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How leader emotional labor is associated with creativity:

A self-determination theory perspective

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Abstract

Emotional labor is an important but overlooked leadership function. In the present research, we draw from the self-determination theory perspective and take a leader-centric approach to examine how different leader emotional labor strategies affect leaders' own

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creativity. Using data collected from 118 leaders and 352 team members at three time points, we found that leader surface acting harmed leader creativity by reducing fulfillment of leader autonomy, while leader deep acting boosted leader creativity by increasing fulfillment of leader autonomy. Neither did leader surface acting nor deep acting influence leader creativity through competence or relatedness fulfillment. We discuss the theoretical and practical implications of the present research.

Keywords

Emotional labor, leadership, surface acting, deep acting, self-determination theory, creativity
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1. Introduction

Emotional labor refers to “the act of displaying the appropriate emotion (i.e., conforming with a display rule)” (Ashforth & Humphrey, 1993, p. 90). Emotional labor has been studied primarily among employees (e.g., Grandey, 2000; Groth et al., 2009). However, leaders also perform emotional labor; in fact, Humphrey et al. (2008) argue that “emotional labor is an important and overlooked function performed by effective leaders” (p. 152). Research on leader emotional labor has started to gain momentum in the past decade; as an indication of its increasing popularity, books such as *Leadership as Emotional Labour: Management and the “Managed Heart”* edited by Iszatt-White (2012) started to emerge. Compared to employees, leaders have to use various types of emotional labor because managing employees requires considerably more judgment in choosing the most effective type of emotional labor in different situations (Humphrey et al., 2008). Humphrey (2012) provided an example that illustrates how leaders use emotional labor: “... a leader worried about various managerial issues may use emotional labor tactics to display a confident, optimistic face to employees and thereby spare them from having to worry about the issues”

(p. 742). It is of great interest to leadership researchers to explore whether findings on *employee* emotional labor would similarly apply to *leaders*, which will add to new understanding on how emotional labor can advance effective leadership in the workplace.

Much research has been conducted to examine how leaders' emotional labor is associated with outcomes for followers (e.g., Ashkanasy & Humphrey, 2011; Humphrey, 2008). For example, Gardner et al. (2009) theorized that leader emotional labor can impact follower trust in leader by changing the favorability of follower impression and follower perceived authenticity of leader. Epitropaki (2006), Humphrey (2005), and Humphrey et al. (2008) proposed and found that followers perceive leaders who use emotional labor as more transformational. Although these studies have provided important insights into the impact of leaders' emotional labor on followers, it is also equally important to examine how leaders' emotional labor is associated with outcomes on the part of leaders themselves. This is because what might be beneficial for followers can be harmful for leaders, and vice versa. Therefore, any implications or recommendations on leaders' use of emotional labor could be incomplete and inaccurate if they are solely based on research findings of how leader emotional labor impacts followers without looking into the impact on leaders themselves.

Unfortunately, only a very small number of studies have investigated how leader emotional labor is related to outcomes on the part of leaders themselves, predominantly on leader well-being (Gardner et al., 2009; Humphrey et al., 2008). Examining a broader range of leader outcomes is important to provide an enhanced understanding of the various effects of leader emotional labor and supplement the existing research focusing on employee outcomes. In this study, we examine leader creativity as an additional outcome of leader emotional labor (Deci et al., 2017). We chose to examine leader creativity as an outcome for three reasons. First, creativity is critical because it drives progress and helps organizations maintain their competitive advantage (Zhou & Shalley, 2003). Second and more importantly,

leaders are in a position to significantly influence their followers; thus, creative leaders can serve as role models to motivate their followers to engage in creative activities (James et al., 1999; Koseoglu et al., 2017). As Amabile and Pratt (2016) contend, “if managers are sufficiently creative themselves . . . individuals will be likely to develop their own creativity-relevant processes” (p. 166). Finally, although leader emotional labor has consequences for psychological outcomes such as leader well-being (Gardner et al., 2009; Humphrey et al., 2008), leaders’ emotional labor may also be related to their task-related outcomes such as creativity. This is because the use of emotional labor can shape the fulfillment of leaders’ basic psychological needs that are related to creativity. Therefore, it is critical to examine the relationships between leader emotional labor and leader creativity.

Drawing from a basic self-determination theory (SDT) model in the workplace (Deci et al., 2017) as an overarching framework, we suggest that leader emotional labor is associated with leader creativity (Amabile, 1996) through needs fulfillment. The basic SDT model in the workplace proposed by Deci et al. (2017) includes “core elements of SDT as applied to the work domain, depicting the general SDT model of work motivation” (p. 23). It posits that workplace contexts and individual differences influence a range of work outcomes through the fulfillment of three basic psychological needs: autonomy (i.e., violation or self-organize), competence (i.e., attain valued outcomes by influencing the environment), and relatedness (i.e., connected to other people; Deci & Ryan, 2000). SDT can contribute to the leader emotional labor research because the use of emotional labor is closely related to leaders’ needs fulfillment which in turn predicts other important leader outcomes such as creativity. The introduction of this new perspective goes beyond those perspectives that have been examined in the existing literature such as conservation of resources (Brotheridge & Lee, 2002), thereby offering new insights into how leaders’ use of emotional labor is related to outcomes on the part of leaders.

We make three contributions to the literature. First, by taking an SDT perspective, we add an important mechanism for how emotional labor relates to work outcomes. In contrast with research that has focused on emotional labor with respect to resource gain or loss (e.g., Hülshager & Schewe, 2011; Yam et al., 2015), our study provides an alternative understanding of emotional labor based on psychological needs fulfillment. Moreover, we go beyond previous studies that have not distinguished between the basic psychological needs in explaining the outcomes of leader behaviors (e.g., Lanaj et al., 2016) to provide further insights into the mediating effects of needs fulfillment. Second, our research contributes to the literature on emotional labor using a leader-centric perspective, which is critical to leadership development (Edelman & van Knippenberg, 2017; Qin et al., 2018). Complementing previous research on how leader emotional labor is associated with *followers'* work outcomes (e.g., Fisk & Friesen, 2012; Wang & Seibert, 2015), we provide additional insights by demonstrating the association of leaders' emotional labor with *leader* outcomes. Finally, the present research is the first we are aware of that has provided evidence for the association between leader emotional labor and leader creativity, thereby advancing the literature on creative leadership which focuses on how to be creative leaders (Sternberg et al., 2003).

