

Leadership, creativity and innovation: A meta-analytic review

Abstract

Using 266 studies, this paper meta-analytically examines the link between thirteen leadership styles (transformational, transactional, ethical, humble, leader-member exchange (LMX), benevolent, authoritarian, entrepreneurial, authentic, servant, empowering, supportive, and destructive) and followers' creative and innovative performance. We address two main research aims: to examine the relative predictive utility of these different leadership styles and to explore boundary conditions of the link between leadership styles and both creativity and innovation. Our findings related to both the relative and moderating effects of leadership on creativity/innovation make a significant contribution to the literature. Our analyses demonstrate the fact that authentic, empowering, and entrepreneurial leadership show the most promise when it comes to predicting individual creativity. For innovation, both transactional (contingent reward) and supportive leadership appear particularly relevant. The current study synthesizes an important, rapidly growing and diverse body of research, and in doing so provides important evidence to help guide theoretical advancements, improve research designs, and practise regarding leadership, creativity, and innovation.

Keywords: Leadership; creativity; innovation; LMX; empowerment

Leadership, creativity and innovation: A meta-analytic review

Organizational growth depends on the ability to generate novel ideas and to select and implement the most promising of those novel ideas. In short, creativity and innovation are essential for organizational survival and success (Anderson, Potocnik, & Zhou, 2014), and thus, organizational research has gone to great lengths to identify antecedents of workplace creativity and innovation (Zhou & Hoever, 2014). Uncovering antecedents represents an important research agenda that can shape our theoretical knowledge and provide practical guidance for organizations seeking to enhance workplace creativity and innovation.

Leadership is posited as a crucial antecedent because leaders are central to the working environment, shaping the availability of resources, the nature of work tasks (e.g., Liden, Sparrowe, & Wayne, 1997), and influencing employee behavior by leveraging existing employee assets (e.g., motivation) or developing new ones (e.g., learning: Fischer, Dietz, & Antonakis, 2017). Numerous studies have explored the relationship between leadership styles and employee creativity and innovation (see Hughes, Lee, Tian, Newman, & Legood, 2018 for a review), however, the sheer number of highly intercorrelated leader variables studied has produced a complex literature that hinders understanding, theory building, and the development of evidence-based practical recommendations (DeRue, Nahrgang, Wellman, & Humphrey, 2011; Hughes, et al., 2018). By studying multiple leader variables concurrently, it should be possible to begin to identify which leader styles are most closely associated with workplace creativity and which are most closely associated with innovation. Further, the boundary conditions of these relationships are not well understood (Hughes et al., 2018). A lack of clarity regarding these issues means three major questions are currently undermining the utility of research in this field:

1. Which (if any) leadership style(s) is the strongest predictor of creativity and innovation?

2. What is the relative importance of different leadership styles with creativity and innovation?
3. What are the boundary conditions influencing the relationship between a given leadership style and creativity and innovation?

The goal of this meta-analysis is to provide a quantitative review of the current literature in relation to these three questions. Previous reviews have examined leadership and creativity, but these have tended to be narrative in design (e.g., Anderson et al., 2014; Hughes et al., 2018; Mainemelis, Kark, & Epitropaki, 2015; Reiter-Palmon, & Ilies, 2004; Rank, Pace, & Frese, 2004; Zhou & Shalley, 2003) or have provided theoretical overviews and identified ‘gaps’ in the literature (Klijn & Tomic, 2010; Shalley & Gilson, 2004). In contrast, we seek to examine the relative importance of thirteen leadership styles for individual-level creativity and innovation. In addition, we investigate several methodologically and theoretically derived moderators that might represent important boundary conditions for the relationship between leadership styles and creativity and innovation.

Literature review and research question development

Creativity and innovation

In defining creativity and innovation, we follow a recent systematic and critical review of existing definitions:

“Workplace creativity concerns the cognitive and behavioral processes applied when attempting to generate novel ideas. Workplace innovation concerns the processes applied when attempting to implement new ideas” (Hughes et al., 2018, p. 3).

Evident from this definition, creativity and innovation are distinct but related constructs. Creativity is largely an intrapersonal activity concerned with the generation of truly novel ideas, whereas innovation is a largely interpersonal activity concerned with shaping novel ideas (which come from anyone/anywhere) to fit the context in a way that garners support

from others (Hughes et al., 2018). Typically, the leaders' role is to facilitate employees by providing them with the appropriate resources and environment. However, because creativity and innovation are fundamentally different (see Hughes et al., 2018, Table 2), and are driven by different antecedents (e.g., Axtell et al., 2000; Hughes et al., 2018; Magadley & Birdi, 2012), it would be surprising if a single leader behavior or style were appropriate for both (Hughes et al., 2018; Perry-Smith & Mannucci, 2017). Indeed, recent conceptual frameworks suggest that when creating, employees require psychologically safe and motivating spaces that enable them to engage in cognitively flexible thought (Perry-Smith & Mannucci, 2017). In contrast, when innovating, employees need social influence and legitimacy which can be provided through leader support and endorsement (Perry-Smith & Mannucci, 2017). No creative idea will ever lead to innovation unless it is shared with relevant and/or influential organizational members. It is possible, then, that certain leader styles will be of differential importance to creativity and innovation.

Despite the conceptual and empirical uniqueness of creativity and innovation, previous meta-analyses have tended to combine them into a single variable (e.g., Kim, Beehr, & Prewett, 2018; Lee, Willis, & Tian, 2018; Lee, Lyubovnikova, Tian, & Knight, 2019). However we follow contemporary theoretical and empirical arguments and consider creativity and innovation separately (Anderson et al., 2014; Hughes et al., 2018). Examining creativity and innovation separately will allow for exploration of differential associations with the leader styles examined.

Leadership, creativity and innovation

Previous meta-analyses examining leadership variables have often ignored creativity and innovation as outcomes (e.g., Banks, Gooty, Ross, Williams, & Harrington, 2018; Hoch, Bommer, Dulebohn, & Wu, 2018; Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016) or have focused on a limited range of leadership predictors and have tended to treat creativity

and innovation synonymously by combining these two outcomes into a single variable (Banks, McCauley, Gardner, & Guler, 2016; Hammond, Neff, Farr, Schwall, & Zhao, 2011; Lee et al., 2018; Lee et al., 2019; Rosing, Frese, & Bausch, 2011; Wang, Oh, Courtright, & Colbert, 2011). In the current study, we aim to extend these findings by examining and comparing the correlations between thirteen leadership variables and individual-level employee creativity and innovation, separately. In doing so, we seek to address three pertinent issues regarding the main effects between leadership and employee creativity and innovation.

First, there exists some notable variation in the magnitude and even direction of reported effect sizes (Hughes et al., 2018). Interpreting such diverse effects is especially difficult when they are derived from moderately sized samples. Meta-analytic investigations, such as this, provide a much more robust estimate of population effects. Second, the increased power provided by meta-analytic investigations allows for robust estimation of moderating effects that are not possible within individual studies. Therefore, we also address the call made by Hughes and colleagues (2018) to explore possible moderating variables in the categories of study design, broad context (e.g., industry type), and local context (e.g., follower gender). Third, it is unclear whether the many contemporary leadership styles in the literature (e.g., ethical, benevolent) account for unique variance in creative and innovative behavior when considered alongside other leadership styles.

Our review identified thirteen leadership styles which have been repeatedly found to be associated with creativity and/or innovation. It is well established that certain leadership styles draw upon common theoretical arguments when explaining how their effects are transmitted (e.g., Lemoine et al, 2019). Accordingly, we grouped the thirteen leadership styles into five theoretically homogenous categories; the full-range model, moral leadership,

motivational leadership, relational leadership and negative leadership, which we discuss below.

Full-Range Leadership Model. The full-range leadership model, proposed by Avolio and Bass (1991), comprises transformational, transactional, and laissez-faire leadership. The model stems from Bass's (1985) argument that the focus of existing theories of leadership was limited to inducing only basic exchanges with followers (transactional), which failed to explain how leaders influence followers to transcend self-interest for the greater good of organization (transformational). In response, Bass proposed a model encompassing four transformational and two transactional leadership factors.

Transformational leadership (Bass, 1985) consists of four dimensions. First, idealized influence refers to leader behavior that is admirable and charismatic. Second, inspirational motivation is the degree to which the leader articulates an appealing and inspiring vision. Third, intellectual stimulation refers to a leader who challenges assumptions, takes risks, and listens to followers' ideas. Fourth, individualized consideration is the extent to which the leader listens and focus on each follower's needs and acts as a mentor or coach. In relation to creativity and innovation, transformational leadership is said to be beneficial for two main reasons. Firstly, transformational leaders tend to inspire and motivate through expressing an energizing vision which in turn 'motivate[s] people to do their best' (Avolio & Bass, 1988, p. 33). Second, the intellectual stimulation element encourages followers to think divergently, question assumptions and take risks (Bass, 1985). Such actions tend to promote an open and explorative mindset (Keller, 2006) and empower followers to undertake active problem solving and to experiment with ideas (e.g., Jung, Chow, & Wu, 2003; Shin & Zhou, 2003).
behavior

Transactional leadership is based more on an exchange relationship in which the leader makes clear what is expected of followers in three ways: Contingent reward describes

the provision of incentives following successful performance while management by exception describes the degree to which leaders take corrective action either in an active or passive manner (Bass, 1985; Yukl, 1999). As such, transactional leaders achieve influence through the clarifying of goals, the use of rewards and incentives or through only intervening when necessary (Bass, 1985). While the rewarding of goal achievement may foster extrinsic motivation, transactional leadership is unlikely to instil intrinsic motivation, unlike transformational leadership which actively encourages experimentation. For this reason, it is often proposed that transactional leaders will be less able to promote innovative or creative behavior (Hughes et al, 2018). Further, it has been proposed that the transactional component may be perceived as controlling and demotivating, thus dampening innovation further (Deci & Ryan, 1987). Despite this, some empirical evidence would suggest that the contingent reward component may be effective in promoting creativity and innovation, specifically when the rewards are contingent on employee creativity (Rickards, Chen, & Moger, 2001).

The other two dimensions of transactional leadership are grouped under the term management by exception. The management-by-exception category includes monitoring employee performance and taking corrective action when problems arise. Active management by exception refers to the extent to which leaders strive to identify, and then redress, poor performance or errors. Passive management by exception describes leaders who avoid involvement until these shortfalls or errors arise. Followers of leaders who employ management-by-exception tend to be dissatisfied and demotivated and, as such, this style is unlikely to foster creativity or innovation (Kim & Lee, 2011).

Moral Leadership: Authentic, servant, ethical, and humble

Authentic, servant, and ethical leadership represent three morally-based forms of positive leadership (Hoch et al., 2018) which are often grouped together (Lemoine et al., 2019). In addition, we also consider humble leadership, a relatively new addition to the

leadership field, within this category. Ethical Leadership (Brown, Trevino, & Harrison, 2005) focuses on the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships (i.e., modelling behavioral standards for followers). Authentic leaders (Walumbwa, Avolio, Gardner, Wernsing & Peterson, 2008) are said to have a relatively heightened level of self-awareness, an internalized moral perspective, process information in a balanced and ethical manner, and deal with followers in a transparent and fair way (i.e., relational transparency). Servant leadership (e.g., Ehrhart, 2004) is a style of leadership which emphasizes personal integrity in life, work, family, and community life (Ehrhart, 2004). Humble leadership reflects a leader who demonstrates a willingness to be self-aware in their interactions with others, demonstrates an appreciation for others' strengths and contributions and teachability (Owens & Hekman, 2012). Core aspects of humility have been directly linked to ethical leadership and being humble is an important trait for an ethical leader to possess (de Vries, 2012). As such, humble leadership also reflects a style of leadership which resonates with an ethical/moral tone. In terms of theoretical rationale, Lemoine et al. (2019) found in a recent review that for the link between these moral leadership styles and creativity and innovation, two theories dominate, with over half the studies on authentic, ethical and servant leadership drawing from either social learning theory or social exchange theory to explain the effects of these leadership styles. The same trend is true for humble leadership.

Ethical and humble theories draw heavily on social learning theory (Bandura, 1986). The modelling of behavior on the part of the leader is believed to foster creativity and innovation because followers emulate leader behaviors such as acknowledging their personal limits, weaknesses and mistakes, and being open to inputs from others (Lemoine et al., 2019; Owens & Hekman, 2012). Similarly, both authentic and servant leadership also utilize social learning explanations. For instance, the self-awareness at the heart of authentic leadership

allows leaders to exhibit openness in their behavior and lead by example (Walumbwa et al., 2008). This emphasis on authentic followership development, via positive role modelling on the part of the leader, is believed to stimulate the followers to engage creatively with their work (Seibert, Kraimer, & Liden, 2001).

Social exchange theory is also frequently evoked. For example, in the case of authentic leaders, Ilies, Morgeson, and Nahrgang, (2005) argue that the demonstration of unbiased processing of self-relevant information, personal integrity, and an authentic relational orientation contributes to positive social exchanges with followers, characterised by positive emotions, trust and respect. The same broad mechanisms are argued to underlie all theories in this category. Essentially that through unbiased and fair social exchanges, leaders and followers generate a degree of interpersonal trust, which in turn fosters a degree of emotional and psychological safety that empowers employees to propose unconventional ideas (Avolio, Gardner, Walumbwa, Luthans, & May, 2004; Edmondson, 1999; Prati, Douglas, Ferris, Ammeter, & Buckley, 2003; Rego, Sousa, Cunha, Correia, & Saur-Amaral, 2007).

Motivating Leadership: Empowering and Entrepreneurial

Empowering leadership involves behaviors such as delegating authority to followers, promoting their self-directed and autonomous decision making, coaching, sharing information, and asking for input (e.g., Kirkman & Rosen, 1999). As such, empowering leadership involves highlighting the significance of followers' work, allowing input in decision making, communicating confidence that performance will be high, and reducing bureaucratic constraints. Such leadership behaviors are conceptually highly relevant to both creativity and innovation through the development of self-determination and intrinsic motivation (e.g., Zhang & Bartol, 2010). For instance, participation in decision making and perceptions of autonomy are vital preconditions for creative outcomes (e.g., Amabile, 1996).

Similarly, when empowering leaders reduce constraints related to followers' work, they create situations in which followers are encouraged to explore various creative alternatives before addressing a problem (Li & Zhang, 2016). Intrinsically motivated followers are also more likely to translate their motivation into high levels of effort, which leads to increased performance on tasks requiring creativity, cognitive flexibility, and conceptual understanding (Kehr, 2004). Further, followers who feel more intrinsically motivated should exhibit greater persistence in face of obstacles (Deci & Ryan, 2000) and better at leveraging their existing knowledge (Parker, Wall, & Jackson, 1997), and as such will show innovative work behavior.

Entrepreneurial leadership is a leadership style that directs and encourages followers to identify and exploit entrepreneurial opportunities (Renko, 2018). By focusing on value creation, entrepreneurial leaders motivate employees to contribute to creative activities (Chen 2007; Cai, Lysora, Khapova, & Bossink, 2019). Further, in the process of creating value, entrepreneurial leaders provide creative support, for example, by designing and adjusting achievable goals to rouse follower perseverance and by working with employees to generate different perspectives. Thus, entrepreneurial leaders not only encourage their followers to act in an entrepreneurial manner, but also act as role models to their followers by engaging in entrepreneurial activity themselves (Renko, Tarabishy, Carsrud, & Brännback, 2015). Prior research on entrepreneurial leadership has drawn on social cognitive/learning theory (Bandura, 1986) to explain its influence on employees' creativity and innovative behavior. Social cognitive/learning theory suggests that entrepreneurial leaders foster creativity (opportunity identification) and innovation (opportunity exploitation) of followers' through four main pathways: role modelling entrepreneurial behaviors (vicarious learning), encouraging and directing followers to engage in entrepreneurial activity (subjective persuasion and enhanced affective states) and providing opportunities for followers to be entrepreneurial (mastery experiences) (Newman, Tse, Schwarz, & Nielsen, 2018).

Relational Leadership: LMX, Supportive, Benevolent

Several leadership theories focus on leader behaviors that are directed at building positive relationships by demonstrating care and concern for their followers. We categorize these styles as relational and include LMX, benevolent, and supportive leadership within this category. LMX is inherently relational and defined as the quality of exchange between leader and employee (Graen & Cashman, 1975). Recent studies suggest that a high-quality LMX relationship is likely to lead to higher levels of creativity (e.g., Meng, Tan, & Li., 2017) and innovation (Turunc, Celik, Tabak, & Kabak, 2010). In line with the tenets of social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960), followers with a high-quality LMX relationship are likely to feel obliged to reciprocate the positive exchanges with their leader by engaging in discretionary processes such as creative and/or innovative work (e.g., Pan, Sun, & Chow, 2012). According to the social exchange theory, followers desire reward and they will work hard, undertake creative activities and exhibit high creativity if they obtain support, trust and other resources from leaders (Xu, Huang, Lam, & Miao, 2012). It is also argued that in a high-quality LMX relationship the follower should have more autonomy and decision-making latitude (Graen & Uhl-Bien, 1995), which are positively related to creativity and innovation. Furthermore, in high-quality LMX relationships, employees may not consider personal cost and risks as primary concerns (Hsiung, 2012), and thus may be more likely to try new things and take risks that facilitate learning at work (Edmondson, 1999). This is also an important antecedent of creativity and innovation.

Supervisor support describes a cluster of leader behaviors that are supportive of followers'. Active support by the supervisor may enhance subordinates' creative self-efficacy, which in turn may positively relate to creativity and innovation (Tierney & Farmer, 2002). Indeed, there is much evidence that a person's self-efficacy belief is malleable and can be reinforced by social support (e.g., Bandura, 1997) Supervisor support should also increase

creative behavior by increasing employee's interest at work (Oldham & Cummings, 1996). In addition, support of the supervisor provides access to resources, assistance, and encouragement in the face of difficulties. Thus, supervisor support should be positively related to both creativity and innovation.

Benevolent leadership is a leadership style where the leader exhibits individualistic and holistic concern and care for followers working under them (Farh & Cheng, 2000). Prior research on benevolent leadership has typically drawn on social exchange theory (Blau, 1964) to explain the influence of benevolent leadership on creativity and innovative behavior, arguing that positive treatment provided by the benevolent leader to followers leads them to reciprocate by engaging in behaviors they feel are desired by the leader (Lin, Ma, Zhang, Li, & Jiang, 2018). Although some studies have argued that this may result in less creativity and innovation as subordinates follow their leaders orders without questioning them in a creative way (Wang, Xue, & Su, 2010), researchers have generally argued for a positive relationship between benevolent leadership and both creativity and innovation as leaders generally value such behaviors (Dedahanov, Lee, Rhee, & Yoon, 2016; Lin et al., 2018).

Negative Leadership: Destructive and Authoritarian

Typically, leadership research has focused on finding the most effective person or method to lead and, as such, has tended to focus on positive forms of leadership (Schyns & Schilling, 2013). However, a growing body of research has attempted to understand ineffective or negative leadership. While the majority of this work has focused on abusive supervision - the extent to which supervisors engage in ongoing displays of verbal and non-verbal hostility (Tepper, 2000)- negative leadership covers a broad range of leader behavior which can either be physical or verbal, active or passive, direct or indirect (Thoroughgood et al., 2012). In the category of negative leadership, we focus on two leadership styles: authoritarian and destructive. An authoritarian leader “asserts absolute authority and control

over subordinates and demands unquestionable obedience” (Cheng, Chou, Wu, Huang, & Farh, 2004, p. 91). Authoritarian leaders exert control over followers by initiating structure, issuing rules, promising rewards for compliance, and threatening punishment for disobedience (Aryee et al., 2007). The readiness of authoritarian leaders to assert their personal dominance over followers and control followers via threats and intimidation make them especially likely to be perceived as abusive. In support, Aryee and colleagues (2007) found an authoritarian leadership style to be associated with subordinate perceptions of abusive supervision. Furthermore, the attributes of authoritarian leadership suggest that such leaders will have fewer internal constraints against exhibiting behaviors that highlight the power asymmetry in the supervisor–follower relationship (Tsui, Wang, Xin, Zhang, & Fu, 2004). Authoritarian leader’s demand absolute obedience from follower and, as a result, it is argued that followers would be less likely to show initiative, proactivity and motivation to come up with new approaches to perform their tasks. Authoritarian leaders are also likely to produce a climate of fear and caution (Pellegrini & Scandura, 2008). Therefore, authoritarian leadership decreases the expression of personal ideas or participation in problem solving, thereby inhibiting employee creativity and innovation.

