Table 12 Mediating effects of team perceptions of justice climates on the relationship between team communication openness and team performance

	H8a: Procedural Justice Climate				H8b: Interactional Justice Climate				H8c: Distributive Justice Climate			
	B	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**
Team communication openness & Team performance	**-.0471**	**.0874**	**-.1946**	**.1743**	**-.1764**	**.1495**	**-.5196**	**.0636**	**.0217**	**.0734**	**-.0976**	**.2043**

Note: N = 58

Against predicted, the tests of conditional effects indicated that the team member's perception of interactional justice climate mediated the negative (and not positive as hypothesised) relationship between team communication openness and team performance but only when the team member's perceptions of ethical leader are low (16^{th} percentile) $(\mathrm{b} = -.35, \mathrm{SE} = .20 \text{ at } 95\% \text{ CI } [-.79, -.006])$ The index of moderated mediation was not significant $(\mathrm{b} = .47, \mathrm{SE} = .30 \text{ at } 95\% \text{ CI } [-.11, 1.11])$, suggesting only partial moderated mediation. Therefore, limited support was found for hypothesis H9(b).

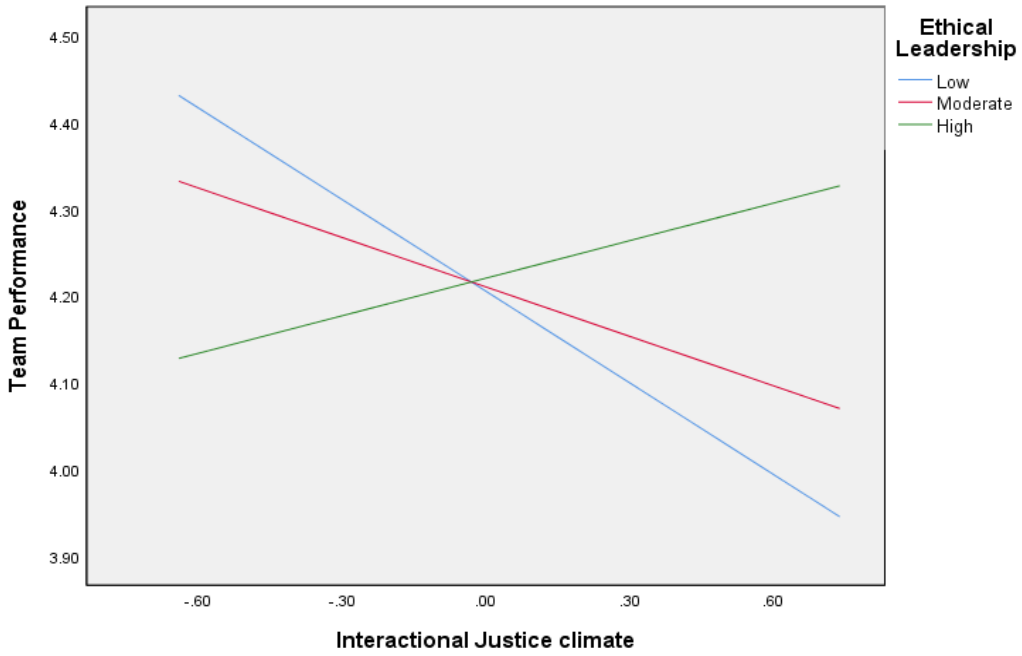
Furthermore, no support was found for H9(a) and H9(c). The indirect positive effects of team communication openness on team performance via team perceptions of procedural justice climate were not found to be conditioned on ethical leadership. The index of moderated mediation thus was also insignificant $(\mathrm{b} = -.23, \mathrm{SE} = .19 \text{ at } 95\% \text{ CI } [-.67, .09])$. Similarly, the indirect positive effects of team communication openness on team performance via team perceptions of distributive justice climate were also not found to be conditioned on ethical leadership. The index of moderated mediation thus was also insignificant $(\mathrm{b} = -.02, \mathrm{SE} = .27 \text{ at } 95\% \text{ CI } [-.41, .32])$. The results are presented in table 13, and the interaction plot is presented in figure 6.

Table 13 Moderated Mediation Model: Test of conditional effects of ethical leadership on the relationship between team communication openness and team performance via team perceptions of justice climate

	H9a: Procedural Justice Climate				H9b: Interactional Justice Climate				H9c: Distributive Justice Climate			
Conditional Indirect Effect at Ethical Leadership Interaction (J x EL)	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**
	-0.5012	**0.314**	**-1.5962**	**0.1174**	**0.4749**	**0.2416**	**1.9658**	**0.0555**	**-0.0457**	**0.2341**	**-0.1951**	**0.8462**
Moderated Mediation Model	**Effect**	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**
16th Percentile	0.0576	0.1238	-0.1207	0.3763	-0.3525	0.2030	-0.7907	-0.0067	0.0472	0.1094	-0.1284	0.3124
50th Percentile	-0.0227	0.0996	-0.1934	0.2184	-0.1902	0.1549	-0.5446	0.0677	0.0380	0.0794	-0.0839	0.2413
84th Percentile	-0.1882	0.1614	-0.5190	0.1236	0.1445	0.2367	-0.3485	0.6203	0.0190	0.1292	-0.2232	0.3272
	Effect	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**	**Effect**	**SE**	**LLCI**	**ULCI**
Index of moderated mediation	-0.2353	0.1925	-0.6701	0.0945	0.4759	0.3033	-0.1165	1.1100	-0.0270	0.1733	-0.4104	0.3248

Note: N= 58. Bootstrap sample size 5000

Figure 6 Interaction between Team member's perception of interactional justice climate and ethical leadership on team performance



5.5 Discussion of findings

The primary objective of this study was to examine the influence of perceived deep-level diversity on the team member's perceptions of justice climates (procedural, interactional and distributive). In addition, a potential mediator team communication openness was examined to explain the emergence of justice climate perceptions. Further, the effects of each facet of the justice climate were examined at the climate level on team performance and cohesion. The other aim of this study was to examine the moderating effects of ethical leadership on the relationship between team perceptions of justice climates and team performance and cohesion. To interpret when and why these relationships occur, a moderated mediation model was examined to understand the conditional indirect effects of ethical leadership on the relationship between team communication openness and team cohesion and team performance via team perceptions of justice climates.

First, the findings of direct effects revealed that team-perceived deep-level diversity was significantly related to team communication openness. This finding, as predicted, suggests that teams that are diverse in their deep-level attributes are less likely to engage in open communication. These differences will likely create a disconnect among team members and reduce their interaction (Colquitt et al., 2002; Harrison et al., 2002; van Knippenberg & Mell, 2016). Further tested was the relationship between team communication openness and team perceptions of all three facets of justice climates at the level (procedural, interactional and distributive). The findings revealed significant and positive relationships, suggesting that as team members engage in higher communication openness, they develop higher favourability in their perceptions of procedural, interactional, and distributive justice

climates. This is in line with the similarity-attraction theory that similar individuals are more likely to interact to understand the experiences surrounding them (Kacmar et al., 2009). Additionally, examining the direct effects of perceived deep-level diversity and team perceptions of justice climates revealed negative relationships between perceived deep-level diversity on team members' perceptions of procedural and distributive justice climates. However, no support was found for the interactional justice climate. The perceptions of differences with their team members and, more importantly, their managers can lead to the beliefs of biases and, thus, unfair procedural and distributive justice climates (Colquitt et al., 2002; Greenberg, 1990; Leventhal, 1976).

A key aim of this study was to examine the behavioural mechanism through which perceptions of justice emerge in teams, given the presence of perceived deep-level diversity. To test this, the mediating effect of team communication openness was examined on the relationship between team-perceived deep-level diversity and team perceptions of justice climate. As expected, team communication openness negatively mediated the relationship between team-perceived deep-level diversity and team perceptions of procedural and interactional justice climate. The results conform with the similarity-attraction theory that as team members recognise each other as diverse in their deep-level attributes, they diverge in their relationships and engage less in communication, adversely influencing their perceptions of justice climates. However, no support was found for the distributive justice climate. Previous research has argued that dissimilarities, in general, can encourage people to withdraw from their relationships and interactions in their teams and reduce the positive affection felt by their team members (supervisors and subordinates) (Colquitt et al., 2002; Williams &

O'Reilly III, 1998). Given this, to the extent to which team members perceive deep-level diversity, they are less likely to engage in open communication to learn about perspectives, ideas or even (un)fair treatment that they receive from their managers. With this disconnect, team members presume they cannot voice their views or even feel they are treated fairly. Also, the perceptions of distributive justice climate are organisation- rather than supervisor-centred because organisations establish general guidelines for the allocation of rewards and resources, which may be beyond the control of managers or leaders in the organisation operating in a team (Olkkonen & Lipponen, 2006; Rupp et al., 2007a). Therefore, it is likely that team members assume the resource allocation to be determined by the organizational directives and guidelines beyond the discretion of team managers or the differences in their underlying attributes such as personality, values, and attitudes. Hence, it seems that perceived deep-level diversity and team communication openness fails to exert an effect on distributive justice climate perceptions.

Another aim of this study was to examine the moderating role of ethical leadership. Specifically, it was examined whether ethical leadership moderates the effects of all three facets of justice climate and team outcomes (cohesion and performance). The first test examined the association between team communication openness and team outcomes. The findings suggested that team communication openness was a stronger predictor of team cohesion and not team performance. Further examination of the mediating role of procedural, interactional and distributive justice climate on the relationship between team communication openness and team outcomes revealed support for interactional justice climate as a mediating mechanism between team communication openness and team cohesion. However, no support for

team performance was found. These findings suggest that team communication openness is important for an interactional justice climate because as team members discuss organizational life, including justice, they validate their views about their interpersonal treatment, resulting in greater team harmony and unity (cohesion).

Finally, the moderating effect of ethical leadership using a moderated-mediation model was examined. The tests of moderated mediation revealed significant interactions between interactional justice climate and ethical leadership on team cohesion and team performance. The results revealed that team perceptions of interactional justice climate mediate the relationship between team communication openness and team cohesion when ethical leadership is low. It was also revealed that interactional justice climate is a positive predictor of team cohesion and a negative predictor of team performance at lower levels of ethical leadership. These important findings draw on uncertainty management theory and further explain these effects. Regarding team cohesiveness, when members collectively view their leader as unethical, shared positive interactions with their leader (high interactional justice climate) enable the team to be cohesive. However, negative interactions with their leaders (low interactional justice) compound their views that their leader is unethical, creating more mistrust and divisions (low cohesion) in their teams. In contrast, a negative relationship was found between team perceptions of interactional justice climate and team performance. This important finding explains that when team members view their leader as unethical, positive interactions with their leader (high interactional justice climate) divert the focus on their interpersonal relationships, moving their attention away from their team tasks (task performance). Thus, the more significant positive interactions with an unethical leader will reduce or divert team

members' focus from team performance to relationship building. Whereas higher negative interactions (low interactional justice climate) of team members with their leaders will undermine their relationships with their leader, the focus will be on the task at hand. No further support for other facets of justice climates and team outcomes was found in the analysis. Given the important findings for interactional justice climate, it can be argued that Middle Eastern organizational culture can better explain the non-significant findings for team perceptions of distributive and procedural justice climate. Middle Eastern organizations are characterised by higher power distance and an authoritarian approach, leaving little autonomy for a direct manager, who must respond to top managers' rules on allocating resources and decision-making. It is perhaps also a result of national culture, primarily focused on relationship building (Elamin & Tlaiss, 2015).