2. A self-determination theory perspective

Two strategies for performing emotional labor have been widely studied. The first is surface acting, which refers to simulating emotions that are appropriate for the situation, while the second is deep acting, which refers to the attempt to actually experience emotions that are appropriate to the situation (Grandey, 2000). Previous research has examined the influence of emotional labor on a range of outcomes (for a review, see Grandey & Gabriel, 2015). However, these outcomes are predominantly focused on followers (e.g., Ashkanasy & Humphrey, 2011; Humphrey, 2008). What is largely missing from the literature is whether

and how different leader emotional labor strategies are related to outcomes on the part of leaders themselves. A limited number of studies examined the impact of leader emotional labor on leaders' well-being, mainly drawing from perspectives such as conservation of resources (Brotheridge & Lee, 2002). As one of the most important psychological theories (Deci et al., 2017), a SDT perspective has not drawn scholars' attention when explaining how emotional labor influences leader outcome. SDT can contribute to the leader emotional labor research because the use of emotional labor is closely associated with leaders' needs fulfillment which in turn predicts other important leader outcomes such as creativity.

SDT posits that there are three universal and evolved human psychological needs: autonomy, competence, and relatedness (Deci et al., 2017). The need for autonomy refers to the need to have individual freedom to make decisions and to feel responsible for one's own behavior; the need for competence refers to the need to feel in control or mastery over one's social environment and outcomes; the need for relatedness refers to the need to feel a sense of belonging and connection to others (Deci & Ryan, 2002). The fulfillment or frustration of these needs is "predictive of an array of positive and negative functional and wellness outcomes" (Ryan & Deci, 2017, p. 85). More specifically, according to the basic SDT model in the workplace (Deci et al., 2017), fulfillment of the three basic psychological needs (mediators) can account for how various workplace contexts and individual differences (independent variables) affect work behaviors and health (dependent variables). In the present research, we use this model as an overarching framework and examine how the fulfillment of the three psychological needs explains the relationships between leader emotional labor strategies and leader creativity.

Some previous studies have used an SDT perspective to examine leadership processes but have not distinguished between the various psychological needs in their theoretical models. For example, Lanaj et al. (2016) hypothesized that fulfillment of the three basic

needs would mediate the enactment of transformational leadership behaviors and affect in similar ways, thus used needs fulfillment as a single overall construct. In contrast, in the present research, instead of seeing the three needs fulfillment as a single construct, we see them as separate constructs. This is because, the three needs are conceptually different from each other, and existing literature has provided some evidence that these different needs fulfillment may predict different outcomes (Deci et al., 2017). For example, Chiniara and Bentein (2016) found that competence fulfillment mediated servant leadership's effects on employees' task performance whereas relatedness fulfillment mediated servant leadership's effects on employees' organizational citizenship behavior.

In the present study, drawing on a basic SDT model in the workplace (Deci et al., 2017), we argue that leader emotional labor has important implications for leaders' autonomy, competence, and relatedness fulfillment, in turn influencing their own creativity. Specifically, as demonstrated in Fig. 1, we suggest that leader surface acting decreases leader creativity through reduced fulfillment of needs for autonomy, competence, and relatedness, whereas leader deep acting enhances leader creativity through increased fulfillment of the three needs. We suggest that each of these three needs fulfillment function as a unique mechanism above and beyond the other two to account for the relationships between leader emotional labor and leader creativity. This is because, theoretically, the three needs tap into different aspects of human basic needs, with competence need focusing on effectance and mastery, relatedness need focusing on the social connection and belongingness, and autonomy need focusing on free choice (Deci et al., 2017; Van den Broeck et al., 2016). Empirically, studies have found that each of the three basic needs satisfaction predicted independent variance in outcomes such as wellbeing (Reis et al., 2000; Van den Broeck et al., 2016).

INSERT FIGURE 1 ABOUT HERE

2.1. Leader emotional labor and needs fulfilment

According to Grandey and Gabriel (2015), a component of emotional labor is emotional requirements, which are job-based requirements for emotional displays with others. These emotional requirements or demands may have important implication for the extent to which individuals in organizations can satisfy their basic psychological needs. For example, Van den Broeck et al. (2016) found that emotional demands were negatively related to satisfaction of needs for autonomy and competence. More importantly, because of emotional demands in their jobs, individuals in organizations, including leaders, need to modify their feelings or expressions by engaging in emotional labor (Grandey & Gabriel, 2015). The emotional labor strategies used to respond to job-based emotional demands are likely to have further impact on the fulfilment of basic psychological needs. In the following sections, we elaborate on how leaders' emotional labor strategies, including surface acting and deep acting, influence their needs fulfilment.

Autonomy fulfillment. To meet emotional requirements in their jobs, leaders need to make efforts to engage in emotional regulation to modify their feelings or expressions (Humphrey, 2012). By definition, surface acting means that leaders comply with display rules to express appropriate emotions in the workplace, even if they do not feel that way (Humphrey et al., 2008). When leaders perform a high level of surface acting, they must constantly conform to external requirements for expressing situationally appropriate emotions. This means that instead of freely expressing genuine emotions, leaders must suppress their true feelings and express emotions as dictated by display rules (Ashforth & Humphrey, 1993). The more leaders suppress their true feelings or simulate emotions, the more likely they will feel not in control of their own actions (i.e., low autonomy fulfillment).

Unlike surface acting, which is used to modify one's emotional expressions after emotions are felt, deep acting is used to change one's cognition to modify one's feelings (Grandey, 2000). Thus, deep acting involves a process of attempting to bring feelings in line with emotional requirements in organizations. Leaders who perform deep acting change their cognitive appraisal of a situation to experience the emotions dictated by organizational norms rather than feeling compelled to suppress their genuine emotions (Humphrey, 2012). This means that instead of losing control over expressing their true emotions, leaders who engage in deep acting are able to express the emotions they genuinely experience as a result of their cognitive reappraisal (Grandey & Gabriel, 2015). Thus, these leaders likely feel that they are autonomous in displaying their true emotions (i.e., high autonomy fulfillment).