Destructive leadership refers to voluntary acts committed by a leader which most people would perceive as harmful and deviant towards followers. Examples of abusive supervision include humiliating employees in public, mocking, belittlement, rudeness, breaking promises and taking some other inappropriate behaviors (Tepper, 2000). It is argued that abusive supervision has negative consequences for creativity. Followers are required to invest large amounts of psychological resources to cope with the stress resulting from abusive supervision. Resultantly, it is suggested that their psychological resources are gradually depleted, thereby creating mental and emotional exhaustion (e.g., Wu & Hu, 2009). As a result of this exhaustion, abused followers gradually reduce their emotional and

psychological investment with their jobs (Chi & Liang, 2013). Without investment and motivation, abused followers are less likely to create useful and novel ideas, thereby decreasing their creativity (Gu, Song, & Wu, 2016). Other researchers have explored the effect of another form of destructive leadership -despotic leadership – on follower creativity (e.g., Naseer, Raja, Syed, Donia, & Darr, 2016). Despotic leaders behave in a self-interested manner, are morally corrupt, and have low ethical standards (De Hoogh & Den Hartog, 2008). Despotic leadership additionally encompasses leader behaviors that reflect egoistic motives designed to manipulate, use, and exploit followers for personal gain (Naseer et al., 2016). Despotic leaders are likely to exploit and unfairly treat their followers. Followers with this type of leader are argued to retaliate through indirect means, such as by lowering desired behaviors. Therefore, followers are likely to withhold creative behaviors to thwart a despotic leader. Reduced creative performance may also result from the despotic leader's weakened motivational influence on their followers. When a leader's ethical character is dubious, s/he will be less able to persuade followers to achieve individual and/or organizational objectives (Kanungo, 2001). Studies investigating the effects of destructive leaders have focused on the effects on creativity rather than innovation.

Leadership and Creativity Summary

As highlighted in the section above, numerous leadership styles have been investigated as predictors of followers' creative and innovative behavior. A key aim of the current meta-analysis is to summarize this vast literature and to better understand the relationships these leadership styles have with both outcomes. Relatedly, we seek to determine which style(s), has the strongest relationship with creativity and innovation.

Research question 1: Which leadership style(s) is most strongly associated with creativity and innovation

Relative Importance of Leadership Style on Creativity and Innovation

The second aim of this meta-analysis is to explore the relative importance of different leadership styles on creativity and innovation. This is an important aim because many leadership styles have been studied but it is currently unclear, to what extent the effects of these leadership styles are distinct and which style(s), if any, is most important when it comes to predicting creativity and innovation (Hughes et al., 2018). This is reflective of wider concerns in the leadership literature regarding construct proliferation and construct redundancy (DeRue et al., 2011; Shaffer, DeGeest, & Li, 2016). Put simply, many ostensibly distinct leadership variables share considerable conceptual and empirical overlap (e.g., Banks et al., 2018; Lemoine et al., 2019; Shaffer et al., 2016). For example, measures of authentic and transformational leadership are highly intercorrelated ($\rho = .75$: Hoch et al., 2018) and both theories stress the importance of positive role modelling, follower self-determination, social exchanges, and the development of supportive and ethical organizational contexts. In response, there have been several studies attempting to identify if various leadership styles are distinct and in which circumstances the distinct elements are important. For instance, five recent meta-analyses have examined whether authentic (Banks et al., 2016), ethical (Ng & Feldman, 2015), servant (Lee et al., 2019) and empowering (Lee et al., 2018) leadership explain incremental variance over and above established variables such as transformational leadership (see also Hoch et al., 2018) on various employee outcomes. These studies have shown differential effects when compared various leadership styles to transformational leadership. These studies find that different leadership styles are relatively more important than transformational leadership for some outcomes but not others.

Building on this work, we will meta-analytically compare the relative effects of thirteen leadership styles on creativity and innovation. In doing so, we answer recent calls for comparative examinations of different leadership styles (e.g., Piccolo et al., 2012) in a comprehensive examination of leadership, creativity and innovation. Because typical study

designs examine just a single leader variable (see Hunter, Bedell-Avers, & Mumford, 2007; Piccolo et al., 2012), too few primary studies exist for us to examine the relative contribution of all thirteen leadership styles in one model. Instead, we explore the relative importance of leadership styles in two steps. In the first instance, we will examine the relative variance explained by each style over and above that explained by the full-range leadership model (transformational and transactional leadership). The full-range model represents the most studied theory of leadership and one that covers a wide range of leadership behavior. We then examine the relative predictive validity of leadership styles within the different leadership categories. For example, we compare the effects of ethical, servant, authentic and humble leadership within the moral leadership category.

Research question 2: Which leadership style(s) have the largest relative association with creativity and innovation?

Leadership and Creativity: Moderation

In their recent review, Hughes and colleagues noted that “the magnitude of the relationship between leadership and creativity and innovation is hugely variable” (p. 554). To illustrate, some studies find large associations between transformational leadership, creativity (e.g., Rickards et al., 2001) and innovation (e.g., Slatten, 2014), whereas other find non-significant associations (e.g., Cai et al., 2019; Chen, Farh, Campbell-Bush, Wu, & Wu, 2013). This pattern is common across leadership styles and Hughes and colleagues (2018) note three reasons for the variability. One of which is the use of sub-standard and variable study designs, including the use of cross-sectional vs. longitudinal designs and varied creativity assessments (e.g., employee self-rating, leader rating, ‘objective’ metric). These differences in study design could explain some of the variation in observed effect sizes. Second, Hughes et al., (2018, p.554) argue that “the variation might represent the fact that the very nature of creativity and innovation differs across organizational sectors and roles” Third,

they argue that the variation might reflect the presence of moderating variables within the organizational context (e.g., dynamics of specific leader-follower relationships). The current meta-analysis provides a unique opportunity to explore a small number of variables from each of these three potential causes of variation. By exploring moderating factors across a range of studies the current research can explore aspects of study design, industrial setting, and situational moderators.

Methodological Moderators

From this category, we explore whether leadership-creativity/innovation correlations are moderated by the use of common-source (i.e., self-ratings of creativity or innovation) or non-common source (i.e., other-rated or objective measures) data and whether studies are cross-sectional (i.e., leadership and creativity and innovation are measured at the same time) or time-separated (i.e., creativity or innovation is measured at a later time point than leadership). The use of time-separated designs and/or non-common source data represent two methods frequently employed to try and combat the issue of common method bias (see Podsakoff, MacKenzie, & Podsakoff, 2012).

Industrial Context

Hughes et al. (2018) suggest that creativity and innovation might look somewhat different across industrial contexts and note that “no papers have empirically examined cross-industry effects, thus, direct comparisons across industry boundaries would be an interesting avenue for future research.” (p. 554). Accordingly, we explore knowledge intensity as an industrial-level moderator. Work within high knowledge-intensive industries uses a body of complex knowledge (von Nordenflycht, 2010) to “produce qualified objects and/or services by utilizing the knowledge of the personnel as the major resource” (Alvesson, 2000, p. 1101). Examples of knowledge-intensive industries include high-tech service (e.g., telecommunication, computer design), professional service (e.g., law and accounting,

banking and insurance, consultancy, education, information service industries), and high-tech manufacturing (e.g., pharmaceuticals, aerospace, biotechnology) (Alvesson, 2000; Liao, Fei, & Chen, 2007).

We argue that it is possible that knowledge-intensive organizations require different leadership styles than traditional labor-intensive (e.g., hospitality) or capital-intensive industries (e.g., low-tech manufacturing) (Terpstra & Rozell, 1993). In knowledge-intensive work contexts, leadership styles focus on fostering employees' feeling of intrinsic motivation, trust, and empowerment, are likely to be more effective at encouraging knowledge sharing and creativity/innovation (Donate & de Pablo, 2015). For example, leadership styles such as supportive and empowering leadership are likely to be more effective in enhancing employee creativity and innovation, than authoritarian leadership, in high knowledge-intensive industries (Chuang, Jackson, & Jiang, 2016; Srivastava, Bartol, & Locke, 2006).

National Culture – Power Distance

As an additional contextual variable, we explore the possible moderating role of cultural levels because a large body of theoretical and empirical work suggests that national culture can influence the effectiveness of different leadership styles (e.g., Dorfman, Sully de Luque, Hanges, & Javidan, 2010; Hofstede, 2001; House & Aditya, 1997; Sully de Luque, Javidan, Hanges, & Dorfman, 2011). As House, Javidan, Hanges, and Dorfman (2002) suggest, what is expected of leadership varies considerably as a result of cultural expectations. Here, we use the Hofstede cultural dimensions to examine national cultural based on the geographic locations where studies were drawn (Hofstede, 2001). We focus on power distance, which refers to beliefs about status, authority, and power in organizations and therefore has a stronger theoretical link to leadership reactions than many other cultural values (Kirkman, Chen, Farh, Chen, & Lowe, 2009; Ng, Koh, Ang, Kennedy, & Chan, 2011). Societies with a high-power distance orientation expect more, and are more receptive to, one-

way, top-down direction from their leaders (Javidan, House, Dorfman, Hanges, & De Luque, 2006). For instance, Den Hartog et al. (1999) suggest that in high power distance societies there should exist a less negative attitude towards authoritarian leadership. By contrast, in low power-distance cultures, people are argued to be less respectful of authority and are more likely to view leaders as equal in status to others (Rockstuhl, Dulebohn, Ang, & Shore, 2012). Thus, the norms of low power-distance cultures should be more compatible with leadership style that promote equality and delegation between leaders and followers (Hale & Fields, 2007).

Follower Gender

Finally, we consider follower gender as a possible within-context moderator. Typically, compared to females, males are more likely to attain creative eminence across various domains in the arts and sciences (Abra & Valentine-French, 1991; Cole & Zuckerman 1987; Piirto 1991). There are many potential reasons for this effect (see Baer & Kaufman, 2008; Abraham, 2016) but the most promising explanations seem to revolve around what has been entitled a “male hubris-female humility” bias (Furnham, Fong, & Martin, 1999). That is, males typically rate themselves better at most things than women including having greater creative self-efficacy, especially within scientific and competitive contexts (Hughes, Furnham, & Batey, 2012; Kaufman, 2006). Because “self-assessments of our abilities influence what we attempt to do and how much effort we expend ... [they] are important not just to self-perception but also to performance” (Hughes et al., 2012, p. 76). Similarly, males’ creative efforts are typically more resilient to the nature of feedback and rewards received. For example, studies of creative writing have demonstrated that introducing a reward-based extrinsic motivators or performance evaluations had no discernible effect, on the creative output of males but negatively affected female performance (Baer, 1998). Thus, it is possible that by working to increase the confidence of their

employees and motivating in the ‘appropriate’ way, leaders might have a relatively more important role to play for female followers. In other words, male creative hubris perhaps acts as a buffer, regardless of how a leader behaves.

Moderation summary

To summarize, meta-analytic studies provide a unique opportunity to explore moderators that are difficult to test in single studies. To that end the current research seeks to explore boundary conditions that might help to explain some of the variation in effect sizes found across field studies (Hughes et al., 2018).

Research question 3: To what extent do study design features, national culture, industrial context and follower gender impact the strength of the relationship between different leadership styles and creativity/innovation?

Method

Literature Search and Study Inclusion

A thorough search was conducted in order to identify published and unpublished samples that examined the relationship between leadership styles with creativity or innovation. To ensure completeness, we used electronic databases, EBSCOHost, Emerald, ProQuest, PsycINFO, and ScienceDirect, which collectively include a wide range of management and applied psychology journals. We included the search terms: *lead**, *creativity*, *creative behave**, *innovate**, *innovative behav**, *idea generation*, *idea implementation*, *idea promotion*. This process yielded a total of 10,043 results including journal articles, dissertations, books, conference papers and proceedings, and working papers. In addition, we examined the reference lists from any relevant review articles and most recent papers (Hughes et al., 2018; Mainemelis et al., 2015; Reiter-Palmon, & Ilies, 2004; Wang et al., 2011; Watt, Steele, & Den Hartog, 2019). Finally, we searched for possible unpublished and

in-press studies by sending email solicitations to members of the Academy of Management OB listserv.

A study had to meet several criteria to be included in our final analysis. First, it had to include a zero-order correlation between a leadership style and either creativity or innovation at the individual-level. Individual creativity was assessed with ‘objective’ measures (e.g., creativity bonuses: Liao, Liu, & Loi, 2010) or leader-, peer-, customer- and self-ratings of commonly used creative behavior scales (e.g., Zhou & George, 2001). Innovation was assessed with leader-, customer- and self-ratings of commonly used innovative behavior scales (e.g., Janssen, 2000; Scott & Bruce, 1994). We only included studies that used follower ratings of leadership style. While a handful of studies in the search used leader-rating of their own style (e.g., Van Dyne, Jehn & Cummings, 2002), the overwhelming majority used follower-rating and thus we chose to focus only on these studies. The second inclusion criteria for our analyses was that the study included the sample size used to arrive at the correlation. Third, the sample had to be independent from other studies; if a sample overlapped with another study, it was only included once. After coding these papers, we looked for the most common leadership styles examined. Like other researchers (e.g., Cole, Walter, Bedeian, & O’Boyle, 2012; Hoch, et al., 2018), we made an *a priori* decision that we would include a leadership style if it was included in four or more samples with either creativity or innovation. This criterion ruled out several leadership styles that were represented by fewer than four studies, including inclusive (2), ambidextrous (2) or empathetic (1) leadership. Our final sample included studies related to transformational, transactional, LMX, empowering/participative, servant, ethical/moral, authentic, humble, supportive, benevolent, entrepreneurial, authoritarian, and destructive leadership. In total, 255 publications and 266 independent samples (several publications reported multiple samples)

met these criteria. Appendix A provides details of the studies included for every meta-correlation produced in our analyses.

In addition to exploring the correlations between the leadership styles, creativity and innovation, the current study is also concerned with relative effects of different leadership styles and moderators. For moderation analyses we coded pertinent information from the studies, such as the national culture in which each study was conducted, the percentage of leaders and/or followers that were males, and the average age of followers. In order to determine the relative effects of the different leadership styles, we required meta-analytic correlations between leadership styles. For some of these relationships we were able to rely on recently published meta-analytic papers to get the required correlation. For example, recent studies provided meta-analytic correlations between leadership styles such as ethical and empowering leadership and transformational leadership (e.g., Hoch et al., 2018; Lee et al., 2018). For other leadership styles, no previous meta-analyses were available and thus we conducted a separate search to find correlations between styles. Appendix A highlights the source of all these meta-analytic correlations.

Meta-Analysis Procedure

The meta-analysis utilized the Hunter and Schmidt (2015) approach. This method produces a sample weighted mean correlation (r) and a mean correlation corrected for unreliability in both independent and dependent variables, henceforth referred to as the corrected population correlation (ρ). Missing values (i.e., reliability of either predictor or criterion) were estimated by adding the average value across the studies in which information was provided (Hunter & Schmidt, 2015). If a study included multiple operationalisations of either creativity or innovation, we averaged the correlation to create a single correlation. For example, a study by Harris and colleagues (2014) included both supervisor and co-worker ratings of employee creativity (Study 2), which was averaged. The 95% confidence intervals

(95% CI) of the sample-weighted mean correlation and the 80% credibility intervals (80% CV) of the corrected population correlation were also reported. Confidence intervals estimate variability in the sample-weighted mean correlation that is due to sampling error; credibility intervals estimate variability in the individual correlations across studies that is due to moderating variables (Whitener, 1990). If the 95% confidence interval does not include zero, we can be confident that the sample-weighted mean correlation differs from zero. Confidence intervals can also be used to determine whether two estimates differ from each other; two estimates are considered different when their confidence intervals are non-overlapping.

If the 80% credibility interval of the corrected population correlation is large it is indicative of the fact that there is considerable variation across studies, and moderators are likely to be operating. We also estimated the percentage of variance accounted for in the corrected population correlation by sampling and measurement error (% VE, Hunter & Schmidt, 1990). Typically, moderators are likely to be present when sampling and measurement error accounts for less than 75% of the variance (Hunter & Schmidt, 1990). To explore moderators between the different leadership styles and creativity and/or innovation we ran random effects meta-regression. Meta-regression explores whether there is a significant difference between studies according to different levels of either continuous or categorical moderators (Borenstein, Hedges, Higgins & Rothstein, 2011). We conducted these moderator analyses using the meta-analytic software, Comprehensive Meta-Analysis (version 2.2.064, 2011, Biostat, Englewood, NJ). We first tested several methodological moderators, including: rater (whether creativity/innovation was self- or other-rated/objective); time (whether the creativity/innovation was measured at the same time or later than the leadership style); and whether the studies were published or unpublished (to test for any publication bias). After testing these methodological moderators, we then explored theoretical moderators, including the national culture in which the studies were conducted,

the industry context, and the gender of the followers. For national culture, each study was given a score for power-distance, ranging from 1 (representing very low power-distance) to 100 (indicating very high power-distance) based on the culture taxonomies obtained from Hofstede (2001). For example, according to Hofstede's research, Austria has very low power distance with a score of 11. Malaysia, on the other hand, has a score of 100. We coded industry knowledge intensity based on Alvesson's (2000) and OECD's definition of knowledge intensive industries (Liao et al., 2007; Miles, 2008). For example, industries that are considered to be high knowledge intensity typically include include high-tech service (e.g., telecommunication, computer and related activities), professional service (e.g., law and accounting, banking and insurance, health and social work, management, consultancy, education, information service industries), and high-tech manufacturing (e.g., pharmaceuticals, aerospace, and biotechnology industries). Industries that are considered low-medium industry knowledge intensity typically include retail trade, wholesale trade, and textile and clothing manufacturing (Miles, 2008). Finally, follower gender was coded as the proportion of the followers in the study that were male.

To test for relative predictive validity of the different leadership styles, we conducted relative weights analysis (Johnson, 2000). Relative weight analysis tests the relative contribution (i.e., relative importance) among multiple (often correlated) predictor variables in a regression analysis. Relative weights analysis converts the total variance predicted in a regression model (R squared) into weights that accurately reflect the proportional contribution of the various predictor variables. Specifically, these weights represent an additive decomposition of the total model and can be interpreted as the proportion (percentage) of variance in the outcome (e.g., creativity) that is appropriately attributed to each leadership variable. The analysis addresses the problem caused by correlated predictors by using a variable transformation approach that takes into account a variable's contribution

to an outcome by itself and in combination with other predictor variables (see Johnson, 2000; Johnson & LeBreton, 2004; LeBreton & Tonidandel, 2008; Tonidandel & LeBreton, 2011, for a detailed discussion of relative weight analysis). The use of relative weights in meta-analyses has gained great popularity and is common in management literature (see Hoch et al., 2018; Kurtessis et al., 2017; Lee et al., 2018). To conduct the analysis, we first created a correlation matrix, which included meta-analytic correlations between all study variables (where possible). To reduce common source variance and common method bias, the correlations between leadership and creativity and/or innovation, were based on non-common source estimates (cf. Podsakoff et al., 2012). In other words, we did not include self-rated creative or innovative performance in these analyses. Using this correlation matrix, we conducted relative weights analyses, using Tonidandel and LeBreton's (2011) guidelines.