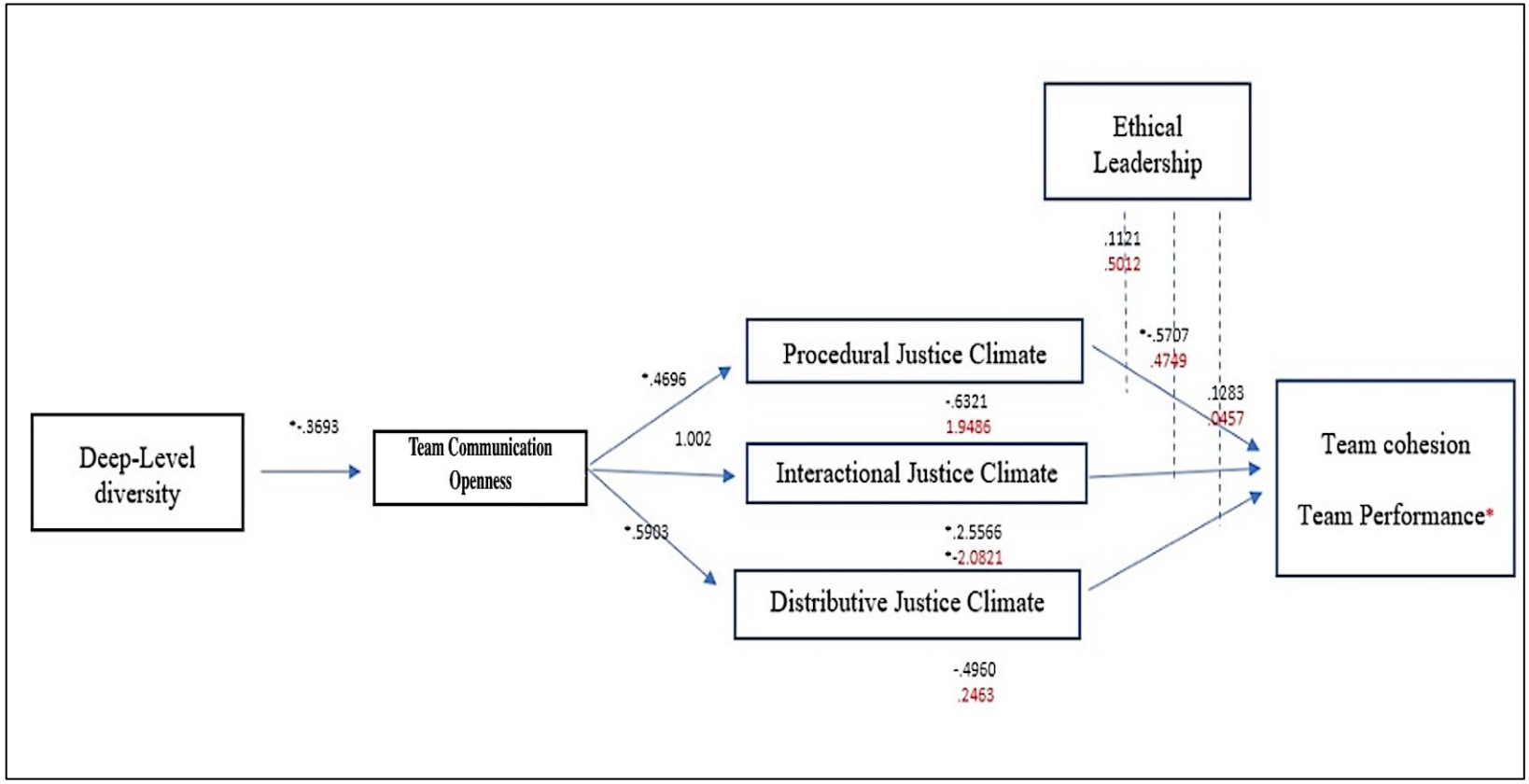
5.6 Contributions

5.6.2 Empirical Implications

This study has several empirical implications. First, there are important implications for justice climate research. The investigation provides empirical evidence on the effects of perceived deep-level diversity on team perceptions of justice climates (procedural, interactional and distributive). As shown and discussed, perceived deep-level diversity is negatively related to the perceptions of justice climates. The tests further provide empirical evidence of the important mediating mechanism: team communication openness, which explains the links between perceived deep-level diversity and perceptions of justice climate in teams. It was evidenced that perceived deep-level diversity impedes team communication, resulting in negative justice climate perceptions. Empirical evidence was provided for ethical leadership, and the findings

suggested that these relationships are more important for teams and team members. It was evidenced that team members reacted to their lower perceptions of ethical leadership by shifting their focus to relationship building (interactional justice climate). Previous research has focused on ethical leadership as an antecedent of a justice climate (Brown et al., 2005). Therefore, this study helps to understand how ethical leadership can influence team perceptions of justice climates and team outcomes. With this work, I bridge the gap in the justice climate literature by responding to the calls to examine perceived deep-level diversity and the mechanism through which justice climate perceptions emerge and impact team outcomes (Goldman & Thatcher, 2002; Roberson & Williamson, 2010; 2012). The table provides an overview of the supported hypotheses is shown in Figure below and in Appendix 11

Figure 7 Results of the hypotheses relationships



Chapter 6 Qualitative Study: Methodology, Data Analysis and Findings

6. 0 Chapter Summary

This chapter provides an overview of the qualitative research design in terms of procedure and sample characteristics. This is followed by the analysis of the interviews using thematic analysis. In addition, this section includes the description of extracted themes and codes in relation to the quantitative study 1. The chapter finally closes with a discussion of the findings.

6.1 Method

6.1.1 Procedure and Sample

The data was collected from ten managers and ten employees working in teams in company X in Saudi Arabia. These participants were individuals who participated in Study 1. The data collection took place between September 2021 and October 2021. An informal interview setting was adopted to obtain comprehensive information using an interview guide (explained in section 6.1.2). To obtain research access again in company X, the CEO was approached directly via email detailing the aims of this qualitative study. As the internal coordinator approved and confirmed access, the internal coordinator assisted in recruiting the participants. In addition, the internal coordinator produced an internal memorandum to inform the participants about the planned study. The internal coordinator also provided the researcher with an “all staff” email address. Finally, the researcher sent the consent form and the participant information sheet (see appendix 7) to all employees of company X, which outlined the research aims and the scope of the study, information about their anonymity and

confidentiality, the nature of voluntary participation, and their right of withdrawal from the study at any time during the data collection phase.

Initially, the internal coordinator had permitted online (skype) interviews only with the participants due to the ongoing Covid 19 pandemic. Therefore, the participants were requested to contact the researcher directly to indicate their interest in this study. However, the internal coordinator later directed the researcher to visit the office and arrange in-person interviews at the head office and in different branches in Riyadh city due to employees' restricted access to their emails and electronic devices. The participants were, thus, approached directly, and face-to-face interviews were conducted in a private room in their head office and the private dining halls in three of their restaurant branches. Rapport with the participants was readily established as their participation was voluntary; the interview setting was informal; the interviews were semi-structured, and the participants were well informed of the purpose of the interviews. Also, at the beginning of each interview, the researcher again explained the purpose of the interviews and obtained their consent. This informed consent stipulated that the interviews would be recorded, and the data findings would be published while the participants remained anonymous. Any details that could identify the participants were removed from the transcripts.

6.1.2 Developing the interview guide

This study builds on quantitative study 1 and seeks to explain how perceived deep-level diversity influences justice perceptions. More specifically, the interviews aimed to gather details of their team member’s deep-level differences and how they influence their communication about fairness, justice perceptions, team performance,

and cohesion. Communication regarding fairness was mainly focused on in this study. First, this is because, in study 1, the measure did not capture whether deep-level diversity restricts general communication or the communication about fairness in specific. Secondly, the justice-performance relationship was not found in study 1. Additionally, diversity management practices and practices that can enhance communication about fairness in their teams were explored.

Therefore, the following areas were covered in the interviews:

- The Team – to gather information about their membership, role in the team, and team effectiveness.
- Team diversity – to gather information about the similarities and differences in their team, the challenges of working in a diverse team and diversity management practices.
- Justice perceptions – gather information on their perceptions of justice in their teams.
- Team communication about fairness – to understand the extent to which team members communicate about justice and work-related issues in their teams.

The interview guide was structured around these critical areas, but the interviewees were allowed to expand on their thoughts and give more information on other areas, such as ethical leadership. While addressing the justice perceptions, discussion surrounding ethical leadership was expected to emerge. To recap, this is because Brown et al. (2005, p. 120) indicated that ethical leadership involves fairness in its characteristics and specified that “ethical leaders not only draw their follower’s attention to ethics but also provide followers with a voice, a procedurally or

interpersonally just process". Additionally, before the commencement of interviews, the interview questions were discussed with the supervisory team, and any suggestions were taken on board.

6.2 Analysis of interview content

6.2.1 Thematic analysis: Coding and generation of themes

Thematic analysis is a descriptive strategy that facilitates patterns of experiences within qualitative data (Given, 2008). Thematic analysis, as widely used in research, assists the researcher with interpreting various aspects of the research in the investigation (Alhojailan, 2012; Braun & Clarke, 2006; Joffe, 2012; Maguire & Delahunt, 2017). Following Braun and Clark's (2006) phases for thematic analysis, themes and codes were developed. Both theory and data-driven approaches were taken to generate the themes. Initially, during the process of transcribing and also through reading and re-reading, initial codes were developed, and these codes were collated into relevant themes, further forming the main themes. The emerging themes are explained in the next section.

6.2.2. Results

6.2.2.1 Team Characteristics

Describing the team characteristics, individuals identified whether they were members of "*deep-level diverse"* teams. "*Differences in personalities, attitudes, and education*" emerged from the dataset where individuals defined themselves as different from their team members.

Describing the differences in personality, participants explained how they differ from other team members in terms of personality traits such as introverts and extroverts (shy and friendly) and neuroticism (bad temper).

> *"There is diversity in personality. I have good personality; my other colleague is a bit [pause] he's shy when he [interacts] with another department's colleagues". (TM4)*

> *"So, every member is having a different personality. They [team members] have some personality traits and then some people [team members] they don't. Some are extroverts like this. They are different people (team members), but they are all working together" (TM20)*

> *"Yes [we are different]. They [team members] be like moody somehow. Many of us are calm, many are quiet" (TM5)*

Participants described the differences in their attitudes and how they perceive themselves differently in terms of responsibility and aggressiveness.

> *"Yes, they [team members] are different because they have their own attitudes... For example, they are waiting only to give them instructions then they work. They don't have an initiative" (TM11)*

> *"Yes, off course [we are different]. For example, I would give an example of one person whose personality is great, his work is great. But his attitude is very aggressive." (TM6)*

Describing the differences in their educational background (knowledge) and differences in their work objectives, participants described how they perceive themselves as different in terms of level of education.

"Yes, they [team members] are coming from different backgrounds, different areas, from different educational level. Different from each one of us, they have their own image." (TM3)

"Yes, I am [a member of a diverse team]. We have different workflow [work objectives]. So, everybody [team members], they have different work, different ideas, and different work of flow." (TM1)

"Yes. Diversity is there in each company. We have people coming from different backgrounds but in this same background they are not all the same. We [team members] have different level of education, different level of mentalities, different level of professionalism, even different level of accepting that adaptability with the country. Yet, [this] diversity is deep and even more between each other." (TM2)

This data extract was initially coded as differences in education, personalities, and attitudes. The potential theme that emerged from these initial codes was differences in deep-level attributes. These codes were theoretically derived from Harrison et al. (2002) and Liao et al. (2008). Overall, it suggested that team members in the overall sample were diverse in their deep-level attributes.

Table 14 Coding frame for team members differences in deep-level attributes

Data Extract	Initial Codes	Themes
There is diversity in personality. I have good personality...[pause] he's shy when he [interacts] with another department's colleagues	Personality differences among members	Differences in deep-level attributes
So, every member is having a different personality…. They are different people (team members), but they are all working together		
Yes, they [team members] are different because they have their own attitudes...then they work. They don't have an initiative	Attitude differences among members	
Yes, off course [we are different] ... his work is great. But his attitude is very aggressive.		
Yes, they [team members] are coming from different backgrounds ...they have their own image.	Educational background differences among members	
"Yes, I am [a member of a diverse team]. We have different workflow [work objectives] ...different ideas, and different work of flow.		

6.2.2.2 Team communication, fairness perceptions and perceived deep-level diversity

"Communication about fairness" emerged as the central theme, where participants described their disengagement in communication due to their differences in their team member's personalities, attitudes, and education. For example, a team member who perceived his team to be highly different in deep-level attributes believed

that people reject engaging in discussion on fairness because they are not as sensible enough to treat each other positively. Participant TM2 thus stated:

> *"It is not easy at all [to discuss about fairness] because not all the team [members], as I told you many times, have same level of professionalism, education, [and] maturity. Some of them [team members] will accept it [unfairness] as it is. Some of them, they will have objections all the time] …. And not all the members are not at the same level of maturity to respect or to treat each other in a clear professional way." (TM2)*

Similarly, participant TM6 who identified differences in attitudes among members, believe that there are differences in understanding among team members. When fairness issues are raised, it gives rise to negative emotional responses such as the intense feeling of loathing. Thus, the participant stated:

> *"No, it is not easy [to discuss about fairness] because some of the employees would understand and some of them would not. Some of them will start the hate. I hate this manager, I have this one [team member], I hate this one [team member]. They would start it [hate] and they wouldn't be able to work properly …. So, all this comes to the personality of the person." (TM6)*

Participant TM8 stated similar perceptions of his team and identified himself as different from his team in terms of team members' personalities and attitudes. He associated it with his lack of communication. The participant believed that he abstains from communication about fairness because of the team members' argumentative behaviours, and if the communication is attempted, it is considered as going beyond limits.