Hypothesis 1. *Leaders' surface acting is negatively related to autonomy fulfillment (H1a) and leaders' deep acting is positively related to autonomy fulfillment (H1b).*

Competence fulfillment. In the existing literature, surface acting has been demonstrated to be a less effective strategy, whereas deep acting is viewed as a more effective strategy, to express the required emotions. For example, Grandey (2003) found that the impact of surface acting by service workers on co-worker ratings of affective delivery was negative while the impact of deep acting was positive. More importantly, Gardner et al. (2009) argued that leader surface (deep) acting is negatively (positively) related to the favorability of follower impressions and follower perceptions of leader authenticity. Because of the differences in the effectiveness of displaying required emotions between surface and deep acting, leaders who engage in surface acting likely find it more challenging in conforming with the display rules, thereby having a low level of competence fulfillment; by contrast, those leaders who engage in deep acting likely find it easy in conforming with the display rules, thereby having a high level of competence fulfillment. Hence, we expect that leader surface (deep) acting is negatively (positively) related to competence fulfillment.

Hypothesis 2. *Leaders' surface acting is negatively related to competence fulfillment (H2a) and leaders' deep acting is positively related to competence fulfillment (H2b).*

Relatedness fulfillment. Leader emotional labor may also be associated with relatedness fulfillment. Because leader surface acting may lead to low favorability of follower impressions and low follower perceptions of leader authenticity (Gardner et al., 2009), those leaders who engage in surface acting may not be able to build positive connections with their colleagues and followers. Hence, these leaders are unlikely to feel a sense of connection to other people in the workplace, resulting in low levels of relatedness fulfillment. By contrast, because leader deep acting could improve favorability of follower impressions and follower perceptions of leader authenticity (Gardner et al., 2009), those leaders who engage in deep acting will be able to make positive connections with their colleagues and followers (Humphrey, 2012), leading to high levels of relatedness fulfillment. Hence, we expect that leader surface (deep) acting is negatively (positively) associated with relatedness fulfillment.

Hypothesis 3. *Leaders' surface acting is negatively related to relatedness fulfillment (H3a) and leaders' deep acting is positively related to relatedness fulfillment (H3b).*

2.2. Needs fulfillment and leader creativity

Creativity refers to “the cognitive and behavioral processes applied when attempting to generate novel ideas” (Hughes et al., 2018, p. 551). Generating novel ideas requires going beyond the conventional ways of thinking and doing things; therefore, it is challenging to engage in creativity-related processes. However, we suggest that leaders' autonomy, competence, and relatedness fulfillment can facilitate leaders' creativity. First, need for autonomy refers to the need for being the author and agent of one's behavior; that is, having the freedom to make decisions about and feel responsible for one's behavior (Deci & Ryan, 1985). When the need for autonomy is fulfilled, this sense of being an origin, freedom, and

responsibility (Hackman & Oldham, 1975) can motivate leaders to go beyond conventions and proactively engage in creativity such as idea generation (Amabile & Pratt, 2016).

Therefore, leader autonomy fulfillment is predicted to be associated with creativity.

Second, need for competence refers to “the need to feel a sense of mastery over the environment and to develop new skills” (Van den Broeck et al., 2016, p. 1198). When leaders’ need for competence is fulfilled, they feel that they are capable of performing their jobs and overcoming challenges associated with new ways of thinking and doing things. This sense of being competent will enable and motivate leaders to engage in creativity-related processes. In particular, among different types of competence, emotional competence is relevant in the context of the relationship between emotional labor and creativity (Grandey & Gabriel, 2015). This is because emotional labor requires leaders to be competent in bringing their emotional expressions in alignment with emotion requirements in organizations.

Therefore, when the need for competence is fulfilled as a result of emotional labor, it indicates that leaders feel emotionally competent which has been demonstrated to be associated with creativity (e.g., Sung et al., 2020). Hence, leader competence fulfillment is predicted to be associated with creativity.

Finally, need for relatedness refers to the need to feel “connected and involved with others and having a sense of belonging” (Ryan & Deci, 2017, p. 87). Thus, when leaders’ need for relatedness is fulfilled, they are likely to have good relationships with other colleagues and followers in the workplace. These good relationships are helpful for creativity because leaders can build on different ideas, perspectives and skills of other people who are willing to share with the leaders (Volmer et al., 2012). In addition, leaders who have high levels of relatedness fulfillment will also be able to have support from other colleagues and followers in addressing challenges associated with creativity processes (Erdogan & Bauer, 2014). Thus, leader relatedness fulfillment is predicted to be associated with creativity.

In summary, we suggest leaders' fulfillment of needs for autonomy, competence and relatedness are all associated with leader creativity. Indeed, a meta-analytic review has revealed that in general the three needs fulfillment are associated with creative performance (Van den Broeck et al., 2016). Thus, we hypothesize:

Hypothesis 4. *Autonomy (H4a), competence (H4b), and relatedness (H4c) fulfillment are positively related to leaders' creativity.*

2.3. Emotional labor and leader creativity

Combining H1-H3 with H4, we expect a negative indirect effect of leader surface acting on leader creativity through autonomy, competence, and relatedness fulfillment. That is, the more leaders perform surface acting, the lower their autonomy, competence, and relatedness fulfillment, thus the less creative they will be. We further expect a positive indirect effect of leader deep acting on leader creativity through autonomy, competence, and relatedness fulfillment. That is, the more leaders perform deep acting, the higher their autonomy, competence, and relatedness fulfillment, and thus the more creative they will be. Therefore, we hypothesize:

Hypothesis 5. *Leaders' surface acting has negative indirect effects on their creativity through autonomy (H5a), competence (H5b), and relatedness (H5c) fulfillment.*

Hypothesis 6. *Leaders' deep acting has positive indirect effects on their creativity through autonomy (H6a), competence (H6b), and relatedness (H6c) fulfillment.*

3. Method

3.1. Participants and procedures

We collected multi-time and multi-source data from 118 work teams in Chinese organizations. Supervisors and subordinates in our sample were full-time employees from various organizations in the service industries such as banks, restaurants, hair salons, consultation companies, universities, and training companies. Because our theoretical model

is context-free, having participants from a variety of organizations allows us to test our hypotheses in a way that is not restricted by a specific context. This is consistent with other research (e.g., Yam et al., 2016) in which data were collected from a variety of organizations. One author of the present study contacted Human Resource (HR) managers in these companies and informed research purposes. In this research, participation is voluntary, and all participants were assured of confidentiality. After obtaining permission from HR managers, the author and their research assistants took paper-based questionnaires to HR managers, who then distributed questionnaires to participating supervisors and subordinates. We used a coding scheme to match supervisor-subordinate data. All completed questionnaires were sealed in envelopes and returned to the author and their research assistants.