Results

Zero-order correlations between the various leadership style and individual-level creativity and innovation are displayed in Table 1. We formulated effect sizes using all studies, studies using self-reported creativity and innovation, and studies using non-self-report creativity and innovation. All the leadership styles, except transactional leadership, were significantly associated with creativity. Entrepreneurial and authentic leadership shared the largest correlation with creativity ($p = .47$) and, as indicated by non-overlapping 95% confidence intervals, authentic leadership had a significantly larger association than transformational, benevolent, humble, supportive, authoritarian, and destructive. The association between transactional leadership and creativity was found to be more variable – with confidence intervals that crossed zero. To better understand the effects of transactional leadership we examined its dimensions separately and found that contingent reward was positively and significantly associated with creativity, whereas management by exception had a non-significant association with creativity (See Table 3). Table 3 also shows the

correlations for the dimensions of transformational leadership; no significant differences were found across the four dimensions of transformational leadership ($\rho = .20 - .22$).

Insert Table 1 about here

Insert Table 2 about here

Turning to individual innovative behavior, the pattern of results is like those described for creativity. Innovation was significantly correlated with all the leadership styles. However, we did not find enough primary studies to explore the associations between innovation and authentic, humble, authoritarian, or destructive leadership. The largest association was found between supportive leadership and innovation ($\rho = .38$). As with creativity, to better understand the effects of transactional leadership we examined its dimensions and found that contingent reward was positively and significantly associated with creativity ($\rho = .30$), however we were unable to find enough studies that examined the effect of management by exception on individual innovation (See Table 2).

Moderation Analysis

Table 3 displays the results of our moderation analyses. Looking first at the methodological moderators, no evidence of publication bias is evident. However, we could not test for publication bias for many of the leadership styles do to a lack of unpublished studies. We did find some evidence that the correlation between leadership and creativity/innovation is inflated when either creativity or innovation was self-rated as opposed to other-rated (e.g., leader-rated) or objectively measured. For example, we found that the relationship between transformational leadership and both creativity and innovation was significantly larger when common-source data was used. The final methodological moderator we explored related to whether the studies employed a cross-sectional or time-separated design. We found evidence for smaller correlations between leadership and creativity when creativity was measured later than leadership. Specifically, the link between

creativity and both LMX and empowering leadership was weaker when these variables were time separated compared to measured simultaneously. For many leadership styles there were too few time-separated designs to allow for this moderation analysis.

Insert Table 3 About Here

In terms of national culture, we explored the moderating effect of power distance. In most of the analyses power distance had no significant effect on the relationship between leadership styles and either creativity or innovation. However, for empowering leadership, we found that the relationship with creativity was weaker in cultures higher in power distance. Conversely, we found that the relationship between supportive leadership and creativity and was stronger in cultures higher in power distance. Similarly, the relationship between servant leadership and innovation was stronger in such cultures.

We respect to knowledge intensity, we found little evidence that this aspect of industrial context influenced the strength of the relationship between leadership style and either creativity or innovation. However, an interesting finding was that LMX and supportive leaders had a weaker impact on innovation in knowledge intensive industries.

Finally, in relation to the gender of followers, we found evidence that several styles of leadership were more effective when the proportion of female followers was higher compared to lower. Specifically, the correlation between creativity and LMX, authentic, servant, and destructive leadership was weaker when there was a higher proportion of male followers. Similarly, the relationship between LMX and innovation was weaker when there was a higher proportion of male followers.

Relative Weights Analysis

Next, we explored the relative association between the leadership styles and creativity and innovation. We conducted this analysis in two steps. First, we compared the effect of each leadership style to the full-range leadership model (i.e., transformational and

transactional leadership). Where possible we did this for both creativity and innovation. Based on our findings we decided to focus on contingent rewards as our measure of transactional leadership given this dimension had much stronger effects than management by exception. The second step of these analyses focused on comparing the effect of leadership styles within the different categories. For instance, we examined the relative importance of authentic, servant, ethical and humble leadership on creativity to ascertain which of these “moral styles” had the strongest relationship to creativity. For all these analyses, we decided to exclude self-rated creativity and innovation from this analysis and focus only on non-common source studies. We did this because, our moderation analyses suggested that self-rated creativity and innovation was often significantly more strongly related to leadership – suggesting the potential for common-method bias (Podsakoff et al., 2012).

Insert Table 4 about here

Table 4 shows the relative weight analyses comparing each of the leadership styles with transformational and contingent reward leadership. Regarding creativity, empowering (75%), LMX (51%), servant (47%), and authentic (77%) leadership explained relatively more variance than did transformational leadership or contingent reward leadership, whereas authoritarian (13%), destructive (26%), and supportive (15%) leadership accounted for relatively less variance than did transformational and contingent reward leadership. For humble and benevolent styles of leadership, we could only find enough studies to compare with transformational leadership. Humble leadership explained slightly more variance (53%) in creativity compared to transformational leadership, whereas benevolent explained much less (27%). These findings suggest that authentic and empowering leadership have the strongest relationship to creativity over transformational and contingent reward leadership.

Regarding innovation, a different pattern was evident, with only supportive leadership (58%) explaining relatively more variance than the full-range leadership model. It is

interesting to note that except for supportive leadership, the use of contingent rewards as a transactional leadership style explained the most variance in innovation in all the models tested. As far as data allowed, we conducted additional relative weights analysis within the categories of leadership. As shown in Table 5, we explored the relative weights of the relational oriented leadership styles: LMX, supportive and benevolent leadership. Of these leadership styles, LMX (59%) explained a larger proportion of the total variance than either supportive (19%) or benevolent leadership (22%). However, supportive leadership (80%) explained a greater proportion of the variance in innovation compared to LMX (20%). Of the moral-based leadership styles, we found that authentic leadership explained the largest proportion of the variance in creativity (54%), whereas compared to servant leadership, ethical leadership (74%) explained most variance in innovation. For the two motivational styles, empowering leadership (60%) was the strongest predictor of innovation, explaining a higher proportion of the variance compared to entrepreneurial leadership (40%). Finally, of the negative leadership styles, destructive leadership (82%) explained a much larger proportion of the effect on creativity compared to authoritarian (18%).

Insert Table 5 about here

Discussion

The present research sought to synthesize the large body of research that has examined the relationship between various leadership styles and employee creative and innovative behavior. To date, this literature has painted a confusing picture and in an initial bid to add some parsimony and clarity to the area, we synthesized empirical work to produce reliable estimates of the correlations between thirteen leadership variables and creativity and innovation, provide an initial examination of the relative importance of different leader styles, and to explore some potential moderators. We discuss our findings in relation to our three key aims below.

Research question 1: Which leadership style(s) is(are) most strongly associated with creativity and innovation?

Numerous leadership styles have been examined as predictors of followers' creative and innovative behavior, and the key aim of the current meta-analysis was to summarize this vast literature. Several meta-analyses have previously found positive correlations between authentic, servant, transformational, and empowering leadership and either creativity, innovation, or often, some combination of the two (Banks et al., 2016; Lee et al., 2018; Lee et al., 2019; Rosing et al., 2011; Wang et al., 2011). However, our findings help to further clarify the field in two main ways. Firstly, rather than combining creativity and innovation, we separated these outcomes. Secondly, because we estimate reliable correlations between thirteen leadership styles and creativity and innovation, we were better able to summarise the vast literature.

Before we discuss some of the more nuanced results, we first offer a broad overview of the main trend in the analysis, namely, that almost all leader variables are modestly correlated with employee creativity and innovation. In pursuit of parsimony, we categorized the thirteen styles into five categories of leadership based on theoretical commonalities: the full-range model, moral leadership, motivational leadership, relational leadership, and negative leadership. However, our meta-analytic findings showed that all leadership styles, except transactional, had significant associations with both creativity and innovation¹ regardless of where they were categorized. This is an interesting finding that can be interpreted in different ways.

One interpretation is that leading in any generally positive way will help leverage followers' creativity or innovation. Indeed, the same theoretical mechanisms have been

¹ Fewer studies focused on innovation compared with creativity, and thus we were unable to estimate the association between innovation and authentic, destructive, or humble leadership

posited to explain the effects of many different leadership styles (Hughes et al., 2018). For example, employee psychological empowerment (i.e., feeling competent, that their job has purpose, that they have autonomy, and that they have an impact on others and the organization) has been found to mediate the effects of transformational (e.g., Sun, Zhang, Qi, & Chen, 2012), transactional (Wei, Yuan, & Di, 2010), empowering (e.g., Zhang & Bartol, 2010), and ethical leadership (e.g., Javed et al., 2017) and creativity. The policy implication of such an interpretation is that any broadly positive leader behavior will have equivalent effects on employee creativity and innovation.

An alternative, and perhaps more likely, explanation is that many leader variables are redundant and their assessment tools assess overall attitudes regarding leaders rather than actual behaviors (Lee, Martin, Thomas, Guillaume, & Maio, 2015). Although current study designs which are plagued by endogeneity bias and measurement error (see Antonakis et al., 2010, 2014; Banks et al., 2018) preclude firm conclusions, it is likely that at least some variables are redundant and future research should make it a priority to examine which leader behaviors really do matter. Only then, can we develop nuanced policy implications (see Antonakis et al., 2010, 2014; Fischer et al., 2017; Hughes et al., 2018), our relative weights analysis, discussed below, also begin to shed some light on this matter.

Turning to the more nuanced findings, our study reveals some interesting suggestions. First, with regard to employee creativity, authentic (a moral style) and entrepreneurial (a motivational style) leadership had the largest association with individual creativity. From a theoretical perspective it is interesting to compare these two styles. Whereas entrepreneurial leaders predominantly focus their resources on supporting their followers to experiment and innovate in the workplace (Renko et al., 2015), authentic leaders are more likely to focus on developing their followers in a more holistic manner through in terms the development of authenticity in followers (e.g., Hoch et al., 2018). This would suggest that leaders can

effectively influence creativity through means of modelling and encouragement but also through being an authentic and trusted leader.

Second, for individual innovation, supportive, empowering, and servant leadership had the strongest correlations. These findings tentatively suggest that employees are better able to innovate (i.e., promote and implement novel ideas) when their leaders actually become less ‘leader-like’ in the traditional sense. That is, when leaders act as facilitators and support and empower employees.

Third, across all analyses, “negative” leadership (i.e., authoritarian and destructive) typically had weaker associations with creativity compared to the “positive” leadership, suggesting that the effects of negative leaders are less pronounced than the effects of more positive leadership styles, such as those focused on morals, relationships, or motivation. These results add to the growing literature on negative leadership and specifically to results from a previous meta-analysis which found that destructive leaders with constructive leaders have found mixed results depending on the outcome (Schyns & Schilling, 2013).

Research question 2: Which leadership style(s) have the largest relative association with creativity and innovation?

As noted in Hughes et al.’s (2018) review, “it is unclear which leadership approaches are the strongest predictors because the literature has largely failed to examine the relative contribution of different leadership variables.” (p. 564). Accordingly, we used our uniquely comprehensive data set to conduct a series of analyses to provide further empirical information regarding which leader styles are most important. Two previous meta-analyses have examined the relative effects of empowering (Lee et al., 2018) and servant (Lee et al., 2019) leadership on a combination of creativity and innovation. These analyses showed that empowering and servant leadership styles had stronger effects on creativity and innovation combined compared to transformational leadership. In the case of servant leadership, Lee and

colleagues (2019) also found that servant leadership explained more variance than ethical or authentic leadership. Our study builds on these initial findings by testing a wider range of styles and considering their effects on individual-level creative and innovative behavior separately. Specifically, we estimated the relative effects of each leadership variable in comparison to the full-range leadership model (i.e., transformational leadership and contingent reward) and in separate models, we estimated the relative effects of each leader style within the five theoretical categories (as far as data allowed). The findings of both analyses converged to present an interesting picture.

For creativity, the leader variables that had the strongest relative effects, when compared to the full range leadership model, were authentic, empowering, ethical, and LMX, whereas contingent reward was a particularly weak contributor. Although spread across different theoretical groupings the commonality across these variables is that they place a premium on developing genuine and close relationships with followers through social exchanges including coaching, participative decision-making, showing concern, relational transparency. Similarly, when compared within theoretical groupings, LMX and Authentic leadership were found to be particularly prominent. This suggests that same mechanism at play, namely, that in order to facilitate creativity leaders should develop close relationships with their employees which allow them to better leverage existing employee resources (e.g., cognitive skills, motivation; Fischer et al., 2017). This interpretation is consistent with current empirical evidence and theory (e.g., Amabile, 1996; Perry-Smith & Mannucci, 2017) which show that when creating, employees require psychologically safe environments characterised by a high degree of trust so that they feel able engage in cognitively flexible thought and potentially spend time generating novel but useless ideas.

In almost direct contrast were the relative weights analyses for innovation. Authentic leadership and LMX were relatively unimportant, whereas contingent reward was one of the

most important leadership variables for innovation. The difference in the importance of contingent reward between creativity and innovation is one of the most striking findings, and again, consistent with theory and empirical evidence. For example, previous research has demonstrated that rewards unless very specifically tailored to creative output do little to provide the safe, autonomous conditions needed to generate novel ideas (Amabile, 1996; Perry-Smith & Mannucci, 2017). In contrast, innovative work behavior involves processes, such as the promotion and implementation of novel ideas that require engagement with organizational structures outside the remit of an employees' immediate leader (Perry-Smith & Mannucci, 2017). In other words, innovation requires a number of difficult social tasks that require real persistence that typically do not induce intrinsic motivation in the same manner as creativity. Thus, it is perhaps unsurprising that extrinsic rewards are effective in such instances (e.g., Honig-Haftel, & Martin, 1993). Another notable finding was that supportive, empowering and ethical leadership proved strong predictors of innovative behavior. It is likely that these leader styles encapsulate a fair approach to providing support and external endorsement needed to give employees the social influence and legitimacy needed when attempting to promote and implement ideas (Perry-Smith & Mannucci, 2017).

In sum, because creativity and innovation are fundamentally different (see Hughes et al., 2018, Table 2), and driven by different antecedents (e.g., Axtell et al., 2000; Hughes et al., 2018; Magadley & Birdi, 2012) our separate analysis has revealed some interesting nuances. Specifically, leader behaviors that focus upon building close leader-follower relationship, characterized by a high degree of trust appear most effective in facilitating employee creativity. In contrast, leader behaviors characterized by providing ethical and fair contingent rewards and those characterized by 'opening doors' and lending social influence to followers appear most effective in facilitating employee innovation.

Research question 3: To what extent do study design features, national culture, industrial context and follower gender impact the strength of the relationship between different leadership styles and creativity/innovation?

Previous studies have noted that a large amount of variation exists in the relationship between leadership variables and creativity/innovation (e.g., Hughes et al., 2018). This was echoed in our findings, as indicated by large 80% credibility intervals observed between the leadership styles and both creativity and innovation. As such we sought to explore some potential methodological and substantive moderators of the correlations between leadership and creativity and innovation.

Methodological Moderators

To test whether the main effects found in our analysis were influenced by the methodology employed in the primary studies, we explored the effect of the two most common practices employed to reduce common method bias (see Podsakoff et al., 2012). We found that the relationship between leadership and follower creativity and innovation was often larger when the outcome was self-rated compared to when it was either rated or objectively measured. We also found some evidence that measuring creativity or innovation at a later time period to the measurement of leadership significantly reduced the magnitude of the association between the variables. However, it should be noted that for many leadership styles there were no significant differences based on these study design issues. It is also important to note that the two methods are inadequate methods to fully deal with issues of endogeneity and common method bias (see Antonakis et al., 2010). As Hughes et al. (2018) acknowledge, the issue of endogeneity within study design is not unique to the leadership, creativity and innovation field, but we echo their call for future research to strengthen the survey design in this literature. This should include the increase use of experimental studies, longitudinal designs, and instrumental variables (see Hughes et al., 2018 for specific

recommendations).

Substantive moderators

Industrial setting did not moderate correlations between most leadership styles and creativity and innovation. Thus, regardless of whether studies were conducted in knowledge intensive sectors or not, effects were largely consistent. However, we did find that supportive leadership and LMX (both relational styles) had a weaker relationship with innovation in more knowledge intensive industries. On one hand, this is surprising because supportive leadership and LMX should provide followers with access to resources, assistance, and encouragement which could enhance innovative behavior. However, because knowledge-intensive work is of an “intellectual nature” and the majority of employees are “well-educated” (Alvesson, 2000, p. 1101), we speculate that they may feel less need for supportive style of leadership, but rather prefer other leadership styles which promote self-imitated actions. Indeed, a strong supportive leadership style in this context can even make knowledge workers feel less independent, less trusted and as a result, use their competencies to be creative to a lesser extent (Burnett, Chiaburu, Shapiro, & Li., 2015).

Another contextual variable examined was national culture. Focusing on societal-level power-distance, we found that culture moderated the correlations between empowering, servant, and supportive leadership and creativity (empowering and supportive) and innovation (servant). For empowering leadership, we found that higher levels of power distanced weakened the relationship with creativity. This is not surprising as cultures high in power distance may perceive empowering behavior such as the delegation of responsibility to be inconsistent with societal norms suggesting that only those with formal power should have authority and discretion, whereas the role of low power individuals is to carry out the explicit orders of superiors (Rockstuhl et al., 2012). As such individuals in high power distance

societies may be less willing to accept and exercise discretionary power granted by leaders (e.g., Chow, Lo, Sha, & Hong, 2006).

Whereas the effect of empowering leadership on creativity was attenuated by higher levels of power-distance, we found that supportive and servant leadership had stronger effects on creativity and innovation, respectively, when power-distance was higher. There are theoretical reasons that can explain these effects. High power-distance cultures adopt policies and norms that consider followers to be less important than leaders (Tyler et al., 2000) and that they should show greater deference and obedience (Li & Sun, 2015). Thus, when leaders demonstrate individualized support to followers, it is likely perceived as a kindness that surpasses expectations and is received with gratitude (Lin et al., 2018). By contrast, followers in lower power-distance societies likely expect such support as the norm and sometimes even distrust leaders (who are, after all, similar to them) meaning that supportive efforts confer weaker effects on behavior. Overall, our finding related to national cultures suggest that the different leadership styles are often effective in cultures high and low in power distance. However, the moderation results we did find suggest that there is a need to better understand the role of culture at different levels (e.g., national and intranational level; Gamble & Tian, 2015; Tsui, Nifadkar, & Ou, 2007).

With regards to follower gender, five correlations were moderated. The higher the proportion of males in a team, the weaker the correlations between LMX, Authentic, Servant, and Destructive leadership were with creativity and innovation. These results are in line with the “male hubris-female humility” bias (Furnham et al., 1999) and suggest that, on average, females’ creative and innovative performance is more heavily aided and hindered by their leaders. This effect seems to be particularly pronounced for leader styles that have a strong social exchange component, suggesting that leaders’ social interactions might be particularly important for harnessing the creative potential of female employees.

Limitations and Future Research Directions

As with any meta-analysis, the results are bound by the data that is available in primary studies. As noted in a recent review by Hughes and colleagues (2018) the literature related to leadership, creativity and innovation is limited by study design issues inherent in the primary data. This includes an over-reliance on cross-sectional and correlational data. Unfortunately, these designs, are unable to provide robust estimates of causal effects due to endogeneity biases (e.g., Antonakis, Bendahan, Jacquart, & Lalive, 2014; Fischer et al., 2017; Hughes et al., 2018). This limitation makes it impossible to draw conclusions related to causality in our analyses. That said, there are strong theoretical grounds to suspect that leadership style will influence follower creativity and innovation, with support from experimental studies (e.g., Sosik, Kahai, Avolio, 1999; Jaussi & Dionne, 2003).

For some of the relationships in our analyses we had to rely on a relatively small number of primary studies. For example, the relationship between entrepreneurial leadership and creativity was particularly strong but based on only three studies. There were too few studies using non-common source data to include this style in our relative weight analysis. The lack of primary studies makes it impossible to derive strong conclusions since the results may have been strongly influenced by particularly strong or weak correlations. This limitation also highlights clear areas for future research by demonstrating which outcomes particularly require further investigation.