"It is not easy at all [to discuss about fairness] because… the feedback is negative is from them [team leader]. So, they think they [team members] are arguing, not arguing but over, like, you can say, surpass them like if you do that [talk about fairness]. They [team members] become silent about that [fairness] because they know they are better …. Also, the treatment; sometimes I don't know if they [team members and leader] are joking or just saying annoying words." (TM8)

Similarly, participant TM11 identified his team as different in attitudes and described that lack of communication about fairness among members and managers. He described that treatment could not be the same for people with different work ethics. Therefore, managers cannot engage in conversation about fairness if team members disobey their commands. He stated that:

"I think no, it is not easy [to discuss fairness in team] …. You are fair with all team [members] but sometime one of them does something that makes you angry. For example, some of them come late … I cannot treat this guy [team member] same as the one who comes on time …. He cannot ask me why you are fairer with this guy [team member]. Yes, I will be fair with him and treat him good because he treats me good. Because now the fairness is the [dependent on] respect. Respect each other and we will be fair with all. If you will not respect me, for sure, I will not respect you." (TM11)

This code was extracted from the literature (Martínez-Tur et al., 2016) that explains the context of respect among team members and their managers. The scholars argued that reduced social interactions reduce the lack of respect, decreasing transparency, and thereby affecting the interactional justice climate.

Table 15 Coding frame for team fairness and team communication and team deep-level diversity

Data Extract	Initial codes	Theme
It is not easy at all [to discuss about fairness] because not all the team [members …. Some of them [team members] will accept it [unfairness] as it is. …. And not all the members are not at the same level of maturity to respect or to treat each other in a clear professional way.	Lack of respect	Communication about fairness
The feedback is negative is from them [team leader] …. [leaders] surpass them like if you do that [talk about fairness]. They [team members] become silent about that [fairness] …. I don't know if they [team members and leader] are joking or just saying annoying words.		

6.2.2.3 Perceived deep-level diversity and team performance

Relative to the association of team-perceived deep-level diversity and team performance, numerous studies have suggested that team deep-level diversity is more likely to be negatively associated with team performance (Triana et al., 2021). For example, team attitude diversity impedes understanding of tasks and challenges in teams and reduces role clarity, whereas heterogeneity in education and work experience in teams reduces productivity (Carter & Phillips, 2017). Given these viewpoints, the main theme that emerged from the interviews is "diversity' and team performance". Per the team members' views, performance is somehow dependent on

their deep-level attributes. For example, participant TM2 described that those team members who are not efficient at work maintain worsened attitudes about work. As a result, they cannot learn to adapt to the team environment and process information which is one reason they perform very low. He stated that:

> *"There are some [team] members, they have shortcuts, they have bad attitudes. They have lower performance. They have lower ability to learn or to accept more information." (TM2)*

Describing the performance of team members with respect to differences in attitudes, participant TM6 stated that:

> *"They [team members] perform but [not much because] some of them [team members] one day they are good, one day they are not good depending on their moods and depending on if there's too much work or not. This happens every time." (TM6)*

Similarly, participant TM19 believed that team members with lower education levels have less ability to complete the tasks efficiently. This emphasises the perspectives from the literature that educational diversity yields differing perspectives, which creates differences in how challenges are managed, leading to lower team performance (Bakar & McCann, 2018; Hentschel et al., 2013; Triana et al., 2021). Participant TM19 stated:

> *"[The team members perform] at minimum ... In my team, its [team members] are not at the same level of may be education, may be capacity, [and] ability to do work. Not all think in the same column [way]. They [team members] are different from each other." (TM19)*

Table 16 Coding frame for team deep-level diversity and team performance

Data Extract	Initial code	Theme
There are some [team] members, they have shortcuts, they have bad attitudes. They have lower performance. They have lower ability to learn or to accept more information.	Lack of ability to perform	Deep-level diversity and team performance
In my team, its [team members] are not at the same level of may be education, may be capacity, [and] ability to do work. Not all think in the same column [way]. They [team members] are different from each other.		

6.2.2.4 Interactional justice climate and team performance

Research has shown that team performance is essential for the attainment of team goals (Martínez-Tur et al., 2016). Li et al. (2015) argued that employees who have been subjected to fair treatment tend to demonstrate a higher level of work performance and maintain their tendency to go beyond their job requirements. Consequently, it was revealed that when team members perceived lower fair treatment, they tended to demonstrate lower team performance. The theme "interpersonal treatment and performance in teams" emerged from the interviews. The participant's beliefs on shared interpersonal fairness provided an overview that the team member's negative perceptions of interactional justice perceptions weaken their "team spirit" in their team as well as their "aim achievements". Participant TM20 described that if one team member as an individual is not treated well in the team, it affects the whole team members and the team's overall performance. He stated that:

"This [interactional fairness] is really important because at the end, individually or as a team member this is one unit for your team. If one individual is not treated [well], he will lose his performance. This will depress him and it [the team] will go down." (TM20)

Similarly, participant TM19 described that the primary aim of any team is to achieve its aims. Therefore, any differences in interpersonal treatment among team members, especially between team leaders and team members, lead to lower performance. Thus, participant TM19 states that:

"It [fairness in interpersonal treatment] is very important to work as a team, to provide quality … because when you make a team in the work [place], you should achieve your aim …. If you have any problem in my team between the leader and the team [members] or between the employees [like] this one hates this one, not like this one, we will not achieve our aims." (TM19)

This code was theoretically derived from Lipponen and Wisse (2010). The scholars argue that teams that experience fairer treatment are subject to higher goal achievements

Table 17 Coding frame for team interactional justice and team performance

Data Extract	Initial code	Theme
individually or as a team member this is one unit for your team. If one individual is not treated [well], he will lose his performance. This will depress him and it [the team] will go down	Aim achievements	Interpersonal treatment and performance
to provide quality … because when you make a team in the work [place], you should achieve your aim		

6.3.2.6 Distributive justice climate and performance

Extensive research on the distributive justice climate has revealed that rewards and outcomes are more relevant to team performance (Whitman et al., 2012). Whitman and colleagues evidenced that team rewards enable employees to maximise their effectiveness and enhance performance. In the researcher's efforts to understand why rewards are important for the team members, the participants reasoned that team rewards motivate people to outperform and stay productive.

From the interview, two themes were extracted: "reward system and performance" and "rewards and motivation". Significant findings here highlight that reward systems are put in place by the organization and are delegated by the higher authorities. These reward systems reflect on the performance of the individuals working in teams, which is determined by the appraisal conducted by the operation managers and branch managers. While examining this, team members indicated that rewards are not fixed. These rewards, such as bonuses and incentives, are based on

the fulfilment of their tasks and the efficiency of the tasks under the theme “reward system and performance”. For example, participant TM5 stated:

> *“They [company] reward. The company rewards. It is something related to operations, something related to operations manager. He decides to reward someone if he is doing a good or a great job or not. But there are many examples that employees working for four or five years in the company, and they get high position [promotion]. So yes, there is reward but not for all.” (TM5)*

Participant TM2 shared a similar opinion as he described team rewards as company incentives and bonuses and the allocation of rewards in terms of varied positions in the company, their performance and stability in their teamwork. He relayed that:

> *“You cannot recognize or reward all the team [members] because there are variances in positions, in performance and stability. There are many factors then it doesn’t make sense to reward all the team [members]. So, in any company, the rewards … it is there for outstanding performance.” (TM2)*

Table 18 Coding frame for team reward system and team performance

Data Extract	Initial code	Theme
The company rewards. It is something related to operations, something related to operations manager. He decides to reward someone if he is doing a good or a great job or not	Unequal reward system	Reward system and performance
You cannot recognize or reward all the team [members] because there are variances in positions, in performance and stability.		

Moreover, in the quest to understand the importance of rewards for team members, the team members narrated that team rewards positively influence team productivity and motivation. For example, team member TM4 stated:

> *"I think rewards can enhance productivity and can motivate our team. Rewards balance things [in team] …. It is very necessary to enhance work and finish our work in the same way." (TM4)*

Similar thoughts were shared by team member participant TM18. He stated that:

> *"We can see that they work well, and we can see this person got rewarded because of the work he did well…. If we; like when you are working here [in this company] you get rewarded one or more times. Our mind will say we can work here more." (TM4)*

Table 19 Coding frame for team reward motivation and team productivity

Data Extract	Initial code	Theme
I think rewards can enhance productivity and can motivate our team. Rewards balance things [in team] …. It is very necessary to enhance work and finish our work in the same way	Motivation to perform	Rewards as a source of productivity
We can see that they work well, and we can see this person got rewarded because of the work he did well …. Our mind will say we can work here more		

6.2.2.6 Diversity management practices, team communication about fairness and recommendations to improve team functioning

Diversity management and training are practical tools for developing a skilful workforce. Bartz et al. (1990, p. 321) define managing diversity as "understanding that there are differences in employees and these differences if properly managed, are an asset to work being done more efficiently and effectively". Bartz and colleagues stated that managing diversity is about capturing the richness of these differences and harnessing them for the betterment of employees and the organization (ibid., p. 322).

Initially, most team members, particularly team managers, indicated that diversity management is not necessary for productivity and is a personal factor that should not be integrated with professional training. For example, participant TM3 stated:

> "*We are not taking diversity [training] into consideration at all. This diversity is for them [team members] …. In my perspective, this will be totally objected with the company goals itself … the priority here is the company objectives." (TM3).*

Participant TM6 shared similar views. However, it was emphasised that managing deep-level diversity is as essential as the other training. He stated that:

> *"All trainings are more like knowledge trainings … about the food hygiene … but not managing staff training that should be as in development [like] self-development, leadership … body language. This is important stuff [training] to do as a company so that all the team knows how to deal with different types of people and personalities" (TM6).*

Table 20 Coding frame for lack of diversity management for teams

Data Extract	Initial code	Theme
This diversity is for them [team members] …. In my perspective, this will be totally objected with the company goals itself … the priority here is the company objectives	Goals as priority	Diversity management training
All trainings are more like knowledge trainings … about the food hygiene … but not managing staff [diversity] training		

However, to understand the importance of diversity management, respondents described certain factors that can enhance their perspectives on diversity, communication, and team functioning. Hence, "diversity management and team effectiveness" emerged as a theme in the interviews. The participants highlighted two important factors that can contribute to understanding deep-level differences and promote team functioning. For example, participant TM15 described that "frequent team meetings" should be held to understand deep-level diversity to promote team effectiveness. He stated that:

> *"In order to understand each other, especially in terms of work beliefs, attitudes, or personality, it [meetings] should be done at least [every] six months or twice a year …. So that they can work more easily, more smoothly." (TM15)*

Similarly, participant TM19 stated that:

> *"This is a suggestion I made for … my team: make a meeting for them. For me all [team members] are same even if you are Christian, Jewish [or] Muslim. This is not my aim. My aim, what I need from [team members is] to be friendly; teamwork and cooperation." (TM19)*

Table 21 Coding frame for diversity management and team effectiveness

Data Extract	Initial code	Theme
In order to understand each other, especially in terms of work beliefs, attitudes, or personality, it [meetings] should be done at least [every] six months or twice a year …. So that they can work more easily, more smoothly	Regular meetings	Diversity management and team effectiveness
This is a suggestion I made for … my team: make a meeting for them …. My aim, what I need from [team members is] to be friendly; teamwork and cooperation		

Furthermore, participants indicated "attentiveness towards diversity issues" to promote good relations among team members. For example, participant TM16 described that:

> *"We need to make a bond. If we, you know, do not speak with the people [team members] we don't know the, you know, team, the attitudes, how they [team members] are behaving and what about his knowledge." (TM16)*

Similarly, participant TM18 stated that:

> *"Among two people [team members], three people [team members] with different backgrounds, maybe they can communicate with each other to get to know of their … attitudes, how they react to problems. Because I love to meet people and I want to learn from their [team members] bad experiences and their good experiences because you know when you are working in this industry you have to learn from others …. So, I have to know who they are." (TM18)*

Table 22 Coding frame for diversity management and team communication

Data Extract	Initial code	Theme
We need to make a bond. If we, you know, do not speak with the people [team members] we don't know the, you know, team	Encourage communication	Attentiveness towards diversity issues
Among two people [team members], three people [team members] with different backgrounds, maybe they can communicate with each other to get to know of their … attitudes, how they react to problems.		