At Time 1, we approached 150 team leaders and asked them to report their surface acting and deep acting along with their demographic information. At Time 2 (approximately 4 weeks after Time 1), team leaders were asked to report levels of fulfillment of their basic psychological needs. At Time 3 (approximately 4 weeks after Time 2), we collected data on leader creativity as rated by team members. After matching team leader and member surveys across the three time points, we obtained a final sample of 118 teams, including 118 leaders (response rate = 79%) and 352 team members (response rate = 78%). Among the leaders, the average age was 37.59 years ($SD = 8.65$) and 45% were women. Their average job tenure was 9.5 years ($S.D. = 8.40$). 29.7% of leaders completed high school, 53.4% held a bachelor's degree, and 11% held a postgraduate degree.

3.2. Measures

We used Likert scales for all measures (1 = *strongly disagree*; 5 = *strongly agree*). All items were originally developed in English and translated into Chinese. The translation process followed the back-translation procedure recommended by Brislin (1986). We asked

two Chinese native speakers who were also English language teachers to translate English scales to Chinese. Then we had a third bilingual researcher back translate scales to ensure the conceptual equivalence.

Surface and deep acting (Time 1, leader self-report). We measured surface acting and deep acting based on Scott and Barnes's (2011) scales, which was originally developed by Grandey (2003). We used a 5-item scale to measure leader surface acting ($\alpha = 0.88$). A sample item was, "I put on a 'mask' in order to display the emotions I need for the job." A 3-item scale from Grandey (2003) was used to measure leader deep acting ($\alpha = 0.70$). A sample item was, "I make an effort to actually feel the emotions that I need to display toward others."

Needs fulfillment (Time 2, leader self-report). Needs fulfillment was measured using a 9-item scale from La Guardia et al. (2000). One sample item for autonomy fulfillment was, "In my organization, I feel free to be who I am". One sample item for competence fulfillment was, "I often feel competent". And one sample item for relatedness fulfillment was, "When I am in the organization, I often feel I have a close relationship with others". Cronbach's alphas for the three subscales were 0.81, 0.73, and 0.67, respectively. The relatedness fulfillment scale did not meet the reliability threshold of 0.70. Following Ferris et al.'s (2015) approach to improve reliability, we removed one item with the lowest inter-item correlations and corrected item-total correlations for relatedness fulfillment. The remaining two items were highly correlated ($r = .54, p < .001$).

Creativity (Time 3, subordinate report). Team members rated their leaders' creativity using Baer and Oldham's (2006) 4-item scale ($\alpha = 0.96$). We used team members' report rather than self-report to avoid distorted ratings because of self-presentation tendency (Leary, 2019). In addition, creativity is considered observable (Huang et al., 2016; Taggar, 2002). A sample item was, "My supervisor comes up with creative solutions to problems." Because we were interested in examining leader creativity from the team perspective, we did not conduct

multilevel analyses, which would have been more appropriate for investigating team member creativity from the individual perspective. Rather, we aggregated team members' ratings of leader creativity to the team level for analysis. To justify the aggregation, we calculated r_{wg} , obtaining a high mean r_{wg} value of 0.85 (James et al., 1984), indicating support for aggregation. The intraclass correlation (ICC1) was 0.36, and the reliability of group mean (ICC2) was 0.62, indicating further support for aggregation (Bliese, 1998).

3.3. Control variables

To rule out the possibility that the proposed relationships between leader emotional labor, autonomy fulfillment, and leader creativity were accounted for by omitted variables (Becker, 2005), we included leader age, gender, level of education, tenure, transformational leadership behaviors, and resource depletion as control variables. We controlled for leaders' gender, age, level of education, and tenure because previous research has shown that these demographic variables are related to both emotional labor (Wang & Seibert, 2015; Yam et al., 2016) and creativity (Baer & Kaufman, 2008; Binnewies et al., 2008; Rego et al., 2007).

Research suggests that transformational leadership is related to the fulfillment of leaders' psychological needs (Lanaj et al., 2016) and may be related to leader emotional labor (Humphrey, 2012); thus, it was included as a control variable. We measured transformational leadership using a 4-item scale (Avolio & Bass, 2004) that captured its four dimensions (i.e., idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration). Team members rated their leaders' transformational leadership behaviors. To reduce common method bias, we collected data on transformational leadership at Time 1 to separate it from the data on leader creativity reported by the same team members at Time 3. We aggregated team members' ratings to the team level for analysis ($r_{wg} = 0.83$; $ICC1 = 0.36$; $ICC2 = 0.63$).

Finally, to improve robustness, we controlled for leader resource depletion to rule out an alternative explanation that resource loss or gain, rather than autonomy fulfillment, accounts for the indirect effects of leader emotional labor on creativity. The existing research suggests that emotional labor may influence work outcomes through a resource gain/loss mechanism (Brotheridge & Lee, 2002; Grandey & Gabriel, 2015); that is, emotional labor consumes or enhances resources (e.g., motivational energy) that may predict work outcomes. In addition, the dynamic componential model of creativity (Amabile & Pratt, 2016) suggests that individual characteristics such as being energetic (a resource) are included in creativity-relevant processes, and other research points to the possible negative effects of resource depletion on creativity (Tingely et al., 2019). Thus, we measured leaders' resource depletion using Deng et al.'s (2018) 4-item scale, which was originally derived from Ryan and Frederick's (1997) vitality scale ($\alpha = 0.86$). Leaders reported their own resource depletion levels at Time 2.

4. Results

4.1. Descriptive statistics

Table 1 presents the means, standard deviations, and intercorrelations between variables. Leader age, gender, tenure, and education were correlated with both emotional labor strategies and creativity; thus, we retained these four control variables in our subsequent analyses. However, unlike previous research findings, transformational leadership was neither correlated with leader emotional labor nor with autonomy fulfillment. Therefore, we did not include it in our subsequent analyses. It should be noted that the inclusion of transformational leadership in the analyses does not significantly change the conclusions of the present research. Finally, leader resource depletion was correlated with both surface and deep acting but not with creativity. We retained leader resource depletion for a robustness check.