Practical Implications

Although the limitations noted are non-trivial (see Hughes et al, 2018), our synthesis does suggest some tentative implications for the training and development of leaders. There are two notable findings in this regard. For enhancing individual-level creativity, leaders should try to enact behaviors that focus upon building close leader-follower relationship, characterized by a high degree of trust, as would be indicative of the relatively important

leader variables of LMX, authentic, and empowering leadership. To help in this regard, organizations might wish to train leaders in such styles (see Baron & Parent, 2015, for a recent evaluation of such training). In addition, leaders should be careful if trying ‘buy’ creativity through contingent rewards, and would probably be better served to allow employees the autonomy and time needed to generate novel ideas – many of which will likely be of little tangible value yet important in the overall process. Similarly, organizations must create appropriate processes to allow for such work.

In contrast, when seeking to help employees innovate, leaders should behave in a manner that is characterized by providing ethical and fair contingent rewards and by lending social influence and ‘opening doors’ for followers. Perhaps the key finding that emerges from our analysis relates to the use of a transactional leadership style (i.e., contingent rewards). This style has strong effects on innovation and suggests that when it comes to fostering innovation organizations should consider their reward systems carefully. The use of well-designed reward systems, and/or allowing leaders to have discretion to offer contingent rewards can be a useful tool in implementing new ideas in a tangible way.

References

For references for studies included in meta-analysis see APPENDIX B

- Abra, J. C., & Valentine-French, S. (1991). Gender differences in creative achievement: A survey of explanations. *Genetic, Social, and General Psychology Monographs, 117*, 233-284., 235-284.
- Alvesson, M. (2000). Social identity and the problem of loyalty in knowledge- intensive companies. *Journal of Management Studies, 37*, 1101-1124.
<https://doi.org/10.1111/1467-6486.00218>
- Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview Press.
- Anderson, N., Potocnik, K. & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review and prospective commentary. *Journal of Management, 40*, 1297-1333. <https://doi.org/10.1177/0149206314527128>
- Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2010). On making causal claims: A review and recommendations. *The Leadership Quarterly, 21*, 1086-1120.
<https://doi.org/10.1016/j.leaqua.2010.10.010>
- Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2014). Causality and endogeneity: Problems and solutions. In D.V. Day (Ed.), *The Oxford handbook of leadership and organizations* (pp. 93-117). New York: Oxford University Press.
- Aryee, S., Chen, Z. X., Sun, L Y., & Debrah, Y. A. (2007). Antecedents and outcomes of abusive supervision: Test of a trickle-down model. *Journal of Applied Psychology, 92*, 191-201. <https://doi.org/10.1037/0021-9010.92.1.191>
- Avolio, B. J. & Bass, B. M. (1988). Transformational leadership, charisma, and beyond. In J. G. Hunt, B. R. Baliga, H. P. Dachler, & C. A. Schriesheim (Eds.), *International leadership symposia series. Emerging leadership vistas* (pp. 29 - 49). Lexington, MA, England: Lexington Books

Avolio, B., & Bass, B. (1991). *Full-range training of leadership*. Binghamton, New York:

Bass/Avolio & Associates

Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., & May, D. R. (2004).

Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *The Leadership Quarterly*, *15*, 801-823.

<https://doi.org/10.1016/j.leaqua.2004.09.003>

Axtell, C., Holman, D., Unsworth, K., Wall, T., Waterson, P., & Harrington, E. (2000).

Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, *73*, 265-285.

<https://doi.org/10.1348/096317900167029>

Aycan Z. (2006). Paternalism: towards conceptual refinement and operationalization. In K. S.

Yang, K. K. Hwang, U. Kim (Eds.), *Scientific advances in indigenous psychologies: empirical, philosophical, and cultural contributions* (pp. 445–66). London: Cambridge Univ. Press

Baer, J. (1998). The case for domain specificity of creativity. *Creativity research journal*, *11*,

173-177. https://doi.org/10.1207/s15326934crj1102_7

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*.

Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Banks, G. C., Gooty, J., Ross, R. L., Williams, C. E., & Harrington, N. T. (2018). Construct

redundancy in leader behaviors: A review and agenda for the future. *The Leadership Quarterly*, *29*, 236-251. <https://doi.org/10.1016/j.leaqua.2017.12.005>

Banks, G. C., McCauley, K. D., Gardner, W. L., & Guler, C. E. (2016). A meta-analytic

review of authentic and transformational leadership: A test for redundancy. *The*

Leadership Quarterly, *27*, 634-652. <https://doi.org/10.1016/j.leaqua.2016.02.006>

- Baron, L. (2016). Authentic leadership and mindfulness development through action learning. *Journal of Managerial Psychology, 31*, 296-311. <https://doi.org/10.1108/JMP-04-2014-0135>
- Baron, L., & Parent, É. (2015). Developing authentic leadership within a training context: Three phenomena supporting the individual development process. *Journal of Leadership & Organizational Studies, 22*, 37-53. <https://doi.org/10.1177/1548051813519501>
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Simon & Schuster.
- Blau, P. M. (1964). *Exchange and power in social life*. New York: John Wiley & Sons, Ltd.
- Borenstein, M., Hedges, L. V., Higgins, J. P., & Rothstein, H. R. (2011). *Introduction to meta-analysis*. Chichester: John Wiley & Sons, Ltd.
- Brown, M. E., Trevino, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes, 97*, 117-134. <https://doi.org/10.1016/j>
- Burnett, M. F., Chiaburu, D. S., Shapiro, D. L., & Li, N. (2015). Revisiting how and when perceived organizational support enhances taking charge: An inverted U-shaped perspective. *Journal of Management, 41*, 1805-1826. <https://doi.org/10.1177/0149206313493324>
- Cai, W., Lysova, E. I., Khapova, S. N., & Bossink, B. A. (2019). Does entrepreneurial leadership foster creativity among employees and teams? The mediating role of creative efficacy beliefs. *Journal of Business and Psychology, 34*, 203-217. <https://doi.org/10.1007/s10869-018-9536-y>
- Chen, M. H. (2007). Entrepreneurial leadership and new ventures: Creativity in entrepreneurial teams. *Creativity and Innovation Management, 16*, 239-249. <https://doi.org/10.1111/j.1467-8691.2007.00439.x>

- Chen, G., Farh, J.-L., Campbell-Bush, E. M., Wu, Z., & Wu, X. (2013). Teams as innovative systems: Multilevel motivational antecedents of innovation in R&D teams. *Journal of Applied Psychology, 98*, 1018-1027. <https://doi.org/10.1037/a0032663>
- Cheng, B. S., Chou, L. F., Wu, T. Y., Huang, M. P., & Farh, J. L. (2004). Paternalistic leadership and subordinate responses: Establishing a leadership model in Chinese organizations. *Asian Journal of Social Psychology, 7*, 89-117. <https://doi.org/10.1111/j.1467-839X.2004.00137.x>
- Chi, S. C. S., & Liang, S. G. (2013). When do subordinates' emotion-regulation strategies matter? Abusive supervision, subordinates' emotional exhaustion, and work withdrawal. *The Leadership Quarterly, 24*, 125-137. <https://doi.org/10.1016/j.leaqua.2012.08.006>
- Chow, I. H. S., Lo, T. W. C., Sha, Z., & Hong, J. (2006). The impact of developmental experience, empowerment, and organizational support on catering service staff performance. *International Journal of Hospitality Management, 25*, 478-495. <https://doi.org/10.1016/j.ijhm.2005.03.002>
- Chuang, C. H., Jackson, S. E., & Jiang, Y. (2016). Can knowledge-intensive teamwork be managed? Examining the roles of HRM systems, leadership, and tacit knowledge. *Journal of Management, 42*, 524-554. <https://doi.org/10.1177/0149206313478189>
- Cole, M. S., Walter, F., Bedeian, A. G., & O'Boyle, E. H. (2012). Job burnout and employee engagement: A meta-analytic examination of construct proliferation. *Journal of Management, 38*, 1550-1581. <https://doi.org/10.1177/0149206311415252>
- Cole, J. R., & Zuckerman, H. (1987). Marriage, motherhood and research performance in science. *Scientific American, 256*, 119-125.
- Deci, E., & Ryan, R. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268. https://doi.org/10.1207/S15327965PLI1104_01

De Hoogh, A. H., & Den Hartog, D. N. (2008). Ethical and despotic leadership, relationships with leader's social responsibility, top management team effectiveness and subordinates' optimism: A multi-method study. *The Leadership Quarterly*, *19*, 297-311.

<https://doi.org/10.1016/j.leaqua.2008.03.002>

de Vries, R. E. (2012). Personality predictors of leadership styles and the self–other agreement problem. *The Leadership Quarterly*, *23*, 809-821.

<https://doi.org/10.1016/j.leaqua.2012.03.002>

Deci, E. L., & Ryan, R. M. (1987). The support of autonomy and the control of behavior. *Journal of Personality and Social Psychology*, *53*, 1024-1037.

<http://dx.doi.org/10.1037/0022-3514.53.6.1024>

Dedahanov, A. T., Lee, D. H., Rhee, J. & Yoon, J. (2016). Entrepreneur's paternalistic leadership style and creativity: The mediating role of employee voice. *Management Decision*, *54*, 2310-2324. <https://doi.org/10.1108/MD-11-2015-0537>

Den Hartog, D. N., House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Abdalla, I. A., ... & Akande, B. E. (1999). Culture specific and cross-culturally generalizable implicit leadership theories: are attributes of charismatic/transformational leadership universally endorsed? *The Leadership Quarterly*, *10*, 219-256.

[https://doi.org/10.1016/S1048-9843\(99\)00018-1](https://doi.org/10.1016/S1048-9843(99)00018-1)

Derue, D. S., Nahrgang, J. D., Wellman, N. E. D., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology*, *64*, 7-52. <https://doi.org/10.1111/j.1744-6570.2010.01201.x>

Donate, M. J., & de Pablo, J. D. S. (2015). The role of knowledge-oriented leadership in knowledge management practices and innovation. *Journal of Business Research*, *68*, 360-370. <https://doi.org/10.1016/j.jbusres.2014.06.022>

- Dong, Y., Bartol, K. M., Zhang, Z., & Li, C. (2017). Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership. *Journal of Organizational Behavior, 38*, 439-458.
<https://doi.org/10.1002/job.2134>
- Dorfman, P., Sully de Luque, M., Hanges, P., & Javidan, M. (2010). Strategic leadership across cultures: The new GLOBE multinational study, *Academy of Management Annual Meeting, Montreal, Canada*.
- Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange integrating the past with an eye toward the future. *Journal of Management, 38*, 1715-1759.
<https://doi.org/10.1177/0149206311415280>
- Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*, 350-383. <https://doi.org/10.2307/2666999>
- Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit-level organizational citizenship behavior. *Personnel Psychology, 57*, 61-94.
<https://doi.org/10.1111/j.1744-6570.2004.tb02484.x>
- Elkins, T., & Keller, R. T. (2003). Leadership in research and development organizations: A literature review and conceptual framework. *The Leadership Quarterly, 14*, 587-606.
[https://doi.org/10.1016/S1048-9843\(03\)00053-5](https://doi.org/10.1016/S1048-9843(03)00053-5)
- Farh, J. L. & Cheng, B. S. (2000). A cultural analysis of paternalistic leadership in Chinese organizations. In J. T. Li, A. S. Tsui, & E. Weldon (Eds.), *Management and organizations in the Chinese context* (pp. 84-127). London, UK: Macmillan Press Ltd.
- Fischer, T., Dietz, J., & Antonakis, J. (2017). Leadership process models: A review and synthesis. *Journal of Management, 43*, 1726-1753.
<https://doi.org/10.1177/0149206316682830>

- Furnham, A., Fong, G., & Martin, N. (1999). Sex and cross-cultural differences in the estimated multi-faceted intelligence quotient score for self, parents and siblings. *Personality and Individual Differences*, 26, 1025-1034. [https://doi.org/10.1016/S0191-8869\(98\)00201-3](https://doi.org/10.1016/S0191-8869(98)00201-3)
- Gamble, J., & Tian, A. W. (2015). Intra-national variation in organizational commitment: evidence from the Chinese context. *The International Journal of Human Resource Management*, 26, 948-970. <https://doi.org/10.1080/09585192.2012.722122>
- Gouldner AW. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161–178. <https://doi.org/10.2307/2092623>
- Graen, G. B., & Cashman, J.F. (1975). A role-making model of leadership in formal organizations: A developmental approach. In J.G. Hunt & L.L Larson (Eds.), *Leadership Frontiers* (pp. 143-165). Kent, Ohio: Kent State University Press.
- Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, 6, 219-247. [https://doi.org/10.1016/1048-9843\(95\)90036-5](https://doi.org/10.1016/1048-9843(95)90036-5)
- Griffin, R. W. (1983). Objective and social sources of information in task redesign: A field experiment. *Administrative Science Quarterly*, 28, 184-200. <https://www.jstor.org/stable/2392617>
- Gu, J., Song, J., & Wu, J. (2016). Abusive supervision and employee creativity in China: Departmental identification as mediator and face as moderator. *Leadership & Organization Development Journal*, 37, 1187-1204. <https://doi.org/10.1108/LODJ-02-2015-0021>
- Gu, Q., Tang, T.L.P. & Jiang, W. (2015). Does moral leadership enhance employee creativity? Employee identification with leader and leader–member exchange (LMX) in

the Chinese context. *Journal of Business Ethics*, 126, 513-529.

<https://doi.org/10.1007/s10551-013-1967-9>

Hale, J. R., & Fields, D. L. (2007). Exploring servant leadership across cultures: A study of followers in Ghana and the USA. *Leadership*, 3, 397-417.

<https://doi.org/10.1177/1742715007082964>

Hammond, M. M., Neff, N. L., Farr, J. L., Schwall, A. R., & Zhao, X. (2011). Predictors of individual-level innovation at work: A meta-analysis. *Psychology of Aesthetics, Creativity, and the Arts*, 5, 90-105. <http://dx.doi.org/10.1037/a0018556>

Harris, T. B., Li, N., Boswell, W. R., Zhang, X. A., & Xie, Z. (2014). Getting what's new from newcomers: Empowering leadership, creativity, and adjustment in the socialization context. *Personnel Psychology*, 67, 567-604. <https://doi.org/10.1111/peps.12053>

Hiller, N. J., Sin, H-P, Ponnappalli, A., & Novelli, S. O. (2018). Benevolence and authority as WEIRDly unfamiliar: A multi-language meta-analysis of paternalistic leadership behaviors from 152 studies. *The Leadership Quarterly*, 10, 1016/j.leaqua.2018.11.003.

Hoch, J. E., Bommer, W. H., Dulebohn, J. H., & Wu, D. (2018). Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis. *Journal of Management*, 44, 501-529.

<https://doi.org/10.1177/0149206316665461>

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. New York: Sage publications.

Honig-Haftel, S., & Martin, L. R. (1993). The effectiveness of reward systems on innovative output: An empirical analysis. *Small Business Economics*, 5, 261-269.

House, R. J., & Aditya, R. N. (1997). The social scientific study of leadership: Quo vadis? *Journal of Management*, 23, 409-473. <https://doi.org/10.1177/014920639702300306>

- House, R., Javidan, M., Hanges, P., & Dorfman, P. (2002). Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE. *Journal of World Business, 37*, 3-10. [https://doi.org/10.1016/S1090-9516\(01\)00069-4](https://doi.org/10.1016/S1090-9516(01)00069-4)
- Hsiung, H. H. (2012). Authentic leadership and employee voice behavior: A multi-level psychological process. *Journal of Business Ethics, 107*, 349-361. <https://doi.org/10.1007/s10551-011-1043-2>
- Hughes, D. J., Furnham, A., & Batey, M. (2013). The structure and personality predictors of self-rated creativity. *Thinking Skills and Creativity, 9*, 76-84. <https://doi.org/10.1016/j.tsc.2012.10.001>
- Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly, 29*, 549-569. <https://doi.org/10.1016/j.leaqua.2018.03.001>
- Hunter, S. T., Bedell-Avers, K. E., & Mumford, M. D. (2007). The typical leadership study: Assumptions, implications, and potential remedies. *The Leadership Quarterly, 18*, 435-446. <https://doi.org/10.1016/j.leaqua.2007.07.001>
- Hunter, J. E., & Schmidt, F. L. (1990). Dichotomization of continuous variables: The implications for meta-analysis. *Journal of Applied Psychology, 75*, 334-349. <https://doi.org/10.1037/0021-9010.75.3.334>
- Hunter, J. E., & Schmidt, F. L. (2015) *Methods of meta-analysis: Correcting error and bias in research findings*, Newbury Park, CA: Sage publishing
- Ilies, R., Morgeson, F. P., & Nahrgang, J. D. (2005). Authentic leadership and eudaemonic well-being: Understanding leader–follower outcomes. *The Leadership Quarterly, 16*, 373-394. <https://doi.org/10.1016/j.leaqua.2005.03.002>

- Janssen, O. (2000). Job demands, perceptions of effort- reward fairness and innovative work behavior. *Journal of Occupational and Organizational Psychology*, 73, 287-302.
[https://doi.org/ 10.1348/096317900167038](https://doi.org/10.1348/096317900167038)
- Jaussi, K. S., & Dionne, S. D. (2003). Leading for creativity: The role of unconventional leader behavior. *The Leadership Quarterly*, 14, 475-498. [https://doi.org/10.1016/S1048-9843\(03\)00048-1](https://doi.org/10.1016/S1048-9843(03)00048-1)
- Javidan, M., Dorfman, P. W., De Luque, M. S., & House, R. J. (2006). In the eye of the beholder: Cross cultural lessons in leadership from project GLOBE. *Academy of Management Perspectives*, 20, 67-90. <https://doi.org/10.5465/amp.2006.19873410>
- Javed, B., Khan, A. A., Bashir, S., & Arjoon, S. (2017). Impact of ethical leadership on creativity: The role of psychological empowerment. *Current Issues in Tourism*, 20, 839-851. [https://doi.org/ 10.1080/13683500.2016.1188894](https://doi.org/10.1080/13683500.2016.1188894)
- Johnson, J. W. (2000). A heuristic method for estimating the relative weight of predictor variables in multiple regression. *Multivariate Behavioral Research*, 35, 1-19.
https://doi.org/10.1207/S15327906MBR3501_1
- Johnson, J. W., & LeBreton, J. M. (2004). History and use of relative importance indices in organizational research. *Organizational Research Methods*, 7(3), 238-257.
<https://doi.org/10.1177/1094428104266510>
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: a meta-analytic test of their relative predictive validity. *Journal of Applied Psychology*, 89, 755-768. <https://doi.org/10.1037/0021-9010.89.5.755>
- Jung, D. I., Chow, C., & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly*, 14, 525-544. [https://doi.org/10.1016/S1048-9843\(03\)00050-X](https://doi.org/10.1016/S1048-9843(03)00050-X)

- Kanungo, R. N. (2001). Ethical values of transactional and transformational leaders. *Canadian Journal of Administrative Sciences, 18*, 257-265.
<https://doi.org/10.1111/j.1936-4490.2001.tb00261.x>
- Kark, R., & Carmeli, A. (2009). Alive and creating: The mediating role of vitality and aliveness in the relationship between psychological safety and creative work involvement. *Journal of Organizational Behavior, 30*, 785-804.
<https://doi.org/10.1002/job.571>
- Kaufman, J. C. (2006). Self- reported differences in creativity by ethnicity and gender. *Applied Cognitive Psychology: The Official Journal of the Society for Applied Research in Memory and Cognition, 20*, 1065-1082. <https://doi.org/10.1002/acp.1255>
- Kehr, H. M. (2004). Integrating implicit motives, explicit motives, and perceived abilities: The compensatory model of work motivation and volition. *Academy of Management Review, 29*, 479-499. <https://doi.org/10.5465/amr.2004.13670963>
- Keller, R. T. (2006). Transformational leadership, initiating structure, and substitutes for leadership: A longitudinal study of research and development project team performance. *Journal of Applied Psychology, 91*, 202-210. <http://dx.doi.org/10.1037/0021-9010.91.1.202>
- Kim, M., Beehr, T. A., & Prewett, M. S. (2018). Employee responses to empowering leadership: A meta-analysis. *Journal of Leadership & Organizational Studies, 25*, 257-276. <https://doi.org/10.1177/1548051817750538>
- Kirkman, B. L., Chen, G., Farh, J. L., Chen, Z. X., & Lowe, K. B. (2009). Individual power distance orientation and follower reactions to transformational leaders: A cross-level, cross-cultural examination. *Academy of Management Journal, 52*, 744-764.
<https://doi.org/10.5465/amj.2009.43669971>