These diversity management perspectives were also found to be overlapping with team communication. Participants indicated that team communication about fairness is important for team functioning. The important factor that emerged from the interviews is "giving voice" to team members to state their concerns. For example, TM9 described that discussing fairness issues will improve his perspectives. He stated that:

"If we take the briefings every day in the evening, we can improve that [perspectives about fairness]. If I talk to someone about my issues about fairness, definitely it will improve. He [team leader] will also think I have from this side mistakes, I need to make it right with [the] team." TM9

Similarly, participant TM18 specified:

"I have to tell them [team members] about I will always listen to you, and if you have any problems, you can tell me …. I have to communicate in a friendly manner. Like they feel like [I am] their own brother, like a family member."

Moreover, "informal interactions" were recommended to enhance team communication about fairness-related issues in deep-level diverse teams. For example, participant TM20 stated that:

"This one [communication about fairness] can be improved [if] we have daily meetings, and some time we have gatherings and some things they discuss out of office, and we have personal meetings. I have some outdoor activities [with teammates] so they are happy to be involved in those and can discuss and [become] closer with each other also." (TM20)

Table 23 Coding frame for diversity management and team communication

Data Extract	Initial code	Theme
If we take the briefings every day in the evening, we can improve that [perspectives about fairness].	Informal interactions to give voice	Diversity management activities
This one [communication about fairness] can be improved [if] we have daily meetings, and some time we have gatherings and some things they discuss out of office, and we have personal meetings		

6.3 Discussion of findings

This study aimed to explore the unexpected results from quantitative study 1. Specifically, this qualitative study aimed to explore if deep-level diversity leads to lower communication (specifically about fairness) and the emergence of justice climate perceptions. Another aim of this study was to examine the respondents' experiences to understand the effects of deep-level diversity on their performance and cohesion.

Initially, the findings suggested that the team members are more diverse in terms of personalities, attitudes and education, and these differences influence communication in their teams. Although it was found that team members do not engage in open communication in their teams, it was unclear whether deep-level differences among them impeded the communication about fairness. This study found that this is because of the reactions received from the team managers that they consider communication about fairness equivalent to engaging in arguments and, thus, fail to understand each other's views and ideas. This leads to negative perceptions of interpersonal treatment and subsequently affects their performance. Furthermore, a lack of communication about fairness also influenced the lack of respect and differences among team members. Previous research suggested that individuals communicate to understand information and events surrounding them in their teams and organizations (Lind, 2001). The scholar argued communication and discussion about fairness lead to a re-evaluation of the information that violates their expectations or when they perceive their relationships changing with the authority (Jones & Skarlicki, 2013). Here in this study, it was clear that deep-level diverse team members have stronger negative perceptions of their interpersonal fairness as their

engagement in communication about fairness with team managers leads to adverse experiences such as feelings of disrespect and ill remarks.

Furthermore, respondents also perceived team deep-level diversity is associated with lower performance because it affects their ability to learn and be productive and demotivates them from achieving their task goals. Previous research on diversity has shown that deep-level composition variables substantially influence team performance (Bell, 2007; Harrison et al., 2002). Interactional justice climate and team performance were also important factors for team members. The respondents explained that the interpersonal treatment of one individual in the team affects the team's performance. They emphasised that the primary aim of any team is goal achievement which is affected If the team is not treated fairly, as evidenced by Li et al. (2015).

Additionally, it was found that higher rewards are associated with team performance. The respondents explained that rewards were not equally distributed in the teams and were distributed based on the team member's individual performance. However, in the researcher's quest to understand why rewards are positively associated with team performance, it was revealed from the interviews that rewards enhance team productivity and motivate individuals to perform better. This is an important finding because, in study 1, I did not find any effects of distributive justice climate on team performance. As the respondents explained, rewards are not recognised at the team level; instead, they are individual and are allocated per the company's directives. This is similar to previous studies, which suggest that supervisors act in the name of the organizations regarding rewards allocation (El

Akremi, Vandenberghe, & Camerman, 2010; Spell et al., 2011). Finally, this study aimed to understand if diversity management practices are effective and what practices can be implemented to tackle perceptions of deep-level diversity in the teams. It was initially found that the company did not have any diversity management training or practices in place. However, as recommendations, respondents described informal meetings and frequent briefings at work could enhance team functioning. Research shows that informal meetings provide individuals with emotional support and enable them to form bonds within teams (Young, 2021).

6.4 Practical Implications

This study highlights many diversity management practices and provides an overview of communication and its improvement practices that companies can adopt to enhance team functioning and manage deep-level diversity. Initially, this research on how deep-level diversity is perceived suggests a negative outlook on team diversity. Based on this, in study 2, participants revealed their perspectives and argued that there is a more substantial need for diversity management practices in the workplace. Building relationships among co-workers and supervisors is therefore crucial for teams (Martínez-Tur et al., 2016) and expenditures in training programmes to handle this variety, particularly in firms that strongly emphasise cooperation, may pay off. The team member's disengagement from communication and discussion of fairness issues due to higher deep-level diversity in teams was a significant finding in the quantitative study. This was investigated in this study, and it was found that team members preferred regular informal meetings and frequent conversations about justice concerns. Feasible pieces of training and activities are, therefore, suggestive of the fact that they might improve team communication and encourage favourable

impressions of deep-level diversity. According to the research, problem-focused meetings involving regular group discussions are associated with successful team results because they help teams develop a shared strategy for resolving problems as they arise (Shipton et al., 2012). "Voice potential" was another significant component identified in this study. This is directly related to justice, where people are more likely to see justice favourably if they can voice their concerns to the relevant authorities and co-workers (Baldwin, 2006; Martínez-Tur et al., 2016). As a result, having regular casual gatherings may help teams build strong relationships, and businesses can set up meetings and activities that are primarily intended to help people grasp these concerns.

Chapter 7 Summary, Recommendations for Future Research and Limitations

7.0 Chapter Summary

In this final chapter of the thesis, the key findings of the two studies are integrated and summarised briefly. Next, the implications for theory and practice resulting from the findings of both studies are discussed. The subsequent section provides recommendations for future research to further the insights gained from these studies. Finally, the chapter closes with a conclusion of the thesis.

7.1 Summary of key findings

This doctoral thesis proposed and tested a team-level model of the processes linking perceived deep-level diversity with team perceptions of justice climates (procedural, interactional and distributive) and these perceptions of justice climates with team outcomes (cohesion and performance). Specifically, a mediator team communication openness is examined as an important mechanism through which perceptions of justice climates emerge in deep-level diverse teams and ethical leadership as a moderator of the relationships between team perceptions of justice climate and team outcomes. These primary relationships were tested in quantitative study 1. Whereas study 2 explored communication about fairness, performance relationship, and diversity management practices. These findings are integrated and explained next.

First, the mediation model was tested. The findings revealed a negative relationship between team-perceived deep-level diversity and team communication.

In contrast, team open communication was positively related to team perceptions of justice climates. The findings from the mediation model revealed that team communication negatively mediates the relationship between team-perceived deep-level diversity and team perceptions of justice climate (procedural and interactional justice climate). The examination of these findings in study 2 revealed that team members disengage themselves from communicating specifically about fairness-related issues because they believe that team members and team leaders lack maturity and respect and engage in negative emotions such as loathing and aggression. These emotions create a gap in their perceptions of relationships leading to negative perceptions. It was also seen as a behaviour that goes against the authoritativeness of the managers.

Next, the moderated mediation model was tested. Firstly, the effects of team perceptions of justice climates on team cohesion were tested. The results indicated that only team interactional justice climate was positively related to team cohesion. These findings were explored in study 2, revealing that a positive interpersonal justice climate improves the level of bonding between team members and team leaders and creates a sense of belongingness. Specifically, favourable interpersonal treatment was described as a behaviour that enhances the flow of teamwork. It is important to note that no effects were found on procedural and distributive justice climates. This was revealed in study 2 that the procedures and rewards are decided by the organisation and the higher organisational authorities and are fixed for every employee working in the organisation. Further, the effects of team perceptions of justice climates on team performance were tested. The results revealed negative but no significant effects of team perceptions of justice climates on team performance. However, study

2 revealed some influence of interactional and distributive justice climate on team performance. They explained that the interactional justice climate influences their team spirit, which helps them achieve their aims. In such a way, negative perceptions of interpersonal treatment from their team leaders would lower their esteem and affect their well-being at work. Finally, in study 1, a moderated mediation model was tested with ethical leadership as a moderator of the relationship between team communication openness, team perceptions of justice climates and team outcomes (cohesion and performance). A significant interaction effect between team interactional justice climate and ethical leadership was found, and it was found to predict team cohesion. The role of ethical leadership in explaining these above relationships for team performance is less supported by this thesis's findings of team performance. That is, only partial support for the mediated moderation was found for the relationship between team communication openness, team interactional justice climate and team performance. However, no support was found for other hypothesised moderated mediation relationships. Study 2 did not reveal much about the role of ethical leaders. However, it was found that leadership in the organisation is authoritative and, therefore, deemed unethical by the employees.

7.2 Implications for research

This thesis makes three significant contributions to advancing the research in diversity and justice. This thesis contributes to perceived deep-level diversity literature by examining the impact of team diversity on the emergence of justice climate perceptions at the climate level in teams. Indeed, the similarity-attraction theory has not been extensively tested on perceived deep-level diversity and instead rests on objective or actual diversity (Harrison et al., 2002; Rupp et al., 2007; Shemla et al.,

2016). This thesis suggests a wider understanding of perceived deep-level diversity. Also, and to the best of my understanding, only a few empirical investigations have offered support to understand the relationship between deep-level diversity and justice climate (Colquitt et al., 2002; Harrison et al., 2002; Roberson & Williamson, 2010). Therefore, using mediation and a moderated mediation model, this thesis strengthened the understanding of the role of deep-level diversity in the emergence of justice climate through a behavioural mechanism of team communication openness (Mannix & Neale, 2005; Roberson, 2019; Roberson & Williamson, 2010b). And the moderating role of ethical leadership to reduce the ambiguity caused by fairness perceptions and ethical leadership in teams (Lind & van den Bos, 2002). This comes from the thorough examination of recent studies that confirms the incomplete understanding of deep-level diversity effects and the emergence of justice climates (Roberson & Williamson, 2010). Mannix and Neale (2005) detailed that it is not on diversity (based on similarity-attraction theory) alone to generate consequences. It is not wise to suggest the effects of diversity on behaviours without considering the underlying mechanism with the deep explanatory power to explain the effects (ibid.). However, they argued that the underlying mechanism, such as communication, is rarely measured but rather assumed in explaining the effects (ibid., p. 44). Similarly, justice scholars have emphasised the same that although the emergence of justice climates has been studied, in most of the research, both input and the process from the input-process-output models are curiously absent from the literature as the core focus has been on the existence of climates (as indicated by strength or level). Hence, in response to Roberson and Williamson's (2010) call to examine how deep-level diversity and a team behavioural process such as communication can affect team-

level perceptions of justice climates, the thesis makes novel empirical contributions, as explained below.