INSERT TABLE 1 ABOUT HERE

4.2. *Confirmatory factor analysis*

We conducted a confirmatory factor analysis using Mplus 7.0 (Muthén & Muthén, 2012) to examine the distinctiveness of the variables used in the present study (Hu & Bentler, 1999). The results, presented in Table 2, suggest that the 6-factor model (i.e., surface acting, deep acting, autonomy, competency, relatedness, and creativity) had a good fit and was superior to alternative models. These results suggest that the variables included in the current study were distinct from each other.

INSERT TABLE 2 ABOUT HERE

4.3. *Hypothesis testing*

We conducted regression analyses to test our hypotheses. As shown in Table 3 (Models 1 and 2), when controlling for leader age, gender, tenure, and education, leader surface acting at Time 1 was negatively related to autonomy fulfillment at Time 2 ($B = -0.19$, $p = 0.01$), and leader deep acting at Time 1 was negatively related to autonomy fulfillment at Time 2 ($B = 0.31$, $p = 0.001$), supporting both H1a and H1b. As shown in the columns of Models 3 and 4, leader surface acting at Time 1 was negatively (marginally significant) related to competence fulfillment at Time 2 ($B = -0.12$, $p = 0.06$); leader deep acting at Time 1 was positively related to competence fulfillment at Time 2 ($B = 0.34$, $p < 0.001$). Thus, H2a and H2b were supported. As shown in the columns of Models 5 and 6, leader surface acting at Time 1 was negatively related to relatedness fulfillment at Time 2 ($B = -0.18$, $p = 0.006$) whereas leader deep acting at Time 1 was positively related to relatedness fulfillment at Time 2 ($B = 0.33$, $p < 0.001$), supporting both H3a and H3b.

Model 7 was used to test the relationships between the three needs fulfillment and leader creativity in H4a, H4b, and H4c. Results indicate that autonomy fulfillment at Time 2 was positively related to leader creativity at Time 3 ($B = 0.24, p = 0.04$). Neither competence fulfillment ($B = -0.09, p = 0.52$) nor relatedness fulfillment ($B = 0.16, p = 0.23$) at Time 2 was related to leader creativity at Time 3. Therefore, H4a was supported but H4b and H4c were not.

INSERT TABLE 3 ABOUT HERE

To test H5a-H6c regarding the indirect effects of leader surface and deep acting on leader creativity through autonomy fulfillment, competence fulfillment, and relatedness fulfillment, we used Hayes's (2013) PROCESS macro (bootstrap sample = 5,000). We controlled for leader age, gender, tenure, and education. We also included all three mediators simultaneously when testing the indirect effects. The results presented in Table 4 indicate that leader surface acting had a negative indirect effect on leader creativity through autonomy fulfillment (*Indirect effect* = -0.05 , 95% bootstrapping CI [$-0.12, -0.01$]) but not through competence fulfillment (*Indirect effect* = 0.01 , 95% bootstrapping CI [$-0.02, 0.08$]) or relatedness fulfillment (*Indirect effect* = -0.03 , 95% bootstrapping CI [$-0.11, 0.02$]). Therefore, H5a was supported whereas H5b and H5c were not. In addition, leader deep acting had a positive indirect effect on leader creativity through autonomy fulfillment (*Indirect effect* = 0.08 , 95% bootstrapping CI [$0.01, 0.20$]) but not through competence fulfillment (*Indirect effect* = -0.05 , 95% bootstrapping CI [$-0.16, 0.06$]) or relatedness fulfillment (*Indirect effect* = 0.04 , 95% bootstrapping CI [$-0.05, 0.16$]). Therefore, H6a was supported whereas H6b and H6c were not. These results indicate that autonomy (but not competence or relatedness) fulfillment accounted for the relationships between leader emotional labor (i.e., surface and deep acting) and leader creativity.

INSERT TABLE 4 ABOUT HERE

To ensure the robustness of our findings, we conducted additional analyses to rule out alternative explanations (Bernerth & Aguinis, 2016). Theoretically, it is possible that the indirect effects of leader emotional labor on leader creativity were driven by leaders' resources loss/gain and that autonomy does not explain the relationship if the mediating effects of leaders' resource loss/gain are considered. To rule out this alternative explanation, we included leader resource depletion as an additional mediator and conducted the same analyses to test our hypotheses. The results shown in Table 3 (Model 8) indicate that after controlling for the effect of leader resource depletion ($B = 0.14, p = 0.33$), the effect of leader autonomy fulfillment on leader creativity remained statistically significant ($B = 0.25, p = 0.03$). More importantly, as shown in Table 4 with the robustness check, after controlling for the mediating effect of leader resource depletion (*ns*), autonomy fulfillment still mediated (a) the indirect effect of leader surface acting on leader creativity ($B = -0.05, 95\%$ bootstrapping CI $[-0.13, -0.01]$) and (b) the indirect effect of leader deep acting on leader creativity ($B = 0.08, 95\%$ bootstrapping CI $[0.01, 0.22]$). Therefore, we ruled out leader resource loss/gain as an alternative explanation and established autonomy fulfillment as a mediating mechanism beyond a resource gain/loss mechanism.

Further, it is also possible that rather than leader emotional labor influencing leader autonomy fulfillment, leader autonomy fulfillment may influence how leaders use emotional labor strategies, which further affects leader creativity. Thus, we also checked whether surface and deep acting mediated the relationship between autonomy fulfillment and leader creativity. The results presented in Table 4 indicated that after controlling for leader age, gender, tenure, education, competence, and relatedness fulfillment, the indirect effect of autonomy fulfillment on creativity via surface acting was not statistically significant

($B = 0.01$, 95% bootstrapping CI $[-0.04, 0.07]$), nor was the indirect effect of autonomy fulfillment on creativity via deep acting ($B = 0.04$, 95% bootstrapping CI $[-0.01, 0.13]$). Hence, we ruled out this alternative conceptual model.