- Klijin, M., & Tomic, W. (2010). A review of creativity within organizations from a psychological perspective. *Journal of Management Development*, *29*, 322-343.
<https://doi.org/10.1108/02621711011039141>
- Kurtessis, J. N., Eisenberger, R., Ford, M. T., Buffardi, L. C., Stewart, K. A., & Adis, C. S. (2017). Perceived organizational support: A meta-analytic evaluation of organizational support theory. *Journal of Management*, *43*, 1854-1884.
<https://doi.org/10.1177/0149206315575554>
- LeBreton, J. M., & Tonidandel, S. (2008). Multivariate relative importance: Extending relative weight analysis to multivariate criterion spaces. *Journal of Applied Psychology*, *93*, 329-345. <http://dx.doi.org/10.1037/0021-9010.93.2.329>
- Lee, A., Lyubovnikova, J., Tian, A. W., & Knight, C. (2019). Servant leadership: A meta-analytic examination of incremental contribution, moderation, and mediation. *Journal of Occupational and Organizational Psychology*. <https://doi.org/10.1111/joop.12265>
- Lee, A., Martin, R., Thomas, G., Guillaume, Y., & Maio, G. R. (2015). Conceptualizing leadership perceptions as attitudes: Using attitude theory to further understand the leadership process. *The Leadership Quarterly*, *26*, 910-934.
<https://doi.org/10.1016/j.leaqua.2015.10.003>
- Lee, A., Willis, S., & Tian, A. W. (2018). Empowering leadership: A meta-analytic examination of incremental contribution, mediation, and moderation. *Journal of Organizational Behavior*, *39*, 306-325. <https://doi.org/10.1002/job.2220>
- Lemoine, G. J., Hartnell, C. A., & Leroy, H. (2019). Taking stock of moral approaches to leadership: An integrative review of ethical, authentic, and servant leadership. *Academy of Management Annals*, *13*, 148-187. <https://doi.org/10.5465/annals.2016.0121>

- Li, M., & Zhang, P. (2016). Stimulating learning by empowering leadership: Can we achieve cross-level creativity simultaneously? *Leadership & Organization Development Journal*, 37, 1168-1186. <https://doi.org/10.1108/LODJ-01-2015-0007>
- Liao, S. H., Fei, W. C., & Chen, C. C. (2007). Knowledge sharing, absorptive capacity and innovation capability: An empirical study of Taiwan's knowledge-intensive industries. *Journal of Information Science*, 33, 340-359. <https://doi.org/10.1177/0165551506070739>
- Liao, H., Liu, D., & Loi, R. (2010). Looking at both sides of the social exchange coin: A social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Academy of Management Journal*, 53, 1090-1109. <https://doi.org/10.5465/amj.2010.54533207>
- Liden, R. C., Sparrowe, R., & Wayne, S. J. 1997. Leader–member exchange theory: The past and potential for the future. *Research in Personnel and Human Resources Management*, 15, 47-119.
- Lin, W., Ma, J., Zhang, Q., Li, J. C., & Jiang, F. (2018). How is benevolent leadership linked to employee creativity? The mediating role of leader–member exchange and the moderating role of power distance orientation. *Journal of Business Ethics*, 152, 1099-1115. <https://doi.org/10.1007/s10551-016-3314-4>
- Magadley, W., & Birdi, K. (2012). Two sides of the innovation coin? An empirical investigation of the relative correlates of idea generation and idea implementation. *International Journal of Innovation Management*, 16, 1-28. <https://doi.org/10.1142/S1363919611003386>
- Mainemelis, C., Kark, R., & Epitropaki, O. (2015). Creative leadership: A multi-context conceptualization. *Academy of Management Annals*, 9, 393-482. <https://doi.org/10.5465/19416520.2015.1024502>
- Martin, R., Thomas, G., Guillaume, Y., Lee, A. & Epitropaki, O. (2016). Leader-member

- exchange (LMX) and performance: A meta-analytic review. *Personnel Psychology*, *69*, 67-121. <https://doi.org/10.1111/peps.12100>
- Meng, Y., Tan, J., & Li, J. (2017). Abusive supervision by academic supervisors and postgraduate research students' creativity: The mediating role of leader-member exchange and intrinsic motivation. *International Journal of Leadership in Education*, *20*, 605-617. <https://doi.org/10.1080/13603124.2017.1304576>
- Miles, I. (2008). Knowledge-intensive services. Manchester Institute for Innovation Research, University of Manchester, UK.
- Naseer, S., Raja, U., Syed, F., Donia, M. B. L., & Darr, W. (2016). Perils of being close to a bad leader in a bad environment: Exploring the combined effects of despotic leadership, leader member exchange, and perceived organizational politics on behaviors. *The Leadership Quarterly*, *27*, 14-33. <https://doi.org/10.1016/j.leaqua.2015.09.005>
- Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, *93*, 1220 - 1233. <https://doi.org/10.1037/a0012695>
- Newman, A., Tse, H. M., Schwarz, G., & Nielsen, I. (2018). The effects of employees' creative self-efficacy on innovative behavior: The role of entrepreneurial leadership. *Journal of Business Research*, *89*, 1-9. <https://doi.org/10.1016/j.jbusres.2018.04.001>
- Ng, T. W., & Feldman, D. C. (2015). Ethical leadership: Meta-analytic evidence of criterion-related and incremental validity. *Journal of Applied Psychology*, *100*, 948 – 965. <https://doi.org/10.1037/a0038246>
- Ng, K.-Y., Koh, C., Ang, S., Kennedy, J. C., & Chan, K.-Y. (2011). Rating leniency and halo in multisource feedback ratings: Testing cultural assumptions of power distance and individualism-collectivism. *Journal of Applied Psychology*, *96*, 1033-1044.

<http://dx.doi.org/10.1037/a0023368>

Oldham, G., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, *39*, 607-634. <https://doi.org/10.2307/256657>

Pan, W., Sun, L. Y., & Chow, I. H. S. (2012). Leader-member exchange and employee creativity: Test of a multilevel moderated mediation model. *Human Performance*, *25*, 432-451. <https://doi.org/10.1080/08959285.2012.721833>

Parker, S. K., Wall, T. D., & Jackson, P. R. (1997). "That's not my job": Developing flexible employee work orientations. *Academy of Management Journal*, *40*, 899-929. <https://doi.org/10.5465/256952>

Pellegrini, E. K., & Scandura, T. A. (2008). Paternalistic leadership: A review and agenda for future research. *Journal of Management*, *34*, 566-593. <https://doi.org/10.1177/0149206308316063>

Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review*, *42*, 53-79. <https://doi.org/10.5465/amr.2014.0462>

Piccolo, R. F., Bono, J. E., Heinitz, K., Rowold, J., Duehr, E., & Judge, T. A. (2012). The relative predictive impact of complementary leader behaviors: Which matter most? *The Leadership Quarterly*, *23*, 567-581. <https://doi.org/10.1016/j.leaqua.2011.12.008>

Piirto, J. (1991). Why are there so few? (Creative women: Visual artists, mathematicians, musicians). *Roeper Review*, *13*, 142-147. <https://doi.org/10.1080/02783199109553340>

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annual Review of Psychology*, *63*, 539-569. <https://doi.org/10.1146/annurev-psych-120710-100452>

- Prati, M. L. M., Douglas, C., Ferris, G. R., Ammeter, A. P., & Buckley, M. R. (2003). Emotional intelligence, leadership effectiveness, and team outcomes. *The International Journal of Organizational Analysis*, *11*, 21-40. <https://doi.org/10.1108/eb028961>
- Owens, B. P., & Hekman, D. R. (2012). Modeling how to grow: An inductive examination of humble leader behaviors, contingencies, and outcomes. *Academy of Management Journal*, *55*, 787-818. <https://doi.org/10.5465/amj.2010.0441>
- Rafferty, A. E., & Restubog, S. L. D. (2011). The influence of abusive supervisors on followers' organizational citizenship behaviors: The hidden costs of abusive supervision. *British Journal of Management*, *22*, 270-285.
- Rank, J., Pace, V., & Frese, M. (2004). Three avenues for future research on creativity, innovation, and initiative. *Applied Psychology*, *53*, 518-528. <https://doi.org/10.1111/j.1464-0597.2004.00185.x>
- Rego, A., Sousa, F., Pina e Cunha, M., Correia, A., & Saur- Amaral, I. (2007). Leader self-reported emotional intelligence and perceived employee creativity: An exploratory study. *Creativity and Innovation Management*, *16*, 250-264. <https://doi.org/10.1111/j.1467-8691.2007.00435.x>
- Rego, A., Sousa, F., Marques, C., & e Cunha, M. P. (2014). Hope and positive affect mediating the authentic leadership and creativity relationship. *Journal of Business Research*, *67*, 200-210. <https://doi.org/10.1016/j.jbusres.2012.10.003>
- Reiter-Palmon, R., & Illies, J. J. (2004). Leadership and creativity: Understanding leadership from a creative problem-solving perspective. *The Leadership Quarterly*, *15*, 55-77. <https://doi.org/10.1016/j.leaqua.2003.12.005>
- Renko, M. (2018), Entrepreneurial Leadership. In J. Antonakis, D.V. Day (Eds.), *The nature of leadership* (3rd ed. pp. 381-408), Thousand Oaks, CA: Sage Publishing.

- Renko, M., El Tarabishy, A., Carsrud, A. L., & Brännback, M. (2015). Understanding and measuring entrepreneurial leadership style. *Journal of Small Business Management*, *53*, 54-74. <https://doi.org/10.1111/jsbm.12086>
- Rickards, T., Chen, M. H., & Moger, S. (2001). Development of a self-report instrument for exploring team factor, leadership and performance relationships. *British Journal of Management*, *12*, 243-250. <https://doi.org/10.1111/1467-8551.00197>
- Rockstuhl, T., Dulebohn, J. H., Ang, S., & Shore, L. M. (2012). Leader–member exchange (LMX) and culture: A meta-analysis of correlates of LMX across 23 countries. *Journal of Applied Psychology*, *97*, 1097-1130. <http://dx.doi.org/10.1037/a0029978>
- Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership-innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, *22*, 956-974. <https://doi.org/10.1016/j.leaqua.2011.07.014>
- Schaubroeck, J., Lam, S. S. K., & Cha, S. E. (2007). Embracing transformational leadership: Team values and the impact of leader behavior on team performance. *Journal of Applied Psychology*, *92*, 1020-1030. <http://dx.doi.org/10.1037/0021-9010.92.4.1020>
- Schaubroeck, J., Lam, S. S. K., & Peng, A. C. (2011). Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, *96*, 863-871. <https://doi.org/10.1037/a0022625>
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal*, *37*, 580-607. <https://doi.org/10.2307/256701>
- Schyns, B., & Schilling, J. (2013). How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *The Leadership Quarterly*, *24*, 138-158. <https://doi.org/10.1016/j.leaqua.2012.09.001>

- Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal*, *44*, 219-237. <https://doi.org/10.5465/3069452>
- Shaffer, J. A., DeGeest, D., & Li, A. (2016). Tackling the problem of construct proliferation: A guide to assessing the discriminant validity of conceptually related constructs. *Organizational Research Methods*, *19*, 80-110. <https://doi.org/10.1177/1094428115598239>
- Shalley, C.E., & Gilson, L.L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The Leadership Quarterly*, *15*, 33-53. <https://doi.org/10.1016/j.leaqua.2003.12.004>
- Sharma, P. N., & Kirkman, B. L. (2015). Leveraging leaders: A literature review and future lines of inquiry for empowering leadership research. *Group & Organization Management*, *40*, 193-237. <https://doi.org/10.1177/1059601115574906>
- Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *The Academy of Management Journal*, *46*, 703-714. <https://doi.org/10.2307/30040662>
- Sosik, J. J., Kahai, S. S., & Avolio, B. J. (1999). Leadership style, anonymity, and creativity in group decision support systems: The mediating role of optimal flow. *Journal of Creative Behavior*, *33*, 227-256. <https://doi.org/10.1002/j.2162-6057.1999.tb01405.x>
- Srivastava, A., Bartol, K. M., & Locke, E. A. (2006). Empowering leadership in management teams: Effects on knowledge sharing, efficacy, and performance. *Academy of Management Journal*, *49*, 1239-1251. <https://doi.org/10.5465/amj.2006.23478718>
- Sully de Luque, M., Javidan, M., Hanges, P., & Dorfman, P. (2011) Leadership across societies: Universal and culturally specific leadership behavior effectiveness, *Academy of Management Annual Meeting, San Antonio, U.S.*
- Sun, L. Y., Zhang, Z., Qi, J., & Chen, Z. (2012). Empowerment and creativity: A cross-level

- investigation. *The Leadership Quarterly*, 23, 55-65.
<https://doi.org/10.1016/j.leaqua.2011.11.005>
- Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal*, 43, 178-190. <https://doi.org/10.2307/1556375>
- Terpstra, D. E., & Rozell, E. J. (1993). The relationship of staffing practices to organizational level measures of performance. *Personnel psychology*, 46, 27-48.
<https://doi.org/10.1111/j.1744-6570.1993.tb00866.x>
- Thoroughgood, C. N., Padilla, A., Hunter, S. T., & Tate, B. W. (2012). The susceptible circle: A taxonomy of followers associated with destructive leadership. *The Leadership Quarterly*, 23, 897-917. <https://doi.org/10.1016/j.leaqua.2012.05.007>
- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, 45, 1137–1148.
<https://doi.org/10.2307/3069429>
- Tonidandel, S., & LeBreton, J. M. (2011). Relative importance analysis: A useful supplement to regression analysis. *Journal of Business and Psychology*, 26, 1–9,
<https://doi.org/10.1007/s10869-010-9204-3>
- Tsui, A. S., Nifadkar, S. S., & Ou, A. Y. (2007). Cross-national, cross-cultural organizational behavior research: Advances, gaps, and recommendations. *Journal of Management*, 33, 426-478. <https://doi.org/10.1177/0149206307300818>
- Tsui, A. S., Wang, H. U. I., Xin, K., Zhang, L., & Fu, P. P. (2004). “Let a thousand flowers bloom”: Variation of leadership styles among Chinese CEOs. *Organizational Dynamics*, 33, 5-20. <https://doi.org/10.1016/j.orgdyn.2003.11.002>
- Tuan, L. T. (2019). Coach humility and player creativity: The roles of knowledge sharing and group diversity. *Sport Management Review*. <https://doi.org/10.1016/j.smr.2019.02.004>
- Turunc, O., Celik, M., Tabak, A., & Kabak, M. (2010). The impact of transformational

- leadership and contingent reward leadership styles on innovative behavior: mediating role of leader-member exchange quality. *International Journal of Business and Management Studies*, 2, 69-79.
- Tyler, T. R., Lind, E. A., & Huo, Y. J. (2000). Cultural values and authority relations: The psychology of conflict resolution across cultures. *Psychology, Public Policy, and Law*, 6, 1138-1163. <http://dx.doi.org/10.1037/1076-8971.6.4.1138>
- Van Dyne, L., Jehn, K. A., & Cummings, A. (2002). Differential effects of strain on two forms of work performance: Individual employee sales and creativity. *Journal of Organizational Behavior*, 23, 57-74. <https://doi.org/10.1002/job.127>
- Von Nordenflycht, A. (2010). What is a professional service firm? Toward a theory and taxonomy of knowledge-intensive firms. *Academy of management Review*, 35, 155-174. <https://doi.org/10.5465/amr.35.1.zok155>
- Walumbwa F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S.J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, 34, 89–126. <https://doi.org/10.1177/0149206307308913>
- Wang, Y., Liu, J., & Zhu, Y. (2018). How does humble leadership promote follower creativity? The roles of psychological capital and growth need strength. *Leadership & Organization Development Journal*, 39, 507-521. <https://doi.org/10.1108/LODJ-03-2017-0069>
- Wang, G., Oh, I.S., Courtright, S.H., & Colbert, A.E. (2011). Transformational leadership and performance across criteria and levels: A meta-analytic review of 25 years of research. *Group and Organization Management*, 36, 223-270. <https://doi.org/10.1177/1059601111401017>
- Wang, Y., Tang, C., Naumann, S. E., & Wang, Y. (2017). Paternalistic leadership and employee creativity: A mediated moderation model. *Journal of Management &*

Organization, 25, 137-156. <https://doi.org/10.1017/jmo.2017.8>

Wei, F., Yuan, X., & Di, Y. (2010). Effects of transactional leadership, psychological empowerment and empowerment climate on creative performance of subordinates: A cross-level study. *Frontiers of Business Research in China*, 4, 29-46.

<https://doi.org/10.1007/s11782-010-0002-6>

Wang, D., Xue, H., & Su, H. (2010). Influence of work support on employee creativity: An empirical examination in the Peoples Republic of China. *African Journal of Business Management*, 4, 1546-1553.

Whitener, E. M. (1990). Confusion of confidence intervals and credibility intervals in meta-analysis. *Journal of Applied Psychology*, 75, 315-321. <https://doi.org/10.1037/0021-9010.75.3.315>

Wang, J., Zhang, Z., & Jia, M. (2017). Understanding how leader humility enhances employee creativity: The roles of perspective taking and cognitive reappraisal. *The Journal of Applied Behavioral Science*, 53, 5-31.

<https://doi.org/10.1177/0021886316678907>

Watts, L. L., Steele, L. M., & Den Hartog, D. N. (2019) Uncertainty avoidance moderates the relationship between transformational leadership and innovation: A meta-analysis. *Journal of International Business Studies*, online

Wu, T. Y., & Hu, C. (2009). Abusive supervision and employee emotional exhaustion: Dispositional antecedents and boundaries. *Group & Organization Management*, 34, 143-169. <https://doi.org/10.1177/1059601108331217>

Xu, E., Huang, X., Lam, C. K., & Miao, Q. (2012). Abusive supervision and work behaviors: The mediating role of LMX. *Journal of Organizational Behavior*, 33, 531-543.

<https://doi.org/10.1002/job.768>

Yoshida, D. T., Sendjaya, S., Hirst, G., & Cooper, B. (2014). Does servant leadership foster

creativity and innovation? A multi-level mediation study of identification and prototypicality. *Journal of Business Research*, 67, 1395-1404.

<https://doi.org/10.1016/j.jbusres.2013.08.013>

Yukl, G. (1999). An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *The Leadership Quarterly*, 10, 285-305.

[https://doi.org/10.1016/S1048-9843\(99\)00013-2](https://doi.org/10.1016/S1048-9843(99)00013-2)

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process management. *Academy of Management Journal*, 53, 107-128.

<https://doi.org/10.5465/AMJ.2010.48037118>

Zhou, J. (2003). When the presence of creative coworkers is related to creativity: Role of supervisor close monitoring, developmental feedback, and creative personality. *Journal of Applied Psychology*, 88, 413-422. <http://dx.doi.org/10.1037/0021-9010.88.3.413>

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44, 682-696.

<https://doi.org/10.2307/3069410>

Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review of Organizational Psychology & Organizational Behavior*, 1, 333-359.