Empirically, this thesis makes contributions to three areas of literature. First, this thesis has important implications for perceived deep-level diversity literature. The broad literature and its examination found that research on perceived deep-level diversity is scarce because actual diversity has been the focus of main research (Colquitt et al., 2002; Roberson & Williamson, 2010). Given this, the empirical investigation within this thesis provides novel findings in examining perceived deep-level diversity and perceptions of justice climates. The findings from the two studies showed that perceptions of deep-level diversity are important in predicting justice perceptions such that greater deep-level diversity in teams leads to lower favourability in the perceptions of justice climates. From this, it follows that the team members share diversity perceptions and that people have a broader impression of their team's diversity attributes (Hentschel et al., 2013) which ultimately affects their perceptions and behaviours. In this vein, diversity researchers could examine perceived deep-level differences to advance team-level research that can provide a greater understanding of perceptions of justice climates in teams. Secondly, this research contributes to justice climate research by investigating a behavioural mechanism, namely team communication openness, that explains how deep-level diversity leads to the emergence of justice climate perceptions. The research has rarely examined team communication in climate research as an explanatory mechanism, whereas most arguments are merely assumed from demography literature (Colquitt et al., 2002). Therefore, this thesis suggests team communication openness as an important mechanism that provides a complete picture of how deep-level diversity leads to the

emergence of justice climates. Specifically, as found in the qualitative investigations, deep-level diversity affects open communication about fairness in teams, consequently leading to negative perceptions, especially interactional fairness. Thus, with these investigations, team-perceived deep-level diversity can be regarded as an important antecedent of perceptions of justice climates. The justice scholars, therefore, can expand on these findings to explore the effects of perceived deep-level diversity, climate emergence and its effects on team outcomes. Finally, this thesis further contributes to the literature on ethical leadership, identifying it as a significant moderator of the relationship between team perceptions of justice climates and team outcomes. Precisely, the implications were held for interactional justice. Ethical leadership overall tends to deal with the ambiguities of the team environment. However, unethical leadership reverts team members' focus on their team membership and the fair interactional treatment they received from their leaders/managers (Brown et al., 2005; Lind, van dan Boss, 2002). Thus, this investigation assists significantly in understanding how team members' reactions to fair treatment can be managed with ethical leadership that further improves team outcomes.

7.3 Implications for practice

In addition to the theoretical advances outlined above, this thesis makes practical contributions by offering practitioners valuable insights. First, perceived deep-level diversity is an emerging concept in the field of diversity (Shemla et al., 2016). Scholars note that diversity can be both helpful and challenging for organizations (Triana, 2018). This thesis's findings on perceptions of deep-level diversity posit a pessimistic view of diversity in teams. Previous research on diversity suggests that these effects may be due to task interdependence which demands

smooth interactions (communications) or sharing of perspectives and ideas that can reflect their degree of creativity. However, service teams that are used in this thesis are high-task interdependent teams, working to cater independent sections/floors to cater for their customers that include taking orders, coordinating with other team members and managers for the fulfilment of orders for tables and working with each other making sure customers are satisfied. Thus, relationship building among such colleagues and managers is mutually important in a team (Persson et al., 2021). Investing in training programs to manage this diversity, particularly in teamwork-directed organizations, may prove valuable. These training activities can be team-building activities that emphasise the importance of deep-level attributes to stimulate compatibility within their work teams (Seong et al., 2015). The activity can also involve educating team members on maintaining positive relationships and interactions to reinforce its impacts on team outcomes (ibid.). An important finding in this research was the team member's disengagement from open communication about fairness as a consequence of deep-level diversity in teams. An exploration into this in study 2 revealed possible training and activities that could enhance team communication about fairness and promote positive perceptions of deep-level diversity, including team "informal meetings" and "regular team briefings". The research suggests that regular team discussions are a part of the continuous improvement process, and problem-focused meetings are linked to positive team outcomes because teams when engaged in these meetings, develop a standard frame to solve the experienced problems (Kauffeld & Lehmann-Willenbrock, 2012). Another important factor that emerged from study 2 was "voicing opportunity". This closely relates to justice, where people's perceptions of justice are likely to be enhanced if they are provided with the opportunity to raise their concerns with the authorities and colleagues (Baldwin, 2006). Therefore,

engaging in frequent informal meetings can establish positive relationships within teams, so organizations can arrange meetings and events specifically to understand these issues.

Moreover, an important implication relative to managing deep-level diversity is to focus on person-job fit as part of the recruitment phase. This is because a team is a referent point for various organizational and team-level phenomena, such as interactions, identification, information processing, the leadership process, and commitment to the team (Seong et al., 2015). A review of the literature on person-group fit reveals that supplemental fit (deep-level similarities in aspirations, values, and preferences) is a more accurate predictor of team cohesiveness and team performance (Kristof-Brown & Stevens, 2001; Adkins et al., 1996; Becker, 1992; Good & Nelson, 1971; Burch & Anderson, 2004). To maintain a person-group fit, the newly recruited employee must share or learn the same characteristics as other team members. According to Werbel and Johnson (2001), human resource management can identify this fit by carefully determining the recruit's acceptability or willingness to adapt norms related to communication, attentiveness to cooperation and maintenance roles, such as a propensity to compromise and encourage others, and placing the individual in a relevant alluring group. In addition, according to the researchers, determining whether a team member possesses "1) the ability to work without clear instructions from supervisors; 2) an appreciation of collectivistic approaches to work efforts; and 3) the capacity to work patiently through problems" is a crucial aspect of assessing this compatibility (p. 235). However, it is important to emphasise that this fit is regarded solely as an evaluation that supplements additional information, such as

in-person or online interviews and other performance indicators (Barrick & Parks-Leduc, 2019).

Furthermore, this thesis's findings suggest that ethical leadership's role is important for shaping justice climate perceptions and reaching important team outcomes such as team cohesion and performance. Baldwin (2006) suggested that people desire to have their performance assessed accurately and unbiasedly; therefore, improving the performance appraisal procedures is important to promote perceptions of justice. Thus, involving employees in deciding what performance criteria should be included in the appraisals and conducting peer and self-rating is important. Moreover, managers allowing employees to express their feelings and constructively delivering feedback with a written appraisal summary is considered valuable (ibid.). Therefore, training the managers and employees to conduct these appraisals can be beneficial for promoting stable teamwork and ethical leaders. Furthermore, ethical leaders act as moral agents in the organization; thus, their behaviours play an important role in shaping perceptions of justice climates (Brown & Mitchell, 2010; Brown et al., 2005; Walumbwa et al., 2017). As the findings suggest, ethical leadership is more important for interactional justice perceptions; therefore, a company's involvement in ethical leadership programs is important. It can promote trust between leaders and subordinates and develop strong interpersonal relationships that can enhance their productivity and motivate them to be cohesive in teams. This training can include informal communication, the importance of ethics at work, and being an ethical leader at work. Arranging this training can raise awareness regarding ethical leadership in the workplace.

7.4 Limitations and directions for future research

As is true for most research, this research is also not without its limitations. Therefore, the results of the two studies and their conclusions should be evaluated in light of certain limitations. The methodological limitation of the studies is two folds. First, the researcher conducted a mixed-method design, with a quantitative study conducted in the first phase followed by a second (qualitative) study conducted in the second phase: explanatory sequential design. Study 1 was conducted in two large organizations in the Middle East, and study 2 was conducted in one of the organizations in study 1. It was important to conduct a second (qualitative) study to explain the findings; however, the qualitative research was delayed due to the Covid 19 pandemic, and access was limited from Company Y due to the ongoing pandemic. Given this, although the findings in study 2 explored the observed phenomenon, caution should be maintained while interpreting or replicating the findings. Moreover, the teams recruited for this research were limited to Middle Eastern organizations. As a result, caution should be maintained when the research is replicated in other countries, and a matched-sample design should be considered to increase comparability. Secondly, another limitation is the retrospective evaluation of justice. To collect the data on past incidence, the use of self-report and recall methods of data collection relies on the respondents' memory judgments. A drawback of using the recall method or the critical incident interview is the incomplete and impaired accuracy of that event recollection. As a descriptive study, it was considered suitable for study 2 to employ a less restrictive interview approach (Patton, 2015). Further research can include critical incidents in their qualitative studies to shed light on fairness and diversity-related issues in teams.

In study 1, the alpha for team performance was 0.69. Hinton et al. (2004, p. 364) and Ursachi et al. (2015) argued on the appropriate cut-off points and suggested that alpha values above .60 are acceptable reliability scores. However, it may be that the findings on team performance are due to a moderately reliable measure. Therefore, future researchers can maintain caution and use a strongly reliable measure of team performance. Moreover, some of the items were dropped from the leadership and justice scales, potentially raising the question of the analysis's meaningfulness. Research suggests that any modifications should be carefully examined, and scales can be modified if theoretical explanations exist (Smith & McMillan, 2001). Since there was a theoretical overlap between justice and ethical leadership construct, the measurement error covariances thus corresponded to the higher degree of overlap in item content. It occurs when, although items are worded differently, they represent a similar question (Byrne, 2013; Ünal et al., 2017). Therefore, future researchers may employ a different leadership scale (Shakeel, Kruyen, & Van Thiel, 2020).

Also, researchers have operationalised team cohesion as a variable that predicts team performance (van Vianen & De Dreu, 2001). However, in this thesis, team cohesion is an outcome variable due to the complex model being studied, the complications of the sample size restraints, and the two-stage mediation conducted. Future research can incorporate a more complex three-staged mediation team-level model that tests the cohesion-performance relationship and run this model in MPlus. It is also recognised that a convenience sample was obtained to conduct the research at the team level. The sample fulfilled the criteria of a team such that three or more members were regarded as sufficient to form a team. This was based on Kozlowski and Ilgen's (2006, p.79) recommendation of three members as the minimum team

size. The scholars argued that “teams of three or more enable coalitions and related interpersonal interaction complexities that are absent in dyads”. Also, a within-team agreement was tested for each team to aggregate the data at the team level. The $RWG_{(j)}$ and ICC (1), and ICC (2) values indicated satisfactory agreement, as shown in Table 1. However, the representativeness test by Jeremy Dawson should be considered by future researchers to assess the appropriateness of sample size and the representativeness of the teams.

Additionally, a limitation is related to the cross-sectional research design. The focus of this study was to understand the influence of perceived deep-level diversity on justice climate perceptions. The cross-sectional study design allowed the research to be conducted in phases at a single point in time. This limits the extent to which causal inferences can be made regarding the studied relationships (Creswell, 2014). Future studies can employ a longitudinal study design, such as a diary or experimental studies, to investigate team communication openness and justice perception (Cohen-Charash & Spector, 2001; Roberson, 2006a). In this thesis, the important mechanism of team communication openness was examined. Future research can build on the present study by exploring the extent to which team communication openness depends on the perceptions of diversity. This study used team sensemaking behaviour as an alternative for communication and discussion as adopted by (Roberson, 2006a). However, it did not completely capture the essence of communication about fairness. Future researchers may develop a scale that profoundly captures the communication about fairness when studying diversity, communication about fairness and justice perceptions.

Furthermore, as a moderating mechanism, investigating the quality of relationships between peers and leaders can also provide a detailed understanding of the influence of perceived deep-level diversity on team perceptions of justice climate (Kacmar et al., 2009). Research on justice and leader-member and team-member exchange have been evidenced to promote knowledge sharing and enhanced performance (Gerlach, 2019). Furthermore, future research can examine ethical leadership and expand it further to examine the implications of ethical and unethical leadership (as a boundary condition) on the relationship between team justice climates and team outcomes. Additionally, future research should attempt to examine the influence of similar leadership styles, such as servant leadership. This leadership has been mainly studied as an antecedent of procedural justice climate (Ehrhart, 2004); hence future research can investigate this leadership style to understand the effects of deep-level diversity on perceptions of justice climates and team outcomes. Ehrhart (2004) mentioned that servant leadership relates to other ethical leadership perspectives. He explained that a servant leader recognises his moral responsibility to the organisation's success and subordinates. Also, future research can examine diversity management practices in their frameworks to understand the deeper links between diversity and ethical practices. Research argues that diversity management issues are always present in organizations, and it is important that these issues are addressed appropriately. Prejudice and discrimination are more prevalent in work settings where diverse individuals exist, such as in the Middle East. Therefore, for establishments to survive, organisations need to embed equality and ethics in their work culture. Future researchers, therefore, can examine whether the work or team ethos influences interactions and perceptions.

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Appendices

Appendix 1: Participant Briefing Sheet

Dear Participant,

My name is Ms Munazzah Iqbal, and I am a Ph.D. research student at Aston Business School in Birmingham, United Kingdom. I am contacting you today because I would like to invite you to participate in my research project exploring work team diversity and team effectiveness. This project is conducted under the supervision of Dr. Jonathan Crawshaw and Professor Pawan Budhwar of Aston Business School.

I firmly believe that your participation in this study, and your views on team working in your company, will not only be beneficial for your company – potentially helping to further improve team effectiveness and performance in your workplace – but also for our wider understanding of what impacts on teamwork effectiveness. As such, I sincerely hope that you can give a small amount of time to participate in this research by completing a short questionnaire survey.

Enclosed in this envelop is an ***Information Sheet*** that contains all important information about the project and your participation survey. Please read this carefully before proceeding with the ***Questionnaire Survey*** and, if you do decide to participate, please answer ***all*** questions.