Finally, we also tested our theoretical model without control variables. The usage of control variables has been a point of debate in the fields of applied psychology and organizational management (e.g., Becker et al., 2016; Bernerth & Aguinis, 2016; Carlson & Wu, 2012; Spector & Brannick, 2011). To ensure the robustness of our findings, we followed the best practice recommended by Becker et al. (2016) to run results with and without the control variables and contrast the findings. Results indicate that excluding these control variables did not change the conclusions from this study: Surface acting was negatively related to autonomy fulfillment ($B = -0.18$, $p = 0.01$) and autonomy fulfillment was positively related to leader creativity ($B = 0.31$, $p = 0.01$). The indirect effect of surface acting on leader creativity via autonomy fulfillment was statistically significant ($B = -0.06$, 95% bootstrapping CI $[-0.14, -0.01]$). Deep acting was positively related to autonomy fulfillment ($B = 0.29$, $p = 0.001$) and autonomy fulfillment was positively related to leader creativity ($B = 0.31$, $p = 0.01$). The indirect effect of deep acting on leader creativity via autonomy fulfillment was statistically significant ($B = 0.09$, 95% bootstrapping CI $[0.02, 0.22]$). Although leader surface and deep acting were related to both competence and relatedness fulfillment, competence and relatedness fulfillment were not related to leader creativity, nor was there any indirect effect of leader surface and deep acting on leader creativity via competence or relatedness fulfillment. Therefore, our results without control variables are consistent with results produced with control variables included. That is, only autonomy fulfillment mediated the relationships between emotional labor and leader creativity.

5. Discussion

Similar to frontline service workers, leaders also constantly perform emotional labor (Brotheridge & Grandey, 2002; Humphrey et al., 2008). Taking a leader-centric approach and drawing from an SDT perspective, we conducted a multisource, three-stage study and found that leader emotional labor had important implications for leader creativity. Leaders' surface acting harmed their creativity by frustrating their psychological needs for autonomy, whereas deep acting enhanced their creativity by satisfying their psychological needs for autonomy.

We did not find evidence that the fulfilment of the other two basic psychological needs, competence and relatedness, could account for the relationships between leader emotional labor and leader creativity. The lack of indirect effects of leader emotional labor on leader creativity via competence or relatedness fulfilment is due to the lack of links between competence or relatedness fulfilment and leader creativity. This suggests that perhaps competence fulfillment is not an ideal predictor of creativity because competence fulfillment is not specific to creativity-related processes. Competence fulfillment differs from 'skills in the task domain' in the dynamic componential model of creativity (Amabile & Pratt, 2016), because the former is a basic or universal psychological need that universally applies to various job or task domains, while the latter is domain specific. Skills required for creativity are "one's expertise or factual knowledge about the domain, technical skills for doing work and advancing one's knowledge in the domain and special domain-relevant talents" (Amabile & Pratt, 2016, p. 160). Therefore, leader competence fulfillment is not necessarily associated with improved creativity skills.

Similarly, relatedness fulfillment may not be an ideal predictor of creativity, either. This is perhaps because the strong connection that a leader is able to build with their employees and colleagues may not necessarily be transformed into creativity. It is possible that the reason for a leader to have a high level of relatedness fulfillment is that they are similar to their employees and colleagues, hence a lack of diverse perspectives which could

have contributed to leader creativity. In addition, relatedness fulfillment is not associated with any of the individual components in the dynamic componential model of creativity (Amabile & Pratt, 2016), further indicating that relatedness fulfillment is not particularly relevant to creativity. In summary, our research helps to demonstrate the unique role of autonomy fulfillment (but not competence or relatedness fulfillment) by establishing its mediating effect on the relationship between leader emotional labor and leader creativity.

5.1. Theoretical contributions

First, the present research makes important contributions to the literature on emotional labor by providing novel insights into the mechanisms by which leaders' emotional labor is associated with important work outcomes. Autonomy as a job characteristic is often considered an exogenous factor that is independent of emotional labor (Grandey & Gabriel, 2015). However, we suggest that autonomy is also a basic psychological need (Deci & Ryan, 1985) and that leader emotional labor can, in fact, relate to the fulfillment of the psychological need for autonomy, which further predicts creativity. This extends the current understanding of the role of autonomy in emotional labor processes from a contextual factor to a key psychological mechanism. In doing so, we provide an additional novel perspective—a SDT perspective—to complement the current understanding of the mechanisms by which emotional labor affects work outcomes (Grandey & Gabriel, 2015).

Second, our research enhances the understanding of emotional labor by taking a leader-centric approach. Although the existing literature on emotional labor focuses on service workers, some researchers have extended the focus to leaders, who also need to perform emotional labor in the workplace because of their interpersonal interactions (Gardner et al., 2009; Humphrey, 2012). We continued to build this line of research on leader emotional labor, finding that in addition to its effect on followers' work outcomes, leader emotional labor had important implications for leaders' own work outcomes. In doing so, we

have expanded the research on leader emotional labor and provided further insights into the intrapersonal effects of leader emotional labor.

Finally, our research integrates literatures on creativity and emotional labor to shed lights on how leader emotional labor is associated with creative leadership. Creativity is often examined on the part of followers, rather than leaders (Hughes et al., 2018). However, leader creativity is also important because creative leaders not only challenge existing ways of doing things in their organizations (Sternberg et al., 2003), but also serve as role models to motivate their followers to engage in creative activities (James et al., 1999; Koseoglu et al., 2017). As Amabile and Pratt (2016) put it, “if managers are sufficiently creative themselves ... individuals will be likely to develop their own creativity-relevant processes” (p. 166). Although emotional intelligence has been considered a potential predictor of creative leadership (Mitchell & Reiter-Palmon, 2017), emotional labor which is broadly reflective of emotional intelligence has not been examined in its association with leader creativity. The present research is the first that we are aware of that has provided evidence that leader emotional labor, an intrapersonal affective regulation process, is indeed associated with leader creativity, thereby advancing the understanding of predictors of creative leadership.

5.2. Practical implications

The present research has the following practical implications. First, our findings on the positive relationship between leader deep acting and the fulfillment of the need for autonomy change the way organizations think about how to support their leaders' autonomy. Conventionally, job autonomy has been viewed as exogenous and enhanced externally through workplace contextual factors such as job design (Deci et al., 2017). Our research demonstrates that the need for autonomy can also be satisfied internally by adopting the appropriate emotional labor strategy (i.e., deep acting). Therefore, in addition to other

organizational measures in place to help support autonomy, leaders can use emotional labor strategies to manage their psychological needs for autonomy.

Second, supervisors and managers should be aware that their emotional labor strategies may have different effects on their creativity; hence, it is important to develop the ability to engage in the more effective strategy—deep acting—rather than surface acting in managing their emotions to meet organizational requirements. Leaders who wish to improve their autonomy fulfillment and creativity could take some steps to learn how to use deep acting more effectively. For example, perspective-taking has been identified as a form of deep acting (Parker et al., 2008) and thus leaders could practice their perspective-taking skills.