<HTTPS://DOI.ORG/10.1146/annurev-orgpsych-031413-091226>

Zhou, J., & Shalley, C. E. (2003). Research on employee creativity: A critical review and directions for future research. *Research in Personnel and Human Resources*

Management, 22, 165-218. [https://doi.org/10.1016/S0742-7301\(03\)22004-1](https://doi.org/10.1016/S0742-7301(03)22004-1)

Table 1 *Meta-Analytic correlations between leadership styles, creativity and innovation.*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	95% CI		ρ	SD_{ρ}	%VE	80% CV	
				Lower	Upper				Lower	Upper
Transformational Leadership										
Creativity	55	18122	0.28	0.23	0.33	0.31	0.20	7.51	0.05	0.57
Creativity: Self-rated	21	7483	0.32	0.23	0.41	0.36	0.22	5.61	0.08	0.64
Creativity: Other-rated	34	11010	0.25	0.19	0.30	0.27	0.18	9.80	0.04	0.51
Innovation:	34	14043	0.26	0.21	0.31	0.29	0.16	9.30	0.08	0.50
Innovation: Self-rated	19	9806	0.29	0.23	0.34	0.33	0.13	11.19	0.16	0.49
Innovation: Other-rated	16	3946	0.23	0.14	0.26	0.26	0.22	8.62	-0.02	0.54
Transactional Leadership										
Creativity	12	5041	0.12	-0.03	0.26	0.14	0.29	3.57	-0.23	0.51
Creativity: Self-rated	4	2556	0.28	0.12	0.44	0.34	0.19	5.29	0.10	0.57
Creativity: Other-Rated	8	2485	-0.04	-0.20	0.12	-0.04	0.26	5.96	-0.37	0.29
Innovation	11	7186	0.19	0.10	0.27	0.23	0.17	7.12	0.02	0.45
Innovation: Self-rated	6	5746	0.20	0.10	0.30	0.24	0.14	6.53	0.06	0.43
Innovation: Other-rated	6	1440	0.14	-0.03	0.32	0.18	0.24	8.53	-0.13	0.49
LMX										
Creativity	39	11671	0.30	0.26	0.35	0.34	0.14	15.46	0.16	0.52
Creativity: Self-rated	16	4846	0.36	0.31	0.42	0.41	0.12	18.68	0.26	0.56
Creativity: Other-Rated	27	7411	0.27	0.21	0.32	0.30	0.14	17.29	0.12	0.47
Innovation	22	6449	0.27	0.22	0.31	0.31	0.10	28.67	0.18	0.43
Innovation: Self-rated	11	4257	0.29	0.22	0.36	0.35	0.11	19.34	0.20	0.49
Innovation: Other-rated	11	2192	0.21	0.18	0.24	0.24	0.00	100.00	0.24	0.24
Empowering Leadership										
Creativity	22	5810	0.32	0.26	0.39	0.36	0.17	11.06	0.14	0.58
Creativity: Self-rated	6	1174	0.40	0.31	0.50	0.44	0.12	24.01	0.29	0.59

Creativity: Other-rated	16	2892	0.38	0.31	0.45	0.42	0.15	11.81	0.22	0.62
Innovation	9	4595	0.31	0.25	0.37	0.35	0.10	16.35	0.22	0.48
Innovation: Self-rated	5	2450	0.37	0.30	0.44	0.43	0.08	24.88	0.33	0.53
Innovation: Other-rated	4	2145	0.24	0.18	0.31	0.27	0.06	39.07	0.20	0.35
Servant Leadership										
Creativity	11	4490	0.34	0.21	0.47	0.38	0.25	3.83	0.06	0.70
Creativity: Self-rated	5	2385	0.40	0.22	0.58	0.45	0.24	3.30	0.15	0.75
Creativity: Other-rated	6	2105	0.27	0.09	0.45	0.31	0.24	5.17	0.00	0.61
Innovation	7	1491	0.30	0.18	0.42	0.34	0.18	13.87	0.11	0.56
Innovation: Self-rated	4	811	0.40	0.27	0.54	0.46	0.16	16.16	0.26	0.66
Innovation: Other-rated	3	680	0.18	0.09	0.28	0.20	0.06	59.56	0.13	0.28
Ethical Leadership										
Creativity	15	3982	0.31	0.24	0.39	0.36	0.14	16.16	0.18	0.55
Creativity: Self-rated	5	1250	0.29	0.16	0.41	0.34	0.14	19.10	0.16	0.52
Creativity: Other-rated	10	2732	0.33	0.24	0.41	0.37	0.15	15.16	0.19	0.56
Innovation	7	2349	0.24	0.16	0.32	0.28	0.12	19.76	0.12	0.44
Innovation: Self-rated	4	1396	0.25	0.12	0.38	0.28	0.15	13.13	0.09	0.47
Innovation: Other-rated	3	953	0.23	0.17	0.29	0.28	0.05	59.32	0.22	0.35
Authentic Leadership										
Creativity	16	5088	0.42	0.34	0.51	0.47	0.18	7.32	0.24	0.71
Creativity: Self-rated	7	2905	0.43	0.35	0.52	0.48	0.11	13.17	0.33	0.63
Creativity: Other-rated	9	2184	0.41	0.26	0.56	0.47	0.25	5.56	0.15	0.79
Entrepreneurial Leadership										
Creativity	3	820	0.40	0.27	0.54	0.47	0.11	21.02	0.32	0.62
Innovation	5	1379	0.26	0.19	0.33	0.29	0.06	49.23	0.21	0.37
Innovation: Other-rated	3	796	0.22	0.13	0.31	0.24	0.06	57.25	0.17	0.31
Authoritarian Leadership										
Creativity	11	4367	-0.10	-0.20	0.00	-0.13	0.18	9.07	-0.36	0.11

Creativity: Self-rated	6	1422	-0.13	-0.30	0.03	-0.16	0.23	10.01	-0.45	0.12
Creativity: Other-rated	5	2945	-0.09	-0.21	0.04	-0.11	0.16	8.39	-0.31	0.09
Innovation	6	1619	-0.13	-0.22	-0.03	-0.15	0.11	27.70	-0.29	-0.01
Innovation: Self-rated	3	742	-0.24	-0.33	-0.14	-0.25	0.08	40.98	-0.35	-0.15
Innovation: Other-rated	3	877	-0.04	-0.09	0.01	-0.05	0.00	100.00	-0.05	-0.05
Benevolent Leadership										
Creativity	6	1780	0.23	0.17	0.30	0.27	0.07	42.66	0.18	0.37
Creativity: Other-rated	4	1206	0.20	0.15	0.26	0.23	0.00	100.00	0.23	0.23
Innovation	5	1452	0.25	0.10	0.40	0.28	0.20	9.25	0.02	0.53
Innovation: Self-rated	3	741	0.23	-0.02	0.48	0.23	0.25	6.73	-0.08	0.55
Destructive Leadership										
Creativity	14	4911	-0.20	-0.25	-0.14	-0.22	0.11	21.51	-0.36	-0.08
Creativity: Self-rated	5	1494	-0.24	-0.30	-0.19	-0.26	0.06	53.19	-0.33	-0.19
Creativity: Other-rated	9	3417	-0.18	-0.25	-0.10	-0.20	0.12	17.53	-0.35	-0.04
Humble Leadership										
Creativity	4	1347	0.24	0.15	0.33	0.28	0.10	27.38	0.15	0.40
Creativity: Other-rated	4	1347	0.24	0.15	0.33	0.28	0.10	27.38	0.15	0.40
Supportive Leadership										
Creativity	14	4261	0.21	0.13	0.29	0.24	0.18	11.05	0.01	0.47
Creativity: Self-rated	8	2760	0.27	0.17	0.37	0.30	0.18	9.49	0.07	0.53
Creativity: Other-rated	7	1779	0.08	-0.01	0.18	0.09	0.14	23.08	-0.08	0.26
Innovation	8	2770	0.31	0.24	0.38	0.36	0.12	17.60	0.20	0.51
Innovation: Self-rated	4	1419	0.27	0.15	0.40	0.31	0.15	12.55	0.12	0.50
Innovation: Other-rated	4	1351	0.35	0.31	0.39	0.41	0.05	60.97	0.35	0.47

Note. Results are corrected for criterion and predictor unreliability. k = number of correlations; N = number of respondents; r = sample weighted mean correlation; ρ = corrected population correlation; SD_{ρ} = standard deviation of the corrected population correlation; % VE = percentage of variance attributed to sampling error in corrected population correlation; 95% CI = 95% confidence interval around the sample weighted mean correlation; 80% CV = 80% credibility interval around the corrected population correlation.

Table 2 *Meta-Analytic Results for the Relationship Between the Dimensions of Transformational and Transactional Leadership*

Variable	<i>k</i>	<i>N</i>	<i>r</i>	95% CI		ρ	SD_{ρ}	%VE	80% CV	
				Lower	Upper				Lower	Upper
Transformational - Creativity										
Idealized Influence & Charisma	7	2283	0.18	0.13	0.23	0.20	0.06	54.75	0.13	0.27
Inspirational Motivation	4	1149	0.17	0.14	0.20	0.20	0.00	100.00	0.20	0.20
Intellectual Stimulation	4	1174	0.18	0.06	0.31	0.22	0.13	20.88	0.05	0.38
Individualized Consideration	5	1888	0.19	0.14	0.24	0.22	0.05	53.93	0.15	0.29
Transactional - Creativity										
Contingent Reward	5	2511	0.30	0.16	0.43	0.36	0.18	7.21	0.14	0.59
Contingent Reward: Other-rated	3	849	0.15	0.04	0.26	0.19	0.03	83.26	0.16	0.23
Management by Exception*	3	1085	-0.01	-0.05	0.03	-0.01	0.00	100.0	-0.01	-0.01
Transactional - Innovation										
Contingent Reward	5	4349	0.25	0.23	0.26	0.30	0.00	100.00	0.30	0.30
Contingent Reward: Other-rated	3	1049	0.26	0.23	0.30	0.33	0.00	100.00	0.33	0.33

Note. Results are corrected for criterion and predictor unreliability. *k* = number of correlations; *N* = number of respondents; *r* = sample weighted mean correlation; ρ = corrected population correlation; SD_{ρ} = standard deviation of the corrected population correlation; % VE = percentage of variance attributed to sampling error in corrected population correlation; 95% CI = 95% confidence interval around the sample weighted mean correlation; 80% CV = 80% credibility interval around the corrected population correlation.

*Due to lack of primary studies, it was not possible to examine management by exception passive and active or laissez faire.

Table 3- Moderation Analyses

Variable	<i>k</i>	<i>N</i>	<i>r</i>	β	<i>s.d.</i>	95%- CI- LL	95%- CI- UL	<i>z</i> - value	<i>p</i> - value	T ²	Moderator effect present?
Published vs Unpublished Studies											
Transformational - creativity	55	18122	.27	-.03	.07	-.17	.11	-.44	.66	.05	No
Transformational - innovation	33	10863	.28	-.01	.09	-.19	.17	-.14	.89	.03	No
LMX - creativity	39	11671	.32	-.05	.08	-.21	.11	-.58	.56	.02	No
Empowering - creativity	22	5810	.35	.02	.15	-.26	.31	.15	.89	.03	No
Common-source vs non-common source ratings of outcome											
Transformational - creativity	55	18122	.27	-.12	.06	-.24	-.00	-2.04	.04	.04	Yes, the correlation is smaller when the data is based on non-common source data.
Transformational - innovation	33	10863	.27	-.14	.07	-.27	-.01	-2.07	.04	.03	Yes, the correlation is smaller when the data is based on non-common source data.
Transactional - creativity	12	5041	.10	-.21	.15	-.50	.08	-1.40	.16	.06	No
Transactional - innovation	8	3062	.90	-.20	.19	-.58	.18	-1.04	.30	.07	No
LMX - creativity	39	11671	.32	-.11	-.05	-.21	-.00	-2.06	.04	.02	Yes, the correlation is smaller when the data is based on non-common source data.
LMX - innovation	21	6112	.26	-.09	.06	-.20	.02	-1.57	.12	.01	No
Authentic - creativity	16	5088	.44	.02	.12	-.22	.25	.13	.90	.05	No
Benevolent - creativity	6	1780	.25	-.11	.09	-.28	.05	-1.33	.18	.01	No
Empowering - creativity	22	5810	.35	-.13	.09	-.31	.05	-1.49	.14	.03	No
Empowering - innovation	7	3727	.37	-.24	.10	-.43	-.04	-2.40	.02	.01	Yes, the correlation is smaller when the data is based on non-common source data.

Variable	<i>k</i>	<i>N</i>	<i>r</i>	β	<i>s.d.</i>	95%- CI- LL	95%- CI- UL	z- value	<i>p</i> - value	T ²	Moderator effect present?
Servant - creativity	11	4490	.26	-.07	.19	-.41	.29	-.35	.72	.08	No
Servant - innovation	7	1491	.28	.13	.15	-.17	.42	.85	.40	.03	No
Authoritarian - creativity	11	4367	-.14	-.01	.14	-.28	.25	-.10	.92	.05	No
Authoritarian - innovation	6	1619	-.14	0.22	0.07	0.09	0.36	3.2	0.00	0.00	Yes, the correlation is smaller when the data is based on non-common source data.
Ethical - creativity	15	3982	.35	.01	.10	-.19	.21	.12	.91	.03	No
Ethical - innovation	7	2349	.26	-.07	.11	-.23	.15	-.60	.55	.02	No
Supportive - creativity	14	4261	.23	-.21	.10	-.40	-.02	-2.20	.03	.03	Yes, the correlation is smaller when the data is based on non-common source data.
Supportive - innovation	8	2770	.31	.06	.10	-.13	.24	.58	.56	.01	No
Destructive - creativity	13	4796	-.21	.08	.08	-.07	.24	1.02	.31	.01	No
Cross-sectional vs Time-separated studies											
Transformational - creativity	50	16921	.23	-.01	.08	-.17	.16	-.09	.93	.05	No
Transformational - innovation	33	10863	.27	-.12	.08	-.27	.03	-1.59	.11	.03	No
LMX - creativity	39	11671	.32	-.11	.06	-.22	-.00	-1.96	.05	.37	Yes, the correlation is smaller for time-separated studies
LMX - innovation	21	6112	.26	-.00	.10	-.21	.20	-.03	.98	.01	No
Authentic - creativity	16	5088	.44	-.11	.17	-.45	.23	-.65	.52	.07	No
Empowering - Creativity	22	5810	.35	-.06	.03	-.13	-.00	-1.98	.05	.03	Yes, the correlation is smaller for time-separated studies
Servant - creativity	11	4490	.26	-.01	.20	-.40	.38	-.04	.97	.08	No
Destructive - creativity	13	4796	-.21	-.01	.08	-.16	.13	-.19	.85	.01	No

Variable	<i>k</i>	<i>N</i>	<i>r</i>	β	<i>s.d.</i>	95%- CI- LL	95%- CI- UL	z- value	<i>p</i> - value	T ²	Moderator effect present?
National Culture - Power Distance											
Transformational - creativity	51	16447	.21	.00	.00	-.00	.00	.91	.36	.03	No
Transformational - innovation	32	10542	.28	-.00	.00	-.00	.00	-.01	.99	.04	No
Transactional - creativity	11	3938	.10	.00	.00	-.00	.01	1.19	.23	.04	No
Transactional - innovation	7	2741	.10	.00	.01	-.01	.02	.72	.47	.13	No
LMX - creativity	39	11671	.32	-.00	.00	-.00	.00	-.35	.73	.02	No
LMX - innovation	19	5712	0.27	0.00	0.00	-0.00	0.00	1.03	0.31	0.01	No
Authentic - creativity	16	5088	.44	-.00	.01	-.01	.01	-.32	.75	.06	No
Benevolent - creativity	6	1780	.25	.00	.00	-.01	.01	.36	.72	.01	No
Empowering - creativity	21	5584	.30	-.01	.00	-.01	-.00	-2.03	.04	.02	Yes, the higher the power distance score, the smaller the correlation.
Empowering - innovation	7	3727	.37	-.00	.00	-.01	.00	-1.63	.10	.02	No
Servant - creativity	9	4121	.31	-.00	.00	-.01	.01	-.39	.70	.07	No
Servant - innovation	5	1191	.34	.01	.00	.01	.01	5.20	.00	.00	Yes, the higher the power distance score, the larger the correlation
Authoritarian - creativity	9	4026	-.12	.01	.01	-.00	.02	1.37	.17	.03	No
Authoritarian - innovation											
Ethical - creativity	15	3982	.35	.00	.00	-.00	.01	.94	.35	.03	No
Ethical - innovation	7	2349	.26	.01	.00	-.00	.01	1.28	.20	.01	No
Supportive - creativity	11	3864	.15	.01	.00	.00	.01	2.98	.00	.01	Yes, the higher the power distance score, the larger the correlation
Supportive - innovation	8	2770	.23	-.00	.00	-.01	.01	-.11	.91	.02	No

Variable	<i>k</i>	<i>N</i>	<i>r</i>	β	<i>s.d.</i>	95%- CI- LL	95%- CI- UL	z- value	<i>p</i> - value	T ²	Moderator effect present?
Destructive - creativity	13	4796	-.21	-.00	.00	-.01	.00	-.20	.83	.01	No
Industry Knowledge Intensity											
Transformational - creativity	38	12561	.26	.01	.09	-.16	.18	.11	.91	.03	No
Transformational - innovation	29	10501	.26	-.02	.09	-.19	.16	-.18	.86	.04	No
Transactional - creativity	10	3779	0.05	0.18	0.16	-0.19	0.54	0.95	0.34	0.05	No
LMX - creativity	33	9462	.32	.05	.08	-.11	.20	.61	.54	.02	No
LMX - innovation	21	6112	0.26	-.24	0.06	-0.36	-0.13	-4.02	0.00	0.01	Yes, the correlation is smaller in knowledge intensive industries
Empowering - creativity	21	5358	.35	-.06	.10	-.25	.13	-.60	.55	.04	No
Authentic - creativity	12	3787	.41	-.31	.16	-.63	.01	-1.89	.06	.07	No
Empowering - innovation	21	5595	.35	-.02	.11	-.23	.19	-.19	.85	.03	No
Supportive - creativity	10	3051	.21	-.16	.13	-.42	.11	-1.17	.24	.03	No
Supportive - innovation	8	2770	.31	-.19	.09	-.37	-.01	-2.14	.03	.01	Yes, the correlation is smaller in knowledge intensive industries
Destructive - innovation	12	3847	-.22	-.07	.10	-.27	.12	-.73	.47	.02	No
Follower Gender											
Transformational - creativity	41	12783	.27	.00	.00	-.00	.00	.53	.59	.04	No
Transformational - innovation	21	6545	.23	.00	.00	-.00	.01	.26	.79	.04	No
Transactional - innovation	9	3014	.06	-.00	.00	-.01	.01	-.03	.98	.04	No
LMX - innovation	35	11098	.33	-.00	.00	-.00	-.00	-3.34	.00	.02	Yes, the higher the percentage of male followers, the smaller the correlation

Variable	<i>k</i>	<i>N</i>	<i>r</i>	β	<i>s.d.</i>	95%- CI- LL	95%- CI- UL	<i>z</i> - value	<i>p</i> - value	T ²	Moderator effect present?
LMX - innovation	17	5537	.27	-.00	.00	-.01	-.00	-2.18	.03	.01	Yes, the higher the percentage of male followers, the smaller the correlation
Authentic - creativity	13	4266	.43	-.01	.00	-.01	-.00	-2.46	.01	.04	Yes, the higher the percentage of male followers, the smaller the correlation
Benevolent - creativity	6	1780	.25	-.00	.00	-.01	.00	-.90	.37	.01	No
Empowering - creativity	21	5458	.34	-.00	.00	-.01	.00	-1.29	.20	.03	No
Empowering - Innovation	6	3872	.27	-.00	.01	-.01	.01	-.52	.60	.02	No
Servant - creativity	11	4490	.26	-.01	.00	-.01	-.00	-2.17	.03	.04	Yes, the higher the percentage of male followers, the smaller the correlation
Servant - innovation	6	1443	.27	.00	.01	-.01	.02	.34	.74	.05	No
Authoritarian - creativity	10	3980	-.12	-.00	.00	-.01	.01	-.20	.84	.03	No
Authoritarian - innovation	5	1464	-.12	0.00	0.02	-0.04	0.04	0.12	0.90	0.02	No
Ethical - creativity	12	3036	.37	.00	.00	-.01	.01	.20	.84	.04	No
Ethical - innovation	7	2349	.26	-.00	.01	-.01	.01	-.33	.74	.02	No
Supportive - creativity	13	4032	.13	-.00	.00	-.01	.01	-.52	.60	.04	No
Supportive - innovation	7	1984	.30	-.00	.00	-.01	.01	-.49	.62	.02	No
Destructive - creativity	13	4452	-.29	.01	.00	.00	.01	3.20	.00	.00	Yes, the greater the percentage of male followers, the smaller (i.e., less negative) the correlation