After completing the survey, please place it in the envelop provided, securely seal it, and leave it in designated box.

If you have any concerns or require any further information, please do not hesitate to contact me on iqbalm12@aston.ac.uk.

Thank you for your participation.

Yours Sincerely

Ms Munazzah Iqbal
Ph.D. Researcher
Aston Business School
Birmingham, B4 7ET
United Kingdom

Appendix 2: Ethical Approval Study 1

Aston University
Aston Triangle
Birmingham
B4 7ET
0121 204 3000

Date: 18 July 2019

Munazzah Iqbal
Aston Business School

Dear Munazzah,

Study title:	Fairness in Diverse Teams and Team Performance
REC REF:	Ethics application #ABSREC004

Confirmation of Ethical Opinion

On behalf of the Committee, I am pleased to confirm a favourable opinion for the above research based on the basis described in the application form, protocol and supporting documentation listed below.

Approved documents

AThe final list of documents reviewed and approved by the Committee is as follows.

Document	*Version*	*Date*
Participant Information Sheet	1	18/07/2019
Managers Survey	1	18/07/2019
Employee Questionnaire	1	18/07/2019

After starting your research please notify the University Research Ethics Committee of any of the following:

- Amendments. Any amendment should be sent as a Word document, with the amendment highlighted or showing tracked changes. The amendment request must be accompanied by a covering letter along with all amended documents, e.g. protocols, participant information sheets, consent forms etc. Please include a version number and amended date to the file name of any amended documentation (e.g. "Ethics Application #100 Protocol v2 amended 17/02/19.doc").
- Unforeseen or adverse events e.g. disclosure of personal data, harm to participants.
- New Investigators
- End of the study

Please email all notifications or queries to research_governance@aston.ac.uk and quote your UREC reference number with all correspondence.

Wishing you every success with your research.

Yours sincerely

Ali Alshukry
Acting Chair, University Research Ethics Committee

Appendix 3 Participant Information Sheet Study 1

Fairness in Diverse Teams and Team Performance
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?

We are interested in how fairness is evaluated by members of teams that are both diverse and similar in their membership attributes. We are also interested in how these fairness perceptions influence the performance of these teams and the work experiences of team members.

Why have I been chosen?

You are invited to participate as you are an active member of a work team in your organisation, and your experiences and opinions of your work team are extremely valuable for this research. Your participation will help our study further knowledge about fairness in work teams and also provide practical solutions for improving the effectiveness of work teams, and the work experiences of employees, in your organisation.

Because the focus of the study is individuals working in teams, the study intends to involve several or all teams in the organization that consists of more than two individuals aged over 18. The study may involve their immediate supervisors/managers as well. Due to this demand of study, individuals who are “NOT” part of any team or/and aged 18 below will be excluded from the study.

What will happen to me if I take part?

You will be given a short briefing about the research. You will be handed over a structured survey questionnaire to respond to. You will be invited to respond to each statement in the survey and the questionnaire should take around 15 minutes to complete. You will be asked to fill the questionnaire only once.

Do I have to take part?

No. It is up to you to decide whether or not you wish to take part.

Your participation in this study is entirely voluntary and you can choose not to participate at no cost or disadvantage to yourself. You also have the choice to withdraw from the study at any stage without being disadvantaged in any way.

If you do decide to take part, however, you will be given this information sheet to keep. Any information you provide will be anonymised and kept confidential. Please note that once the data is analysed and the results are generated, your data will no longer be able to be withdrawn from the study.

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. 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. Also, the data obtained will be anonymised. This means that you or your company will not be identified from the information that is produced from the study. The data will be stored in Aston Data Explorer and will be kept in archive for a period of 6 years and will only be accessible by the researcher herself before being destroyed. You will not be asked to take part in any future studies. The research will be published in a relevant academic journal and will not include any identifiable material.

What are the possible benefits of taking part?

Although your participation may not immediately benefit you, it is hoped that the study findings will help benefit you and your organization in the long run. The study findings or outcomes will contribute to the wider knowledge in the field using which the higher authorities may be able to incorporate policies to further improve team working, and team member work experiences, in their organization.

What are the possible risks and burdens of taking part?

There are no specific risks for you taking part, however it may make you feel distressed because of the time commitment. You will be ensured confidentiality, anonymity, and the flexibility to participate in the study.

Burden includes time commitment as you will be invited to attend a 15 minute briefing. If you agree to participate, you will be given a questionnaire which will take 15-20 minutes of your time.

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.

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.

Expenses and payments

There will be no expenses and payments

Who is funding the research?

This research is conducted by a doctoral student from Work and Organizational Psychology department at Aston Business School, United Kingdom

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.

Who has reviewed the study?

This study was given a favorable 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 your 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 Director of Governance, Mr. John Walter, j.g.walter@aston.ac.uk or telephone 0121 204 4869.

Research Team

Munazzah Iqbal (Researcher) Work and Organizational Psychology

Aston Business School
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Work and Organizational Psychology
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Yves Guillaume (Associate Supervisor)
Work, Organization and Management
University of Liverpool
Yves.Guillaume@liverpool.ac.uk

Pawan Budhwar (Associate Supervisor)

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).

Appendix 4: Employee Survey (Study 1)

The Team Diversity and Team Effectiveness Employees' Survey

Section 1: Your Organization

The following are general questions about your current employment.

1.1. What is the name of your organization/company?

1.2. Which department do you work for?

Section 2: Your Team

The following questions, and all subsequent questions regarding your team, ask you to refer to the team that you spend the most time at work in and that you work in to deliver the majority of your roles and responsibilities. We will refer to this as your "Main Team".

2.1. How long have you worked in this team? Years Months

2.2. Including you, how many members are currently in your Main Team? Members

2.3. Who is the manager of your Main Team?

2.4. How long have you been working with your current manager? Years Months

2.5. How many other teams (other than your Main Team) are you a member of? Teams

2.6. The following questions ask you to indicate the extent to which you think the team members of your "Main Team" are **similar or different** in terms of their attitudes and values by check marking each choice appropriately. Please indicate how **similar or different** your team members are to each other with respect to the following:

	Very different		**Moderately different**		**Very similar**
The personal values of the members are…					
The attitude of members about teamwork is…					
The personal traits of the members are…					
The educational background of the members is…					
The work commitment of the members is…					
The work objectives of the members are…					
The work priorities of the members are…					

2.7. Overall, please indicate, **by ticking one box below**, how diverse you think your team is:

Not at all □ Fairly diverse □ Moderately diverse □ Diverse □ Highly diverse □

Section 3: Decision Making in your Team

3.1. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the decision-making procedures used by the team manager/leader to complete team tasks and achieve key outcomes:

	To a small extent	**To some extent**	**To a moderate extent**	**To a large extent**	**To a very large extent**
Has your team been able to express its views and feelings during those procedures?					
Has your team had influence over the outcomes arrived at by those procedures?					
Have those procedures been applied consistently?					
Have those procedures been free of bias?					
Have those procedures been based on accurate information?					
Has your team been able to appeal the outcomes arrived at by those procedures?					
Have those procedures upheld ethical and moral standards?					

3.2. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the behaviour of your team manager/leader:

	To a small extent	**To some extent**	**To a moderate extent**	**To a large extent**	**To a very large extent**
Our team manager/leader has treated us in a polite manner					
Our team manager/leader has treated us with dignity					
Our team manager/leader has treated us with respect					
Our team manager/leader has refrained from any improper remarks or comments					

3.3. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the outcomes (rewards, pay, compensation) received by your team:

	To a small extent	**To some extent**	**To a moderate extent**	**To a large extent**	**To a very large extent**
Our outcomes (rewards, pay, compensation) reflect the efforts we as a team have put into our work?					
Our outcomes (rewards, pay, compensation) as a team are appropriate for the work we have completed?					
Our outcomes (rewards, pay, compensation) as a team reflect what we have contributed to the organization?					
Our outcomes (rewards, pay, compensation) as a team are justified, given our performance?					

Section 4: Team Working in your Main Team

4.1. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the tasks performed by you and your team mates:

In my Main Team…	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Team members unite in trying to reach its goal for performance					
Team members take responsibility for any mistakes made during work					
Team members try to help if any members have problems					
Team members communicate freely about each other's responsibilities					

4.3. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding communication in your Main Team:

In my Main Team…	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Team members openly communicate to ask for suggestions from each other					
Team members openly communicate to listen to other member's complaints					
Team members openly communicate to follow up on each other's opinions					

Section 5: Your Team Manager/Leader

5.1. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the Team Manager/Leader of your "Main Team":

Our Manager/Leader…	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Listens to what employees have to say					
Disciplines employees who violate ethical standards					
Conducts his/her personal life in an ethical manner					
Has the best interests of employees in mind					
Makes fair and balanced decisions					
Can be trusted					
Discusses business ethics or values with employees					

Sets an example of how to do things the right way in terms of ethics					
Defines success not just by results but also the way that they are obtained					
When making decisions, asks “what is the right thing to do?”					

Section 6: Your Team’s Effectiveness

6.1. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the overall Performance of your Main Team:

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
This group performs well at work					
This group is effective in getting things done in time					
In general, this group is effective with respect to work					

Section 7: Background Information About You

Please note that this information **<u>will not</u>** be used to identify you but will allow us to explore potentially interesting differences between collective groups of employees in the organization.

9.1. Please indicate your gender.
Male □ Female □ Other □

9.2. Please indicate your age.
Under 25 years □ 26-35 years □ 36 to 45 years □ 46 to 55 years □ Above 55 years □

9.3. Please indicate your nationality.
Saudi □ Non-Saudi/Expatriate □

9.4. What is your highest level of education?
High school diploma or equivalent □ Bachelor’s degree or equivalent □ Postgraduate degree or equivalent □ Other (Please specify) _____ □

9.5. How much is your estimated monthly income (in Saudi Riyals) from your current job?
Less than 4000 □ 4000 – 6999 □ 7000 – 9999 □ 10000 and above

Appendix 5: Manager Survey (Study 1)

The Team Diversity and Team Effectiveness Team Managers' Survey

Section 1: Your Organization

The following are general questions about your current employment.

1.3. What is the name of your organization/company?

1.4. Which department do you work for?

Section 2: Your Team

The following questions, and all subsequent questions regarding your team, ask you to refer to the team that you manage and spend the most time at work in and that you work in to deliver the majority of your roles and responsibilities. We will refer to this as your "Main Team".

2.1. How long have you worked in this team? Years Months

2.2. How long have you managed this team? Years Months

2.3. Including you, how many members are currently in your Main Team? Members

2.4. How many other teams (other than the main team you manage) are you a member of? Teams

2.5. For each statement below, please indicate, **by ticking one box only**, how similar or different your team members are to each other with respect to the following attitudes and values:

	Very different		**Moderately different**		**Very similar**
The personal values of the members are…					
The attitude of members about team work is…					
The personal traits of the members are…					
The educational background of the members is…					
The work commitment of the members is…					
The work objectives of the members are…					
The work priorities of the members are…					

2.6. Overall, please indicate, **by ticking one box below**, how diverse you think your team is:

Not at all □ Fairly diverse □ Moderately diverse □ Diverse □ Highly diverse □

Section 3: Team Working in your Main Team

3.1. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the tasks performed by you and your team mates:

In my Main Team…	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Team members unite in trying to reach its goal for performance					
Team members take responsibility for any mistakes made during work					
Team members try to help if any members have problems					
Team members communicate freely about each other's responsibilities					

3.3. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding communication in your Main Team:

In my Main Team…	**Strongly disagree**	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
Team members openly communicate to ask for suggestions from each other					
Team members openly communicate to listen to other member's complaints					
Team members openly communicate to follow up on each other's opinions					

Section 4: Your Team's Effectiveness

4.1. Considering your team as a whole, please indicate, **by ticking one box only**, the extent to which you agree or disagree with the following statements regarding the overall Performance of your Main Team:

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
This group performs well at work					
This group is effective in getting things done in time					
In general, this group is effective with respect to work					

Section 5: Background Information About You

Please note that this information **will not** be used to identify you but will allow us to explore potentially interesting differences between collective groups of employees in the organization.