Third, organizations should also recognize the emotional labor that managerial staff performs as part of their roles and support managerial staff with professional development by providing practical interventions that incorporate effective emotional labor strategies (Edelman & van Knippenberg, 2017). This is particularly important for organizations with strong emotional norms, putting pressure on leaders to perform emotional labor. Thus, it is critical to provide necessary support such as training to help managerial staff to use effective emotional labor strategies. For example, the training or intervention programs could involve case studies where an expert on emotional labor guides participating leaders to discuss what the effective emotional labor strategies could be. The training expert can also invite participating leaders to share their successful experiences in using emotional labor strategies to learn from each other.

Finally, related to the previous point, organizations, especially those with a strong emotional culture (Barsade & O’Neill, 2016), may consider incorporating emotional labor skills as a key competency in their staff development processes. For example, organizations whose culture requires leaders and employees to maintain some specific emotional

expressions may wish to include developing emotional skills in staff professional development policies. By doing so, organizations view emotional labor skills a core element of their staff development programs and provide relevant training programs.

5.3. Strengths, limitations and future research directions

The present study has several strengths, including (a) a multistage and multisource research design and (b) robust findings after additional statistical analyses and ruling out alternative theoretical explanations. Despite its strengths, the present research has some limitations. First, although the sample size for employees who rated their leaders' creativity was large, the sample size for leaders was relatively small, preventing us from conducting more sophisticated analyses such as structural equation modelling to rule out measurement errors. We suggest that future research increase the sample size. In addition, although the participants in our sample were from many different industries, they are mostly client-facing industries. Thus, participants may be restricted by a different set of display rules than those from industries that do not serve clients. Future research can further test the generalizability of our findings across these different settings.

Second, the present study focuses on leader creativity only, limiting the generalizability of its findings to other important leader outcomes. Future research may explore how leader emotional labor is associated with a range of other leader outcomes especially those related to employees such as leader emotional support. Research has shown that the provision of emotional support is an important leadership function (Toegel et al., 2013), and emotional labor may be associated with whether leaders tend to engage in emotional support through needs fulfillment. Leaders who are skilled at deep acting may tend to engage in emotional support because they are satisfied with their autonomy fulfillment and tend to advise their employees on how to effectively regulate their emotions. Hence, future

research could examine the relationships between leader emotional labor and positive leadership behaviors such as emotional support.

Finally, recent research suggests that in addition to surface and deep acting, a third form of emotional labor is the genuine expression of naturally occurring emotions, which may be the most effective among the three (Humphrey et al., 2015). We did not include genuine emotional labor in our study, hence unable to conclude whether deep acting is still a preferred emotional labor strategy if compared to genuine emotional labor. Therefore, future research could further expand our model to test whether genuine emotional labor increases leader creativity through autonomy satisfaction more so than deep acting. We also only focused on the mediating mechanism between leader emotional labor and leader creativity but did not examine potential boundary conditions. Thus, we are unable to draw conclusions on whether leader emotional labor impacts leader creativity in a similar way across various conditions. Future research could further investigate the conditions under which the negative indirect effects of leader surface acting may be alleviated, and the positive indirect effects of leader deep acting may be strengthened.

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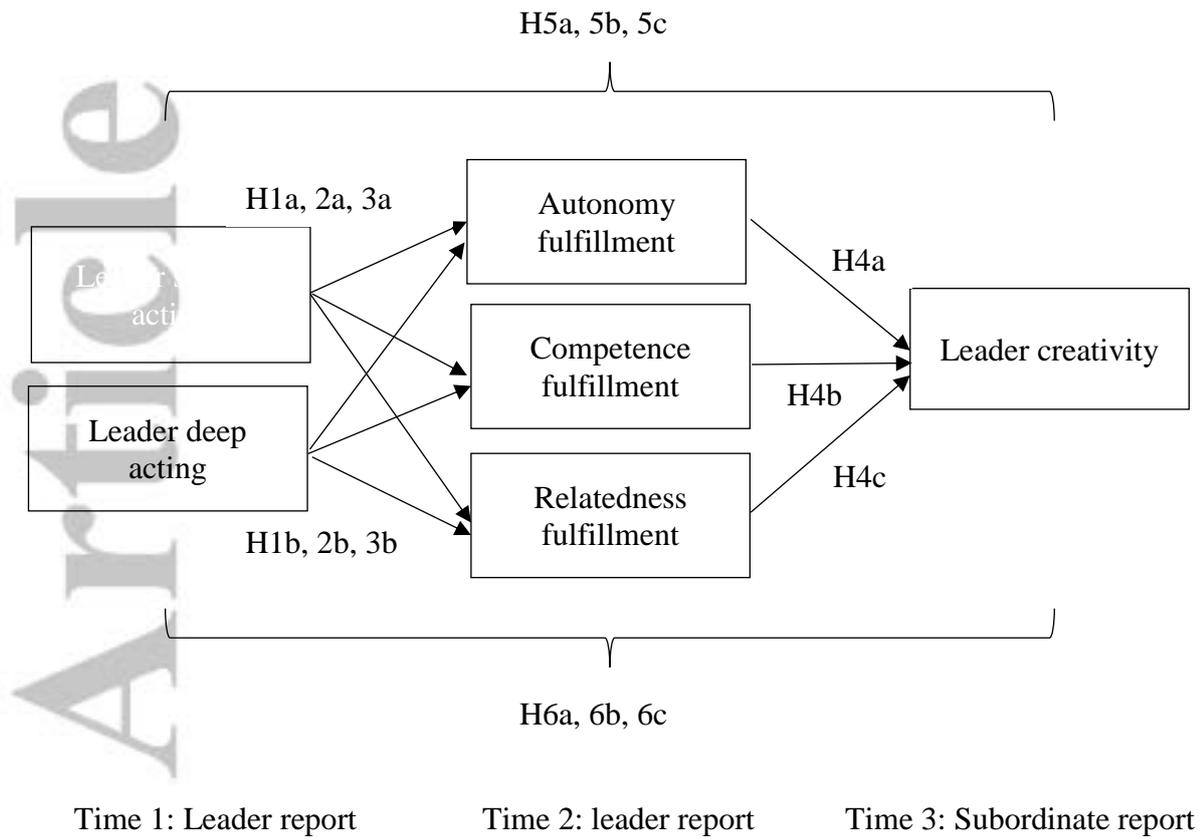