Note. *k* = number of correlations; *N* = number of respondents; *r* = sample-weighted mean correlation; *b* = Beta coefficient; *SD* = standard deviation of the beta coefficient; *z*-value = test of the null hypothesis that there is no difference in effect size between groups; *p*-value = tests for the significance of the *z*-value; T² = Tau squared, the between-studies variance

Table 4 – *Relative weights analysis comparing different leadership style with the full-range model*

Leadership Style	Individual Creativity: Other Rated			Individual Innovation: Other Rated		
	Relative Effect	Transformational	Contingent Reward	Relative Effect	Transformational	Contingent Reward
Empowering	74.88	17.76	7.37	28.84	19.35	51.81
LMX	50.80	35.35	13.84	19.47	23.82	56.71
Servant	46.61	33.25	20.13	17.17	26.22	56.60
Ethical	62.23	23.85	13.92	28.81	21.65	49.54
Authentic	77.14	15.98	6.89	n/a	n/a	n/a
Authoritarian	12.69	57.14	30.17	13.74	23.84	62.42
Destructive	25.90	53.56	20.54	n/a	n/a	n/a
Supportive	14.88	62.90	22.22	57.93	14.47	27.61
Benevolent	26.82	63.18	n/a	n/a	n/a	n/a
Humility	53.26	46.74	n/a	n/a	n/a	n/a
Entrepreneurial	n/a	n/a	n/a	42.61	57.39	n/a

Table 5 – *Relative weights analysis comparing different leadership style within leadership categories*

Leadership Style	Individual Creativity: Other Rated	Individual Innovation: Other Rated
Relationship Orientated Leadership Styles		
LMX	58.96	20.43
Supportive	19.08	79.57
Benevolence	21.96	n/a
Morally Based Leadership Styles		
Servant	15.14	26.32
Ethical	21.27	73.68
Authentic	53.58	n/a
Humility	10.01	n/a
Motivational Leadership		
Empowering	n/a	59.86
Entrepreneurial	n/a	40.14
Negative Leadership		
Authoritarian	17.70	n/a
Destructive	82.30	n/a

Appendix A

Meta-analytic results for leadership intercorrelations needed for relative weights analysis

Variable	k	N	r	95% CI		ρ	SD ρ	%VE	80% CV	
				Lower	Upper				Lower	Upper
Transformational – Contingent Reward ¹	87	22369	0.68	0.78	0.83	0.80			0.65	0.95
Transformational – Empowering ²	5	1721	0.60	0.56	0.64	0.67	0.03	650.72	0.63	0.70
Transformational – Ethical ³	20	3717	0.63	0.62	0.79	0.70	0.17		0.48	0.93
Transformational – Authentic ⁴	23	5414	0.70	0.60	0.83	0.72	0.27		0.37	1.00
Transformational – LMX ⁵	20	5451	0.66	0.49	0.97	0.73	0.19		0.49	0.97
Transformational – Destructive	8	1242	-0.49	-0.56	-0.41	-0.56	0.07	460.60	-0.65	-0.46
Transformational – Servant ⁶	14	3867	0.45	0.40	0.51	0.52	0.11			
Transformational – Authoritarian ⁷	12	3829	-0.29	-0.45	-0.13	-0.29	0.28		-0.65	0.06
Transformational - Entrepreneurial	2	583	0.85	0.79	0.91	0.93	0.04	17.64	0.88	0.98
Transformational - Humble	3	497	0.73	0.61	0.84	0.80	0.16	6.52	0.60	1.00
Transformational - Benevolent ⁷	10	3671	0.66	0.64	0.78	0.71	0.10		0.58	0.84
Transformational – Supportive	4	1184	0.67	0.46	0.87	0.75	0.18	3.78	0.52	0.98

Contingent Reward – LMX ⁵	6	1900	0.65	0.58	0.88	0.73	0.18		0.51	0.96
Contingent Reward - Empowering	5	1864	0.46	0.23	0.68	0.54	0.30	2.51	0.15	0.93
Contingent Reward – Ethical ⁸	7	1156	0.63	0.64	0.86	0.75	0.15		0.50	1.00
Contingent Reward- Authentic	3	711	0.50	0.41	0.60	0.59	0.05	55.35	0.52	0.65
Contingent Reward- Destructive	4	907	-0.31	-0.45	-0.17	-0.34	0.16	15.32	-0.55	-0.14
Contingent Reward- Servant	3	475	0.70	0.60	0.79	0.80	0.14	10.65	0.62	0.97
Contingent Reward- Authoritarian	3	905	0.23	0.08	0.37	0.27	0.18	11.94	0.04	0.50
Contingent Reward- Supportive	3	788	0.61	0.35	0.88	0.71	0.26	2.76	0.38	1.00
Ethical – Authentic ⁶	3	462	0.77	0.56	0.98	0.85	0.15			
Ethical – Servant ⁶	4	3106	0.74	0.62	0.86	0.82	0.11			
Authentic – Servant ⁶	5	2686	0.78	0.67	0.89	0.84	0.11			
Authentic - Humble	3	796	0.59	0.47	0.71	0.68	0.15	9.02	0.49	0.87
Servant – Humble*	1	283				0.81				
Ethical - Humble	2	545	0.75	0.57	0.93	0.79	0.12	4.78	0.63	0.95
LMX – Benevolence ⁷	7	2619	0.64	0.67	0.79	0.73	0.07		0.63	0.82
LMX - Supportive	7	2137	0.67	0.57	0.77	0.79	0.14	6.43	0.61	0.97

Supportive - Benevolence	5	1674	0.51	0.39	0.64	0.57	0.15	8.49	0.38	0.75
Empowering – Entrepreneurial*	1	346				0.71				
Destructive - Authoritarian	4	882	0.63	0.49	0.78	0.74	0.16	7.84	0.54	0.95

Note. Results are corrected for criterion and predictor unreliability. k = number of correlations; N = number of respondents; r = sample weighted mean correlation; ρ = corrected population correlation; SD_{ρ} = standard deviation of the corrected population correlation; % VE = percentage of variance attributed to sampling error in corrected population correlation; 95% CI = 95% confidence interval around the sample weighted mean correlation; 80% CV = 80% credibility interval around the corrected population correlation

1 = Judge & Piccolo, 2004; 2 = Lee, Willis, & Tian, 2018; 3 = Hoch, Bommer, Dulebohn, & Wu, 2018; 4 = Banks, McCauley, Gardner, & Guler, 2016; 5 = Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; 6 = Lee, Lyubovnikova, Tian, & Knight, 2019; 7 = Hiller, Sin, Ponnappalli, & Ozgen, 2019; 8 = Ng & Feldman, 2015

*- Correlation based on a single study only

APPENDIX B

List of papers used in meta-analysis

Transformational Leadership - Creativity		
Akinlade, 2014	Hirst, van Dick, & van Knippenberg, 2009	Moss & Ritossa, 2007
Arendt, 2009	Jaffer, 2013	Nguyen, 2017
Bae, Song, Park, & Kim, 2013	Jaiswal & Dhar, 2016	Qu, Janssen, & Shi, 2015
Cai, Lysova, Khapova, & Bossink, 2019	Jaussi & Dionne, 2003	Rickards, Chen, & Moger, 2001
Carmeli, Sheaffer, Binyamin, Reiter-Palmon, & Shimoni, 2013	Jyoti & Dev, 2015	Shin & Zhou, 2003
Chang & Teng, 2017	Kark, Van Dijk, & Vashdi, 2018 (2 studies)	Si & Wei, 2012
Chaubey, Sahoo, & Khatri, 2019	Kim, 2000	Sosik, Kahai, & Avolio, 1999
Charbonnier-Voirin, Akremi, & Vandenberghe, 2010	Khalili, 2016	Suifan, Abdallah, & Al Janini, 2018
Cheung & Wong, 2011	Kim & Lee, 2011	Sun, Zhang, Chen, 2012
Dong, Bartol, Zhang, & Li, 2017	Kollman, Stockmann, & Krell (2011)	Taylor, 2015
Eisenbeiss & Boerner, 2013	Koseoglu, Liu, & Shalley, 2017	Tse & Chiu, 2014
Ghafoor, Qureshi, Azeemi, & Hijazi, 2011	Li, Yu, Yang, Qi, & Fu, 2014 (2 studies)	Tse, To, & Chiu, 2017
Gilmore, Hu, Wei, Tetrick, & Zaccaro, 2013	Li, Zhao, & Begley, 2015	Tung, 2016
Golden, 2016	Luu, 2017	Wang & Rode, 2010
Gong, Huang, & Farh, 2009	Ma & Jiang, 2018	Wang & Zhu, 2011
Gumusluoglu & Ilsev, 2009	Miao & Wang, 2016	Wang, Tsai & Tsai, 2014
Henker, 2013	Mittal & Dhar, 2015	Zacher & Johnson, 2015
Henker, Sonnentag, & Unger, 2015	Monowar Mahmood, & Luo, 2019	Zhou & Pan, 2015

Transformational Leadership - Innovation		
Afsar, Badir, & Bin Saeed, 2014	Kang, Solomon & Choi, 2015	Rank, Nelson Allen, & Xu, 2009
Basu & Green, 1995	Khalili, 2016	Sethibe & Steyn, 2017
Boerner, Eisenbeiss, & Griesser, 2007	Kang, 2013	Slåtten, 2014
Chang, Bai, & Li, 2015	Kao, Pai, Lin, & Zhong, 2015	Saeed, Afsar, Shahjehan, & Shah, 2019 (2 studies)
Choi, Kim, Ullah, & Kang, 2016	Lee, 2008	Turunc, Celik, Tabak, & Kabak 2010
Chen, Farh, Campbell-Bush, Wu, & Wu, 2013	Li, Mitchell, & Boyle, 2016	Vazquez, 2016
Craig, 2015	Miao, Newman, & Lamb, 2012	Weng, Huang, Chen, & Chang, 2015
Gross, 2016	Newman, Tse, Schwarz, & Nielsen, 2018	Zhang, Lepine, Buckman, & Wei, 2014
Günzel-Jensen, Hansen, Jakobsen & Wulff, 2018	Pieterse, van Knippenberg, Schippers, & Stam, 2010	Zhang, Zheng, & Darko, 2018
Hussain, Talib, & Shah, 2014	Pundt, 2015	Zhu, Wang, Zheng, Liu, & Miao, 2013
Iskandarani, 2017	Rada, 2018	Zhu & Mu, 2016
Transactional Leadership – Creativity		
Kark, Van Dijk, & Vashdi, 2018	Moss & Ritossa, 2007	Sosik, Kahai, & Avolio, 1999
Kim, 2000	Rickards, Chen, & Moger, 2001	Tung, 2016
Kim & Lee, 2011	Sanda & Arthur, 2017	Wei, Yuan, & Di, 2010
Ma & Jiang, 2018	Si & Wei, 2012	Zacher & Johnson, 2015
Transactional Leadership – Innovation		
Chang, Bai & Li, 2015	Günzel-Jensen, Hansen, Jakobsen & Wulff, 2018	Rank, Nelson, Allen, & Xu, 2009
Elenkov & Manev, 2005	Kang, Soloman, & Choi, 2015	Sethibe & Steyn, 2017
Elenkov, Judge, & Wright, 2005	Lee, 2008	Turunc, Celik, Tabak, & Kabak, 2010
Gross, 2016	Pieterse, van Knippenberg, Schippers & Stam, 2010	

Authentic Leadership – Creativity		
Černe, Jaklič, & Škerlavaj, 2013	Mubarak & Noor, 2018	Semedo, Coelho, & Ribeiro, 2016
Chaudhary & Panda, 2018	Rego, Sousa, Marques, & Cunha, 2012	Semedo, Coelho, & Ribeiro, 2017
Li, Lu, Yang, Qi, & Fu, 2014 (2 studies)	Rego, Sousa, Maruques, & Cunha, 2014	Semedo, Coelho, & Ribeiro, 2018
Malik, Dhar & Handa, 2016	Ribeiro, Duarte & Filipe, 2018	Sercan, 2016
Meng, Cheng & Guo, 2016	Sanda & Arthur, 2017	Xu, Zhao, Li, & Lin, 2017
Empowering Leadership - Creativity		
Al-Madadha, 2016	Fatima, Safdar, & Jahanzeb, 2017	Liu, Gong, Zhou, & Huang, 2017
Amundsen & Martinsen, 2014a	Harris, Li, Boswell, Zhang, & Xie, 2014 (2 studies)	Slåtten, Svensson, & Sværi, 2011
Amundsen & Martinsen, 2014b	Hon, 2011	Tung & Yu, 2015
Amundsen & Martinsen, 2015	Hon, Bloom, & Crant, 2014	Zhang & Bartol, 2010
Audenaert & Decramer, 2016	Hwang, 2013	Zhang, Ke, Wang, & Liu, 2018
Byun, Dai, Lee, & Kang, 2016	Kim, 2019	Zhang & Zhou, 2014 (2 studies)
Chow, 2018	Li & Zhang, 2016	
Empowering Leadership – Innovation		
Chen, Sharma, Edinger, Shapiro, & Farh, 2011 (2 studies)	Günzel-Jensen, Hansen, Jakobsen & Wulff, 2018	Sagnak, 2012
De Jong & Den Hartog, 2010	Newman, Tse, Schwarz, & Nielsen, 2018	Slåtten, Svensson, & Sværi, 2011
Gkorezis, 2016	Odoardi, Montani, Boudrias, & Battistelli, 2014	
Servant Leadership - Creativity		
Do, Budhwar, & Patel, 2018	Liden, Wayne, Meuser, Hu, Wu, & Liao, 2015	Williams Jr, Brandon, Hayek, Haden, & Atinc, 2017

Jaiswal & Dhar, 2017	Malingumu, Stouten, Euwema, & Babyegeya, 2016	Yang, Liu, & Gu, 2017
Jaramillo, Grisaffe, Chonko, & Roberts, 2009	Neubert, Hunter, & Tolentino, 2016	Yoshida, Sendjaya, Hirst, & Cooper, 2014
Karatepe, Ozturk & Kim, 2019	Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008	
Servant Leadership - Innovation		
Krog & Govender, 2015	Searle, 2011	Weaver, 2017
Newman, Neesham, Manville, & Tse, 2017	Sun, 2016	
Panaccio, Henderson, Liden, Wayne, & Cao, 2015	Topcu, Gursoy, & Gurson, 2015	
Destructive Leadership - Creativity		
Choi, Anderson, & Velette, 2009	Jiang, Gu, & Tang, 2017	Naseer,Raja, Syed, Donia, & Darr, 2016
Gu, Song, & Wu, 2016	Lee, Yun, & Srivastava, 2013	Rasool, Naseer, Syed, & Ahmad, 2018
Guo, Decoster, Babalola, Schutter, Garba, & Riisla, 2018 (2 studies)	Liu, Liao, & Loi, 2012	Zhang, Kwan, Zhang, & Wu, 2014
Han, Harms, & Bai, 2017	Liu, Zhang, Liao, Hao, & Mao, 2016	
Jiang & Gu, 2016	Meng, Tan, & Li, 2017	
Authoritarian Leadership - Creativity		
Dedahanov, Lee, Rhee, & Yoon, 2016	Guo, Decoster, Babalola, Schutter, Garba, & Riisla, 2018 (2 studies)	Wang, Chiang, Tsai, Lin, & Cheng, 2013
Gu, He, & Liu, 2017	Hwang, 2013	Wang, Tang, Naumann, & Yang, 2019
Gu, Wang, Liu, Song, & He, 2018	Pan, Wu, Zhou, & Lou, 2015	Wu, 2018
Authoritarian Leadership - Innovation		
Dedahanov, Bozorov, & Sung, 2019	Mansur, 2016	Wang, Chang, & Wang, 2018
Karakitapoğlu-Aygün, Gumusluoglu, & Scandura, 2019	Tian & Sanchez, 2017	Wu, 2018

Entreprenurial Leadership - Creativity		
Bagheri, 2017	Bagheri & Akbari, 2018	Cai, Lysova, Khapova, & Bossink, 2019
LMX - Creativity		
Akinlade, 2014	Lee, Scandura, Kim, Joshi, & Lee, 2012	Ramos, 2003
Aleksić, Mihelič, Černe, & Škerlavaj, 2017	Khalili, 2018	Pan, Wu, Zhou, & Lou, 2015
Atwater & Carmeli, 2009	Kong, Xu, Zhou, & Yuan, 2019	Sercan, 2016
Chughtai, 2016	Li, Chen, & Cao, 2017	Son, Cho, & Kang, 2017
Gong, Kim, Lee, & Zhu, 2013	Liao, Chen, & Hu, 2018	Tierney, 1992
Gu, Tang, & Jiang, 2015	Liao, Liu, & Loi, 2010	Tierney, Farmer, & Graen, 1999
Gu, Wang, Liu, Song, & He, 2018	Lin, Ma, Zhang, Li, & Jiang, 2018	Xu, Zhao, Li, & Lin, 2017
Hassanzadeh, 2014	Martinaityte & Sacramento, 2013	Volmer, Spurk, & Niessen, 2012
Huang, Krasikova, & Liu, 2016	Meng, Tan, & Li, 2017	Wang, 2016
Jaffer, 2013	Munoz-Doyague, & Nieto, 2012	Zaitouni & Ouakouak, 2018
Jiang & Yang, 2015	Naseer, Raja, Syed, Donia, & Darr, 2016	Zhang, Fan, & Zhang, 2015
Joo & Bennett, 2018	Pan, Sun, & Chow, 2012	Zhao, Kessel, & Kratzer, 2014
Joo, Yang, & McLean, 2014	Qu, Janssen, & Shi, 2017	
LMX - Innovation		
Atitumpong & Badir, 2017	Khalili, 2018	Scott, 1993
Basu & Green, 1995	Lee, 2008	Scott & Bruce, 1998 (2 studies)
Clegg, Unsworth, Epitropaki, & Parker, 2002	Liao & Chun, 2016	Song, Liu, Gu, & He, 2018