5.1. Please indicate your gender.
Male □ Female □ Other □

5.2. Please indicate your age.
Under 25 years □ 26-35 years □ 36 to 45 years □ 46 to 55 years □ Above 55 years □

5.3. Please indicate your nationality.
Saudi □ Non-Saudi/Expatriate □

5.4. What is your highest level of education?
High school diploma or equivalent □ Bachelor's degree or equivalent □ Postgraduate degree or equivalent □ Other (Please specify) _____ □

Appendix 6: Ethics Approval Study 2

Aston University
BIRMINGHAM UK

Aston University
Birmingham B4 7ET
United Kingdom

+44 (0)121 204 3000
www.aston.ac.uk

28 April 2021

Munazzah Iqbal
Aston Business School

Dear Munazzah,

Study title:	Fairness in diverse teams and team performance
REC REF:	#ABSREC030

Confirmation of Favourable Ethical Opinion

On behalf of the Committee, I am pleased to confirm a favourable opinion for the above research on the basis of the application described in the application form, protocol and supporting documentation listed below.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows.

Document	*Version*	*Date*
Participant Information Sheet	1	21/04/2021
Consent Form	1	21/04/2021
Interview questions	1	21/04/2021

After starting your research please notify the University Research Ethics Committee of any of the following:

- Amendments. Any amendment should be sent as a Word document, with the amendment highlighted or showing tracked changes. The amendment request must be accompanied by a covering letter along with all amended documents, e.g. protocols, participant information sheets, consent forms etc. Please include a version number and amended date to the file name of any amended documentation (e.g. “Ethics Application #100 Protocol v2 amended 17/02/19.doc”).

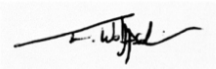
Amendment requests should be outlined in a "Notice of Amendment Form" available by emailing research_governance@aston.ac.uk.

- Unforeseen or adverse events e.g. disclosure of personal data, harm to participants.
- New Investigators
- End of the study

Please email all notifications or queries to research_governance@aston.ac.uk and quote your UREC reference number with all correspondence.

Wishing you every success with your research.

Yours sincerely



Professor James Wolffsohn
Acting Chair, University Research Ethics Committee

Cc: Jonathan Crawshaw, Pawan Budhwar, Yves Guillaume

Aston University
BIRMINGHAM UK

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Birmingham B4 7ET
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7 July 2021

Munazzah Iqbal
Aston Business School

Study title:	Fairness in diverse teams and team performance
REC REF:	#ABSREC030

Confirmation of Ethical Opinion

On behalf of the Committee, I am pleased to confirm a favourable opinion for the amendment to this research as described in the attached email – appendix a.

Documents approved

Document	*Version*	*Date*
Interview questions	2	06/07/2021

With the Committee's best wishes for the success of this project.

Yours sincerely

Professor James Wolffsohn,
Acting Chair, University Research Ethics Committee

Appendix 7: Participant Information Sheet Study 2

Fairness in Diverse Teams and Team Performance
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?

We are interested in understanding how fairness is evaluated by members of teams that are both diverse and similar in their membership attributes. We are also interested in how these fairness perceptions influence the performance of these teams and the work experiences of team members.

Why have I been chosen?

You are invited to participate as you are an active member of a work team in your organisation, and your experiences and opinions of your work team are extremely valuable for this research. You also participated in the first study that suggested valuable findings and your participation will help our study gain further knowledge about fairness in work teams and also provide practical solutions for improving the effectiveness of work teams, and the work experiences of employees, in your organisation.

Because the focus of the study is individuals working in teams, the study intends to involve several teams in the organization that participated in the first study. The study may involve their immediate supervisors/managers as well. Due to the demands of this study, individuals who did **NOT** take part in the first study will be excluded.

What will happen to me if I take part?

You will be given a consent form to sign. Once it is signed, you will be invited for an interview and the interview should take about one hour to complete. The interview will consist of open-ended questions to elicit your experiences, opinions, and stories. You will be invited for the interview only once.

With your consent, the researcher will audio record the interview and take notes. The audio recording will be transcribed or documented by the researcher, or a transcriber approved by Aston University. Your name will be removed, and a code will be assigned to maintain anonymity and confidentiality. Audio recordings will be destroyed after the thesis and a journal article is published.

Do I have to take part?
No. It is up to you to decide whether or not you wish to take part in this study.
Your participation in this study is entirely voluntary and your participation is entirely your decision. If you do decide to take part, you will be given this information sheet to keep. You will be given a consent form to sign. Any information you provide will be anonymised and kept confidential. Therefore, any responses will not be revealed or shared with the authorities or other participants in your organisation. You have the right to withdraw from the study at any given time without any disadvantage

Will my taking part in this study be kept confidential?

Yes, your confidentiality and anonymity will be maintained throughout the study.

As you decide to participate in the study, you are requested to approach the researcher directly to indicate your interest. During the interview, every effort will be made to limit the mention of your name. Therefore, you will be addressed with the title such as Sir or Madam. If your name is mentioned, it will be anonymised with the use of pseudo names to safeguard your identity.

Furthermore, the analysis of your data will be undertaken using coded data. During the transcription, codes or pseudo names will be used to maintain confidentiality. Each team and interviewee will be assigned a code only known to the researcher. This assures that any identifiable information will be anonymised.

The interview will include questions about your perception of fairness, such as line managers treatment of team members. It will also include questions about your perception of similarities and differences in your team regarding personalities, values, and work-related attitudes, your perception of leader's ethicality, and your communication behaviours to understand how engaged teams are in sense-making behaviour.

Your confidentiality will be fully maintained, and any participants responses/answers will not be disclosed or revealed to other participants, team members, managerial authorities, or any organisational authorities.

The data we collect will be stored electronically on a secure encrypted password-protected computer server or secure cloud storage device. Also, the data obtained will be anonymised.

This means that you and your company will not be identified from the information that is produced from the study. The data will be stored in Aston Data Explorer and will be kept in an archive for up to 6 years and will only be accessible by the researcher herself before being destroyed. The research will be published in a relevant academic journal and will not include any identifiable material.

What are the possible benefits of taking part?

Although your participation may not immediately benefit you, it is hoped that the study findings will help benefit you and your organization in the long run. The study findings or outcomes will contribute to the wider knowledge in the field using which the higher authorities may be able to incorporate policies to further improve team working, and team member work experiences, in their organization.

What are the possible risks and burdens of taking part?

There are no specific risks for you taking part in this study. However, one hour of your time will be required for the interview. You can choose not to participate if you do not have time. If you do choose to participate, you will be ensured confidentiality and anonymity. Your responses will not be shared with the organizational authorities, managers, or other individuals in your company. Your interview will be given a code and all efforts will be made not to use any direct names. If the names are used, they will be anonymized by assigned pseudo name. You will have the flexibility to choose the date and time of the interview for your convenience. You will be assured you can withdraw from the study at any time without any disadvantage.

What will happen to the results of the study?
The results of this study may be published in scientific journals and presented at conferences. If the results of the study are published, your identity will remain confidential.

The results will be available to read through the thesis or the journal article if requested by the company or the participating individuals.

Expenses and payments

There will be no expenses and payments as the researcher will make the call to speak to you at a pre-appointed date and time.

Who is funding the research?
This research is conducted by a doctoral student from the Work and Organizational Psychology department at Aston Business School, United Kingdom.

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.

Who has reviewed the study?

This study was given a favorable 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 your 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.

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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).

Appendix 8 Interview Questions for Employees

This exploratory study follows an initial quantitative study testing the relationships between deep level diversity, sensemaking and team justice perceptions. This follow-up - explanatory study – seeks to better explore the 'real world' stories of when, why and how deep level diversity affects the employees' and the managers' perceptions of justice in work teams.

Basic Information

Interviewer Name: Interviewee Gender:

Interviewee Code: Interviewee Age:

The Team

1. Can you describe the main team you are a member of?
2. What is your role in the team?
3. In your opinion, is your team performing well? Could you explain your answer?
4. Do you enjoy being a member of this team? Are you satisfied with your teammates? Could you explain your answer?

Team Diversity

1. Do you think you are a member of a diverse team? Why/Why not?
2. Do you think your team is diverse in terms of differences in personality, attitude, or values? Can you explain?
3. Do you think there are any personality, attitudinal or/and value differences among members in your team? If so, can you give an example of these differences? (Alternative Question)
4. What are the challenges of working in a diverse team? How do you deal with these challenges? Does your organisation provide any support or training to help you to work effectively in a diverse team? Could you describe this support or training? Is it effective? Could it be improved?

Justice/Fairness

1. How are team members rewarded for their efforts and performance?
    a. Do you think team members are rewarded fairly? Why?

b. Is this important? Why/Why not?

2. Is this team as a whole rewarded or recognized? What are these rewards?
   a. Are these team rewards/recognition fair? Why?
   b. Is the fairness of these rewards important? Why/Why Not?
3. Do you think the way team members are recognized and rewarded could be improved? How? Why?
4. Does your line manager treat all team members fairly? Why/Why not? Can you give me an example of when your line manager has treated team members fairly/unfairly? Is this important? Why/ Why not? What were the consequences?
5. Do you think team members treat each other fairly? Why/Why not? Can you give me an example of when team members have treated each other fairly/unfairly? Is this important? Why/ Why not?

Team Sensemaking

1. Do you and your teammates discuss or talk about any fairness issues in your team?
   a. Do you have an example of this? What issues do you discuss?
2. Do you find it easy to talk about fairness issues with your teammates? Why/Why not? Could you give me an example?
3. Do you think your teammates find it easy to talk about fairness issues with you? Why/Why not? Could you give me an example?
4. If you felt you were treated unfairly, would you discuss this with your teammates? Why/Why not? Could you give me an example?
5. If your teammates felt they were treated unfairly, do you think they would discuss this with you? Why/Why not? Could you give me an example?
6. How do you think you could improve communications about fairness in your team? Do you think your line manager has role in this? Why/Why not?
7. Do you think your teammates agree regarding your fair treatment? Could you explain your answer?
8. Do you and your teammates discuss work-related issues?
   a. Do you have an example of this? What issues do you discuss?
9. Do you find it easy to talk about work-related issues with your teammates?
   a. Why/Why not? Could you give me an example?

Impact of Covid-19

1. Do you think pandemic has affected the organization? How? Could you give me an example?
2. Do you think pandemic has affected your teamwork? Or your team in general? How? Could you give me an example?
3. Do you think there has been any restructuring in the company ownership or policies? Can you explain?
4. Do you think the business closure during the pandemic has affected how your team operates? Could you give me an example?
5. Do you think pandemic instigated an impact on how fairness is perceived in your team? Why/Why not?

Appendix 9 Interview Questions for Manager

This exploratory study follows an initial quantitative study testing the relationships between deep level diversity, sensemaking and team justice perceptions. This follow- up - explanatory study – seeks to better explore the 'real world' stories of when, why and how deep level diversity affects the employees' and the managers' perceptions of justice in work teams.

Basic Information

Interviewer Name: Interviewee Gender:

Interviewee Code: Interviewee Age:

The Team

1. Can you describe the main team you are a member of?
2. In your opinion, is your team performing well? Could you explain your answer?
3. Do you enjoy being a member of this team? Are you satisfied with your teammates? Could you explain your answer?

Team Diversity

1. Do you think you are a member of a diverse team? Why/Why not?
2. Do you think your team is diverse in terms of differences in personality, attitude, or values? Can you explain?
3. Do you think there are any personality, attitudinal or/and value differences among members in your team? If so, can you give an example of these differences? (Alternative Question)
4. Does your organisation provide any support or training to help you to manage effectively, a diverse team? Could you describe this support or training? Is it effective? Could it be improved?
5. Does your organisation provide any support or training to help you to understand diversity at work? (Alternative Question)

Justice/Fairness

1. How are team members rewarded for their efforts and performance?
    a. How do you ensure team members are rewarded fairly?
2. Is this team as a whole rewarded or recognized? What are these rewards?
    a. How do you ensure team rewards/recognition are fair?
3. Do you think the way team members are recognized and rewarded could be improved? How? Why?

4. Do you think team members treat each other fairly? Why/Why not? Can you give me an example of when team members have treated each other fairly/unfairly? Is this important? Why/ Why not?

Impact of Covid-19

1. Do you think pandemic has affected the organization? How? Could you give me an example?
2. Do you think pandemic has affected your team in general? How? Could you give me an example?
3. Do you think there has been any restructuring in the company ownership or policies? Can you explain?
4. Do you think the business closure during the pandemic has affected how your team operates? Could you give me an example?
5. Do you think pandemic instigated an impact on how fairness is perceived in your team? Why/Why not?