Fig 1. Proposed Theoretical Model

Table 1Descriptive Statistics, Correlations, and Reliabilities ^a

Time	Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11
1	1. Age	37.59	8.65											
	2. Gender ^b	1.47	0.52	0.09										
	3. Tenure	9.50	8.40	0.70***	0.33***									
	4. Education	2.69	0.75	-0.06	0.02	-0.12								
	5. Surface acting	2.64	0.87	-0.27**	-0.21*	-0.27**	0.05	(0.88)						
	6. Deep acting	3.83	0.72	0.31**	0.13	0.30**	0.08	-0.32***	(0.70)					
2	7. Autonomy	3.93	0.71	0.14	-0.15	0.02	-0.05	-0.22*	0.29**	(0.81)				
	8. Competence	4.08	0.58	0.14	-0.04	0.12	0.00	-0.19*	0.42***	0.66***	(0.73)			
	9. Relatedness	4.16	0.60	0.09	0.17 [†]	0.18	-0.04	-0.29**	0.40***	0.52***	0.59***			
	10. Resource depletion	1.98	0.66	-0.11	-0.10	-0.17	-0.02	0.33***	-0.59**	-0.54***	-0.72***	-0.63***	(0.86)	
3	11. Creativity	3.50	0.72	-0.24**	-0.19*	-0.25**	-0.26**	-0.00	0.06	0.27**	0.13	0.17 [†]	-0.06	(0.96)

Note: Reliabilities (alpha coefficients) are provided in parentheses along the diagonal. *M* = mean; *SD* = standard deviation.

^a *N* = 118.

^b Man = 1, woman = 2, other = 3.

† $p < 0.1$. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 2

Measurement Model Comparisons

Model	RMSEA	CFI	TLI	SRMR	AIC	χ^2 (df)	$\Delta\chi^2$ (df)
Hypothesized six-factor model	.07	.93	.91	.06	4692.42	258.37 (155)	-
Five-factor model (AU + CO)	.08	.91	.89	.07	4703.26	279.21 (160)	20.84 (5) ***
Five-factor model (AU + RE)	.08	.91	.89	.07	4712.43	288.38 (160)	30.01 (5) ***
Four-factor model (AU + CO + RE)	.08	.90	.89	.07	4714.54	298.48 (164)	40.11 (9) ***
Three-factor model (LSA + LDA; AU + CO + RE)	.10	.86	.84	.10	4775.79	365.74 (167)	107.37 (12) ***
Two-factor model (LSA + LDA + AU + CO + RE)	.14	.70	.67	.13	4985.79	579.74 (169)	321.37 (14) ***
One-factor model	.20	.41	.35	.23	5388.44	984.39 (170)	726.02 (15) ***

Note: $N = 118$; RMSEA = root-mean-square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index;

SRMR = standardized root-mean-square residual; AU = autonomy; CO = competence; RE = relatedness; LSA = leader surface acting;

LDA = leader deep acting.

*** $p < .001$.

Table 3

Coefficients (Standard Errors) from Hypothesis Testing and Robustness Checks

	Autonomy		Competence		Relatedness		Leader creativity	
	Model 1 (H1a)	Model 2 (H1b)	Model 3 (H2a)	Model 4 (H2b)	Model 5 (H3a)	Model 6 (H3b)	Model 7 (H4a, 4b, 4c)	Model 8 (Robustness check)
Age	0.01(0.01)	0.01(0.01)	0.00(0.01)	-0.00(0.01)	-0.01(0.01)	-0.01(0.01)	-0.02(0.01)	-0.02(0.01)
Gender	-0.24 [†] (0.14)	-0.20(0.13)	-0.12(0.11)	-0.11(0.10)	0.09(0.11)	0.11(0.11)	-0.17(0.13)	-0.16(0.13)
Tenure	-0.01(0.01)	-0.01(0.01)	0.01(0.01)	0.00(0.01)	0.01(0.01)	0.11(0.11)	-0.01(0.01)	-0.01(0.01)
Education	-0.04(0.09)	-0.08(0.09)	0.02(0.07)	-0.02(0.07)	-0.02(0.07)	-0.06(0.07)	-0.26 ^{**} (0.08)	-0.26 ^{**} (0.08)
LSA	-0.19 [*] (0.08)		-0.12 [†] (0.06)		-0.18 ^{**} (0.07)			
LDA		0.31 ^{**} (0.09)		0.34 ^{***} (0.07)		0.33 ^{***} (0.08)		
Autonomy							0.24 [*] (0.12)	0.25 [*] (0.12)
Competence							-0.09(0.15)	-0.01(0.17)
Relatedness							0.16(0.13)	0.20(0.14)
Resource depletion								0.14(0.14)

Note: $N = 118$. CI = confidence interval; LSA = leader surface acting; LDA = leader deep acting.[†] $p < 0.1$. ^{*} $p < 0.05$. ^{**} $p < 0.01$

Table 4

Indirect Effects of LSA and LDA on Creativity and Robustness Checks

	Indirect effects	CI	Indirect effects (Robustness check)	CI
LSA → autonomy → creativity (H5a)	-0.05	[-0.12, -0.01]	-0.05	[-0.13, -0.01]
LSA → competence → creativity (H5b)	0.01	[-0.02, 0.08]	0.00	[-0.05, 0.05]
LSA → relatedness → creativity (H5c)	-0.03	[-0.11, 0.02]	-0.04	[-0.13, 0.01]
LDA → autonomy → creativity (H6a)	0.08	[0.01, 0.20]	0.08	[0.01, 0.22]
LDA → competence → creativity (H6b)	-0.05	[-0.16, 0.06]	-0.01	[-0.11, 0.12]
LDA → relatedness → creativity (H6c)	0.04	[-0.05, 0.16]	0.06	[-0.04, 0.19]
Autonomy → LSA → creativity (robustness check)	0.01	[-0.04, 0.07]	N/A	N/A
Autonomy → LDA → creativity (robustness check)	0.04	[-0.01, 0.13]	N/A	N/A

Note: $N = 118$. CI = confidence interval; LSA = leader surface acting; LDA = leader deep acting. Indirect effects were tested using Hayes's (2013) PROCESS macro (bootstrap sample = 5,000). We included all three mediators simultaneously when testing the indirect effects.