Appendix 10 Comparison of Demographics Between Two Companies

Comparison of demographics between Company X and Company Y				
Variables	**Company X**		**Company Y**	
	Frequency	**Percentage**	**Frequency**	**Percentage**
Gender				
Male	216	97.7	25	89.3
Female	5	2.3	3	10.7
Age				
under 25 years	45	20.4	5	17.9
26-35 years	136	61.5	18	64.3
36-45 years	33	14.9	3	10.7
46-55 years	5	2.3	2	7.1
Above 55 years	2	0.9	0	0
Income				
Less than 4000	119	53.8	14	50
4000-6999	27	12.2	3	10.7
7000-9999	8	3.6	5	17.9
10,000 and above	9	4.1	0	0
Education				
High school diploma or equivalent qualification	95	43	16	57.1
Bachelor's degree or equivalent	97	43.9	8	28.6
Graduate school degree or equivalent (Master, Doctorate	20	9	3	10.7
Other	6	2.7	1	3.6
Nationality				
Saudi	12	4.8		
Non-Saudi	209	83.9		
Emirati			0	0
Non-Emirati			28	11.2

Appendix 11 Overview of the Justice Climate Level findings from Study 1

Hypothesised Relationships	***Supported / Not Supported***
H1 Team member's perceptions of deep-level diversity are negatively related to team communication openness.	Supported
H2(a) Team communication openness is posively related to team members perceptions of procedural justice climate level.	Supported
H2(b) Team communication openness is posively related to team members perceptions of interactional justice climate level.	Supported
H2(c) Team communication openness is posively related to team members perceptions of distributive justice climate level.	Supported
H3 (a) Team members perception of deep-level diversity are negatively related to their perception of procedural justcie climate level.	Supported
H3 (b) Team members perception of deep-level diversity are negatively related to their perception of interactional justcie climate level.	Supported
H3 (c) Team members perception of deep-level diversity are negatively related to their perception of distributive justcie climate level.	Supported
H4 (a) Team communication openness mediates the negative relationship between perceived team deep-level diversity and team perceptions of procedural justice climate level.	Supported
H4 (b) Team communication openness mediates the negative relationship between perceived team deep-level diversity and team perceptions of interactional justice climate level.	Supported

H4 (c) Team communication openness mediates the negative relationship between perceived team deep-level diversity and team perceptions of distributive justice climate level.	Not Supported
H5 (a) Team members' perceptions of procedural justice climate level are positively related to team cohesion.	Not Supported
H5 (b) Team members' perceptions of interactional justice climate level are positively related to team cohesion.	Supported
H5 (c) Team members' perceptions of distributive justice climate level are positively related to team cohesion.	Not Supported
H6(a) Team members' perceptions of procedural justice climate level are positively related to team performance.	Not Supported
H6(b) Team members' perceptions of interactional justice climate level are positively related to team performance.	Not Supported
H6(c) Team members' perceptions of distributive justice climate level are positively related to team performance.	Not Supported
H7 (a) Team members' perceptions of procedural justice climate level mediates the positive relationship between team communication openness and team cohesion.	Not Supported
H7 (b) Team members' perceptions of interactional justice climate level mediates the positive relationship between team communication openness and team cohesion.	Supported
H7 (c) Team members' perceptions of distributive justice climate level mediates the positive relationship between team communication openness and team cohesion.	Not Supported
H8(a) Team members's perceptions of procedural justice climate mediates the positive relationship between team communication openness and team performance.	Not Supported

H8(b) Team members's perceptions of interactional justice climate mediates the positive relationship between team communication openness and team performance.	Not Supported
H8(c) Team members's perceptions of distributive justice climate mediates the positive relationship between team communication openness and team performance.	Not Supported
H9 (a) The positive effect of team communication openness on team cohesion via procedural justice climate is stronger when perceptions of ethical leadership are low compared to high.	Not Supported
H9 (b) The positive effect of team communication openness on team cohesion via interactional justice climate is stronger when perceptions of ethical leadership are low compared to high.	Supported
H9 (c) The positive effect of team communication openness on team cohesion via distributive justice climate is stronger when perceptions of ethical leadership are low compared to high.	Not Supported
H10 (a) The positive effect of communication openness on team performance via procedural justice climate is stronger when perceptions of ethical leadership are high.	Not Supported
H10 (b) The positive effect of communication openness on team performance via interactional justice climate is stronger when perceptions of ethical leadership are high.	Partial Support
H10 (c) The positive effect of communication openness on team performance via distributive justice climate is stronger when perceptions of ethical leadership are high.	Not Supported

Appendix 12 Justice Climate Strength Findings

Perceived deep-level diversity, team communication openness and team perceptions of justice climates at climate strength

Roberson (2006a) and Roberson and Stevens (2006) conducted studies to understand the emergence of justice climate strength in teams. Building on Social Information Processing theory, Roberson (2006a), in the study, examined sensemaking activation by arguing that employees share their perceptions and opinions about organisational or work-related events that serve as a source of social influence. They further argued that the ambiguity about the decisions (procedural justice) remains where employees do not have the authority to formulate and implement the policies and procedures. Therefore, they remain uncertain about why or how certain decisions were made. In the experimental study, the findings suggested that teams that experienced unfavourable outcomes and fair procedural treatment were likely to be involved in discussion compared to other teams in different situations—consequently, the teams experiencing unfair outcomes engaged in lengthy discussions. This suggests that greater engagement in communication in teams can lead to a better understanding of the perceptions of justice climates, such as distributive and procedural, as explained by Roberson (2006a). In these studies, communication and discussion between peers have been highlighted as sensemaking behaviours. To understand any events at work, employees tend to share their perceptions, opinions and explanations of situations with their team members, which serves as a source of social influence (Meyer, 1994). Although not explored, it is important to note that similar effects can account for higher interactional justice climate perceptions. Research on interactional justice climate argues that respectful treatment

offers team members a view of the value ascribed to them in their teams (Ünal et al., 2017). With higher levels of open communication about how they are treated in their team, team members can understand why such treatment occurred, which can enhance their perceptions of the interactional justice climate.

Furthermore, the links between deep-level diversity and perceptions of justice climate strength has been explained from Social information processing theory which emphasises that past experiences and events of social context shape employee perceptions. In a team where team members' joint efforts are valued, George and Chattopadhyay (2002) stated that the team member's attributes serve as an aspect of social influence, shaping perceptions, behaviours and attitudes. This is based on Salancik and Pfeffer's (1978) view that "people evaluate information sources in terms of personal relevance, using similar others for comparisons" (Salancik & Pfeffer, 1978, p. 228). From a justice perspective, the influence is because the team members may experience the same stimuli (supervisory justice) but may collectively perceive it because of their felt or seen differences (Martínez-Tur & Moliner, 2017; Naumann & Bennett, 2000). Naumann and Bennett (2000) suggested that members of the same team are exposed to the same supervisor, which forms the basis of their shared perceptions of justice (Roberson & Williamson, 2010). In this vein, Colquitt et al. (2002) argued that psychological distance resulting from diversity lead to weaker bond strength and, therefore, team members evaluate, perceive and interpret their environment differently. In their study, diversity was negatively related to procedural justice climate strength.

Similarly, Naumann and Bennett (2000) also explored the effects of diversity on procedural justice climate strength. However, they found no support for the arguments on justice climate strength. Although these results have been established on the salience of observable characteristics, Roberson and Williamson (2010) furthered this research on deep-level diversity and argued that less observable characteristics tend to facilitate variability in the member's perceptions of procedural and interactional justice climate. They found that higher deep-level diversity was related to negative convergence in members' perceptions of procedural and interactional justice. They reasoned that it is because of variability in the attachment of individuals that leads to team members holding more variable perceptions of interpersonal treatment experienced and fairness of procedures used by the supervisor. Based on the above findings, it can be presumed that higher deep-level diversity would lead to variability in the perceptions of justice climates.

The findings suggest insignificant relationship between team communication openness and team perceptions of procedural, interactional, and distributive justice climate strength. Furthermore, no relationship was found between deep-level diversity and the perceptions of justice climate strengths as shown in table 14

Table 24 Effects of team communication openness on team perceptions of justice climate strength

	Procedural Justice Climate strength				Interactional Justice Climate strength				Distributive Justice Climate strength			
	B	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**	**B**	**SE**	**t**	**p**
Constant	-.8677	.4684	-1.8526	0.0696	-.3493	.3562	-.9808	.3312	-.1885	.5008	-.3763	.7082
Indirect Effect												
Team Communication Openness	.0838	.0710	1.1811	0.2429	.0764	.0540	1.4156	.1629	.0518	.0759	.6822	.4981
Controls												
Age	.0960	.1736	.5531	.5826	.1913	.1320	1.4488	.1534	-.0801	.1856	-.4315	.6679
Team Size	.0276	.0370	.7456	.4593	-.0233	.0281	-.8303	.4102	-.0295	.0395	-.7464	.4588
Team Tenure	-.0025	.0096	-.2640	.7928	.0032	.0073	.4372	.6638	.0071	.0103	.6944	.4905

Direct Effect of IV	**Effect**	**SE**	**t**	**p**	**Effect**	**SE**	**t**	**p**	**Effect**	**SE**	**t**	**p**
Perceived Deep-level diversity	-.0028	.0656	-.0422	.9665	-.0362	.0499	-.7257	.4713	-.0342	.0701	-.4874	.6281

Note: N = 58.

Team perceived deep-level diversity and team perceptions of justice climates at climate strength

Another perspective of the emergence of justice perceptions has been argued from social information processing theory. For instance, Degoey (2000) argued that diversity (demographic or personality) might influence individuals' sensitivity to social cues and, consequently contagion in their perceptions of fairness. Similarly, Roberson and Colquitt (2005) argued in their proposed network model that diversity, relationships with supervisors, and dispersion might result in reduced social interaction between members, thus affecting the development of shared justice in the team. Although some support was provided on the effects of diversity on justice perceptions, the scholars found adverse effects of actual deep-level diversity on justice perceptions (Powers, Stech, & Burns, 2010; Roberson, 2006a, p. 178; Rutledge, 2009, p.20). The findings on the effects of diversity (collectivism) suggest that higher heterogeneous teams reported a weaker justice climate (Colquitt et al., 2002). Two ambitious studies by Roberson (2006a, 2006b) examined team interaction (in a laboratory setting among graduate students) employing group discussion to examine whether members agree and disagree on their perceptions of justice. It specifically argued that injustice initiated towards a team would trigger discussion activities. Members with strong network ties will discuss their perceptions, interpretations, and opinions to understand these events and vice versa. The distinction here is that it is still not understood what leads to the emergence of justice climate perceptions in a real work setting. It is, therefore, presumed that in a real work setting, members working in a team are more disposed to continuous justice cues.

Again, building on social information processing theory, it is argued that greater perceived deep-level diversity will lead to lower communication engagement, consequently affecting the perceptions of justice climates. Social information processing theory argues that co-workers are an important source of influence (Chen, Takeuchi, & Shum, 2013). They influence others by providing social cues, including the influence through team communication (Zalesny & Ford, 1990). Rupp and Paddock (2010) stated that this information gathering from communication enables team members to form judgments about not only organizational or team norms, values and practices but also the discussion of experiences and experiences related to fairness can magnify fairness judgments in teams. Thus, team members are presented with sufficient opportunities to share information via open communication within team-based structures. However, this is more likely in teams composed of similar others (ibid.). Thus, surrounded by dissimilar others, individuals are less likely to communicate to share information, which may diversify their views of justice judgments, reducing their agreement. In simple words, it is argued that highly diverse teams are less likely to engage in open communication generally, as Martínez-Tur and Moliner (2017) suggests – never mind their reactions to justice.

The findings, again, suggest insignificant mediation relationship of team communication openness between perceived deep-level diversity and team perceptions of procedural, interactional, and distributive justice climate strength. The findings are shown in table 15

Table 25 Mediating effects of team communication openness on the relationship between perceived deep-level diversity and team perceptions of justice climate Strength

Mediation Effects	Team Communication Openness			
	Effect	**SE**	**LLCI**	**ULCI**
Perceived deep-level diversity → Procedural Justice Climate Strength	-.0309	.0320	-0.0901	0.0364
Perceived deep-level diversity → Interactional Justice Climate Strength	-.0282	.0289	-0.0884	0.0257
Perceived deep-level diversity → Distributive Justice Climate Strength	-0.0191	.0239	-0.0659	0.0309

Note: N = 58. Bootstrap sample size 5000