Denti, 2011	Park & Jo, 2018	Turunc, Celik, Tabak, & Kabak, 2010
Denti & Hemlin, 2015	Pundt, 2015	Wang, Fang, Qureshi, & Janssen, 2015
Janssen & van Yperen, 2004	Sanders, Moorkamp, Torka, Groeneveld, & Groeneveld, 2010	Wu, Liu, Kim, & Gao, 2018
Kim & Koo, 2017	Schermuly, Meyer, & Dämmer, 2013	Yuan, 2005
Benevolent Leadership - Creativity		
Dedahanov, Lee, Rhee, & Yoon, 2016	Wang & Cheng, 2010	Wang, Tang, Naumann, & Yang, 2019
Lin, Ma, Zhang, Li, & Jiang, 2018	Wang, Chiang, Tsai, Lin, & Cheng, 2013	Wu, 2018
Benevolent Leadership - Innovation		
Dedahanov, Bozorov, & Sung, 2019	Tian & Sanchez, 2017	Wu, 2018
Karakitapoğlu-Aygün, Gumusluoglu, & Scandura, 2019	Wang, Chang, & Wang, 2018	
Humble Leadership - Innovation		
Tuan, 2019	Wang, Zhang, & Jia, 2017	
Wang, Liu, & Zhu, 2018	Yuan, Zhang, & Tu, 2018	
Supportive Leadership - Creativity		
Cheung & Wong, 2011	Hwang, 2013	Škerlavaj Černe, & Dysvik, 2014
Choi, 2004	Jafri, 2018	Unsworth, Wall, & Carter, 2005
Darvishmotevali, 2019	Lim & Choi, 2009	Wang, Xue, & Su, 2010
George & Zhou, 2007	Ohly, Sonnentag, & Pluntke, 2006	Zaitouni & Ouakouak, 2018
Gu, He, & Liu, 2017	Oldham & Cumming, 1996	
Supportive Leadership - Innovation		
Chen, Li, & Leung, 2016 (2 studies)	Ohly, Sonnentag, & Pluntke, 2006	Yasir & Majid, 2018
Darvishmotevali, 2019	Škerlavaj Černe, & Dysvik, 2014	

Janssen, 2005	Sönmez & Yıldırım, 2019	
Ethical Leadership - Creativity		
Chen & Hou, 2016	Feng, Zhang, Liu, Zhang, & Han, 2016	Mehmood, 2016
Chughtai, 2016	Gu, Tang, & Jiang, 2015	Sercan, 2016
Dedahanov, Lee, Rhee, & Yoon, 2016	Javed, Khan, Bashir, & Arjoon, 2017	Wang, Tang, Naumann, & Yang, 2019
Dedahanov, Lee, Rhee, & Yoon, 2016	Javed, Rawwas, Khandai, Shahid, & Tayyeb, 2018	Wu, 2018
Duan, Liu, & Che, 2018	Ma, Cheng, Ribbens, & Zhou, 2013	
Ethical Leadership - Innovation		
Dedahanov, Bozorov, & Sung, 2019	Schuh, Zhang, & Tian, 2013	Zahra & Waheed, 2017
Dhar, 2016	Tu & Lu, 2013	
Javed, Bashir, Rawwas, & Arjoon, 2017	Wu, 2018	
Transformational Leadership – Destructive Leadership		
Byrne, Dionisi, Barling, Akers et al. 2014	Johnson, Venus, Lanaj, Mao & Chang, 2012	Schmidt, 2008
Collins & Jackson, 2015 (2 studies)	Ogunfowora, 2009	Taylor, 2012
Courtwright, 2012		
Transformational Leadership – Entrepreneurial Leadership		
Newman, Tse, Schwarz & Niesen, 2018	Cai, Lysova, Khapova, & Bossink, 2019	
Transformational Leadership – Humble Leadership		
Hwang, 2017	Owens & Heckman, 2016	Oyer, 2015
Transformational Leadership – Supportive Leadership		
Cheung & Wong, 2011	Guild, 2009	Liaw, Chi & Chuang, 2010
Lin, MacLennan, Hunt & Cox, 2015		
Contingent Reward – Empowering Leadership		

Buengeler, Homan, & Voelpel, 2016	Khuong & Hoang, 2015	Nguyen, Kuntz, Naswall & Malinen, 2016
Ensley, Hmieleski & Pearce, 2006		
Contingent Reward – Authentic Leadership		
Chiaburu, Diaz & Pitts, 2011	Emuwa & Fields, 2017	Sanda & Arthur, 2017
Contingent Reward – Destructive Leadership		
Bardes, 2009 Ogunfowora, 2009	Taylor, 2012	Zhang, 2013
Contingent Reward – Servant Leadership		
Kool & van Dierendonck, 2012	Steinmann, Nubold & Maier, 2016	Washington, Sutton & Sauser, 2014
Contingent Reward – Authoritarian Leadership		
Ensley, Hmieleski & Pearce, 2006	Khuong & Hoang, 2015	
Contingent Reward – Supportive Leadership		
Malatesta, 1995	Tremblay & Gibson, 2016	Walumbwa, Wu, & Orwa, 2008
Authentic Leadership – Humble Leadership		
Bharanitharan, Chen, Bahmannia & Lowe, 2018	Hwang, 2017	Mao, Chiu, Owens, Brown, & Liao, 2019
Servant Leadership – Humble Leadership		
Hwang, 2017		
Ethical Leadership – Humble Leadership		
Owens, Yam, Bednar, Mao, & Hart, (2019).		
LMX – Supportive Leadership		
Bhal, Ansari, & Aafaqi, 2007 Bryant, 2008 Gkorezis, 2015	Hsu, Chen, Wang, & Lin, 2010 Lu & Sun, 2017	Schaffer & Riordan, 2013 White, Campbell, & Kacmar, 2012
Benevolent Leadership – Supportive Leadership		
Chan, 2007 Chan, 2017	Lee, Jang, & Lee, 2018	Shu, Chiang, & Lu, 2018
Empowering Leadership – Entrepreneurial Leadership		
Newman, Tse, Schwarz & Niesen, 2018		
Destructive Leadership – Authoritarian Leadership		
Aryee, Chen, Sun, & Debrah, 2007 Bell, 2017	Dobbs, 2014	Schmidt, 2008

References (All studies included in Meta-Analysis and listed in Appendix B)

- Afsar, B., F. Badir, Y., & Bin Saeed, B. (2014). Transformational leadership and innovative work behavior. *Industrial Management & Data Systems, 114*, 1270-1270.
<https://doi.org/10.1108/IMDS-05-2014-0152>
- Akinlade, E. (2014). *The dual effect of transformational leadership on individual-and team-level creativity* (Unpublished Doctoral dissertation). University of Illinois.
- Aleksić, D., Mihelič, K. K., Černe, M., & Škerlavaj, M. (2017). Interactive effects of perceived time pressure, satisfaction with work-family balance (SWFB), and leader-member exchange (LMX) on creativity. *Personnel Review, 46*, 662-679.
<https://doi.org/10.1108/PR-04-2015-0085>
- Al-Madadha, A. (2016). *The influence of an integrative approach of empowerment on the creative performance for employees* (Unpublished Doctoral dissertation). Cardiff Metropolitan University.
- Amundsen, S., & Martinsen, Ø. (2014a). Self-other agreement in empowering leadership: Relationships with leader effectiveness and subordinates' job satisfaction and turnover intention. *The Leadership Quarterly, 25*, 784-800.
<https://doi.org/10.1016/j.leaqua.2014.04.007>
- Amundsen, S., & Martinsen, Ø. (2014b). Empowering leadership: Construct clarification, conceptualization, and validation of a new scale. *The Leadership Quarterly, 25*, 487-511.
<https://doi.org/10.1016/j.leaqua.2013.11.009>
- Amundsen, S., & Martinsen, Ø. (2015). Linking empowering leadership to job satisfaction, work effort, and creativity: The role of self-leadership and psychological empowerment. *Journal of Leadership and Organizational Studies, 22*, 304-323.
<https://doi.org/10.1177/1548051814565819>
- Arendt, L. A. (2009). Transformational leadership and follower creativity: The moderating

effect of leader humor. *Review of Business Research*, 9, 100-106.

Aryee, S., Chen, Z. X., Sun, L-Y., & Debrah, Y. A. (2007). Antecedents and outcomes of abusive supervision: Test of a trickle-down model. *Journal of Applied Psychology*, 92, 191-201. <https://doi.org/10.1037/0021-9010.92.1.191>

Atitumpong, A., & Badir, Y. F. (2018). Leader-member exchange, learning orientation and innovative work behavior. *Journal of Workplace Learning*, 30, 32-47. <https://doi.org/10.1108/JWL-01-2017-0005>

Atwater, L., & Carmeli, A. (2009). Leader-member exchange, feelings of energy, and involvement in creative work. *The Leadership Quarterly*, 20, 264-275. <https://doi.org/10.1016/j.leaqua.2007.07.009>

Audenaert, M., & Decramer, A. (2016). When empowering leadership fosters creative performance: The role of problem-solving demands and creative personality. *Journal of Management and Organization*, 24, 4-18. <https://doi.org/10.1017/jmo.2016.20>

Audenaert, M., Decramer, A., George, B., Verschuere, B., & Van Waeyenberg, T. (2016). When employee performance management affects individual innovation in public organizations: The role of consistency and LMX. *The International Journal of Human Resource Management*, 1-20. <https://doi.org/10.1080/09585192.2016.1239220>

Bae, S. H., Song, J. H., Park, S., & Kim, H. K. (2013). Influential factors for teachers' creativity: Mutual impacts of leadership, work engagement, and knowledge creation practices. *Performance Improvement Quarterly*, 26, 33-58. <https://doi.org/10.1002/piq.21153>

Bagheri, A. (2017). The impact of entrepreneurial leadership on innovation work behavior and opportunity recognition in high-technology SMEs. *The Journal of High Technology Management Research*, 28, 159-166. <https://doi.org/10.1016/j.hitech.2017.10.003>

- Bagheri, A., & Akbari, M. (2018). The impact of entrepreneurial leadership on nurses' innovation behavior. *Journal of Nursing Scholarship*, 50, 28-35.
- Bardes, M. (2009). *Aspects of goals and rewards systems as antecedents of abusive supervision: The mediating effect of hindrance stress* (Unpublished Doctoral dissertation), University of Central Florida.
- Basu, R., & Green, S. G. (1995). Subordinate performance, leader- subordinate compatibility, and exchange quality in leader- member dyads: A field study. *Journal of Applied Social Psychology*, 25, 77-92. <https://doi.org/10.1111/j.1559-1816.1995.tb01585.x>
- Bell, R. M. (2017). *The dysfunction junction: The impact of toxic leadership on follower effectiveness* (Unpublished Doctoral dissertation), Regent University.
- Bhal, K. T., Ansari, M. A., & Aafaqi, R. (2007). The role of gender match, LMX tenure, and support in leader-member exchange. *International Journal of Business and Society*, 8, 63-80.
- Bharanitharan, K., Chen, Z. X., Bahmannia, S., & Lowe, K. B. (2018). Is leader humility a friend or foe, or both? An attachment theory lens on leader humility and its contradictory outcomes. *Journal of Business Ethics*, 1-15. <https://doi.org/10.1007/s10551-018-3925-z>
- Boerner, S., Eisenbeiss, S. A., & Griesser, D. (2007). Follower behavior and organizational performance: The impact of transformational leaders. *Journal of Leadership & Organizational Studies*, 13, 15-26. <https://doi.org/10.1177/10717919070130030201>
- Bryant, J. L. (2008). *Effects of leader relationship quality (LMX), supervisor support, and upward influence in national science foundation industry/university cooperative research centers* (Unpublished Doctoral dissertation), Old Dominion University.
- Buengeler, C., Homan, A. C., & Voelpel, S. C. (2016). The challenge of being a young manager: The effects of contingent reward and participative leadership on team- level

turnover depend on leader age. *Journal of Organizational Behavior*, 37, 1224-1245.

<http://dx.doi.org/10.1002/job.2101>

Byrne, A., Dionisi, A. M., Barling, J., Akers, A., Robertson, J., Lys, R., Wylie, J., & Dupre, K. (2014). The depleted leader: The influence of leaders' diminished psychological resources on leadership behaviors. *The Leadership Quarterly*, 25, 344-357.

<https://doi.org/10.1016/j.leaqua.2013.09.003>

Byun, G., Dai, Y., Lee, S., & Kang, S. (2016). When does empowering leadership enhance employee creativity? A three-way interaction test. *Social Behavior and Personality: An international journal*, 44, 1555-1564. <https://doi.org/10.2224/sbp.2016.44.9.1555>

Cai, W., Lysova, E. I., Khapova, S. N., & Bossink, B. A. (2019). Does entrepreneurial leadership foster creativity among employees and teams? The mediating role of creative efficacy beliefs. *Journal of Business and Psychology*, 34, 203-217.

<https://doi.org/10.1007/s10869-018-9536-y>

Carmeli, A., Sheaffer, Z., Binyamin, G., Reiter-Palmon, R., & Shimoni, T. (2014).

Transformational leadership and creative problem-solving: The mediating role of psychological safety and reflexivity. *Journal of Creative Behavior*, 48, 115-135.

<https://doi.org/10.1002/jocb.43>

Černe, M., Jaklič, M., & Škerlavaj, M. (2013). Authentic leadership, creativity, and innovation: A multilevel perspective. *Leadership*, 9, 63-85.

<https://doi.org/10.1177/1742715012455130>

Chan, C. H. (2007). *Paternalistic leadership styles and follower performance: Examining mediating variables in a multi-level model* (Unpublished Doctoral dissertation), The Hong Kong Polytechnic University.

Chan, S. C. (2017). Benevolent leadership, perceived supervisory support, and subordinates' performance: The moderating role of psychological empowerment. *Leadership &*

Organization Development Journal, 38, 897-911. <http://dx.doi.org/10.1108/LODJ-09-2015-0196>

Chang, J., Bai, X., & Li, J. J. (2015). The influence of leadership on product and process innovations in China: The contingent role of knowledge acquisition capability. *Industrial Marketing Management*, 50, 18-29. <https://doi.org/10.1016/j.indmarman.2015.04.014>

Chang, J., & Teng, C. (2017). Intrinsic or extrinsic motivations for hospitality employees' creativity: The moderating role of organization-level regulatory focus. *International Journal of Hospitality Management*, 60, 133-141. <https://doi.org/10.1016/j.ijhm.2016.10.003>

Charbonnier-Voirin, A., El Akremi, A., & Vandenberghe, C. (2010). A multilevel model of transformational leadership and adaptive performance and the moderating role of climate for innovation. *Group & Organization Management*, 35, 699-726. <https://doi.org/10.1177/1059601110390833>

Chaudhary, R., & Panda, C. (2018). Authentic leadership and creativity: The intervening role of psychological meaningfulness, safety and work engagement. *International Journal of Productivity and Performance Management*, 67, 2071-2088. <https://doi.org/10.1108/IJPPM-02-2018-0082>

Chaubey, A., Sahoo, C. K., & Khatri, N. (2019). Relationship of transformational leadership with employee creativity and organizational innovation: A study of mediating and moderating influences. *Journal of Strategy and Management*, 12, 61-82. <https://doi.org/10.1108/JSMA-07-2018-0075>

Chiaburu, D. S., Diaz, I., & Pitts, V. E. (2011). Social and economic exchanges with the organization: do leader behaviors matter? *Leadership & Organization Development Journal*, 32, 442-461. <https://doi.org/10.1108/01437731111146569>

Chen, G., Farh, J. L., Campbell-Bush, E. M., Wu, Z., & Wu, X. (2013). Teams as innovative

- systems: Multilevel motivational antecedents of innovation in R&D teams. *Journal of Applied Psychology*, 98, 1018-1027. <https://doi.org/10.1037/a0032663>
- Chen, A. S., & Hou, Y. (2016). The effects of ethical leadership, voice behavior and climates for innovation on creativity: A moderated mediation examination. *The Leadership Quarterly*, 27, 1-13. <https://doi.org/10.1016/j.leaqua.2015.10.007>
- Chen, T., Li, F., & Leung, K. (2016). When does supervisor support encourage innovative behavior? Opposite moderating effects of general self- efficacy and internal locus of control. *Personnel Psychology*, 69, 123-158. <https://doi.org/10.1111/peps.12104>
- Chen, G., Sharma, P. N., Edinger, S. K., Shapiro, D. L., & Farh, J.-L. (2011). Motivating and demotivating forces in teams: Cross-level influences of empowering leadership and relationship conflict. *Journal of Applied Psychology*, 96, 541-557. <https://doi.org/10.1037/a0021886>
- Cheung, M. F., & Wong, C. S. (2011). Transformational leadership, leader support, and employee creativity. *Leadership & Organization Development Journal*, 32, 656-672. <https://doi.org/10.1108/01437731111169988>
- Choi, J. N., Anderson, T. A., & Veillette, A. (2009). Contextual inhibitors of employee creativity in organizations the insulating role of creative ability. *Group & Organization Management*, 34, 330-357. <https://doi.org/10.1177/1059601108329811>
- Choi, J. N. (2004). Individual and contextual predictors of creative performance: The mediating role of psychological processes. *Creativity Research Journal*, 16, 187-199. <https://doi.org/10.1080/10400419.2004.9651452>
- Choi, S. B., Kim, K., Ullah, S. E., & Kang, S. W. (2016). How transformational leadership facilitates innovative behavior of Korean workers: Examining mediating and moderating processes. *Personnel Review*, 45, 459-479. <https://doi.org/10.1108/PR-03-2014-0058>

- Chow, I. (2018). The mechanism underlying the empowering leadership-creativity relationship. *Leadership & Organization Development Journal*, 39, 202–217. <https://doi.org/10.1108/LODJ-03-2016-0060>.
- Chughtai, A. A. (2016). Can ethical leaders enhance their followers' creativity? *Leadership*, 12, 230-249. <https://doi.org/10.1177/1742715014558077>
- Clegg, C., Unsworth, K., Epitropaki, O., & Parker, G. (2002). Implicating trust in the innovation process†. *Journal of Occupational and Organizational Psychology*, 75, 409-422. <https://doi.org/10.1348/096317902321119574>
- Collins, M. D., & Jackson, C. J. (2015). A process model of self-regulation and leadership: How attentional resource capacity and negative emotions influence constructive and destructive leadership. *The Leadership Quarterly*, 26, 386-401. <https://doi.org/10.1016/j.leaqua.2015.02.005>
- Courtright, S. H. (2012). *Fired up or burned out? Exploring the effects of leadership challenge demands on leadership behaviors through engagement and burnout* (Unpublished Doctoral dissertation). University of Iowa (UMI No. 3628471).
- Craig, J. T. (2015). *Antecedents of individual innovative behavior: Examining transformational leadership, creative climate, role ambiguity, risk propensity, and psychological empowerment* (Unpublished Doctoral dissertation). Alliant International University.
- Darvishmotevali, M. (2019). Decentralization and innovative behavior: The moderating role of supervisor support. *International Journal of Organizational Leadership*, 8, 31-45. <https://ssrn.com/abstract=3337656>
- De Jong, J. P. J., & Den Hartog, D. N. (2010). Measuring innovative work behavior. *Creativity and Innovation Management*, 19, 23-36. <https://doi.org/10.1111/j.1467-8691.2010.00547.x>

- Dedahanov, A. T., Bozorov, F., & Sung, S. (2019). Paternalistic leadership and innovative behavior: Psychological empowerment as a mediator. *Sustainability, 11*, 1770-1784. <https://doi.org/10.3390/su11061770>
- Dedahanov, A. T., Lee, D. H., Rhee, J. & Yoon, J. (2016). Entrepreneur's paternalistic leadership style and creativity: The mediating role of employee voice. *Management Decision, 54*, 2310-2324. <https://doi.org/10.1108/MD-11-2015-0537>
- Denti, L. (2011). *Leadership and innovation: how and when do leaders influence innovation in R&D Teams?* (Unpublished doctoral dissertation). University of Gothenburg, Sweden.
- Denti, L., & Hemlin, S. (2016). Modelling the link between leader-member exchange and individual innovation in R&D. *International Journal of Innovation Management, 20*, 1650038-1-23. <https://doi.org/10.1142/S1363919616500389>
- Dhar, R. L. (2016). Ethical leadership and its impact on service innovative behavior: The role of LMX and job autonomy. *Tourism Management, 57*, 139-148. <https://doi.org/10.1016/j.tourman.2016.05.011>
- Do, H., Budhwar, P. S., & Patel, C. (2018). Relationship between innovation-led HR policy, strategy, and firm performance: A serial mediation investigation. *Human Resource Management, 57*, 1271-1284. <https://doi.org/10.1002/hrm.21903>
- Dobbs, J. M. (2014). *The relationship between perceived toxic leadership styles, leader effectiveness, and organizational cynicism* (Unpublished Doctoral dissertation), University of San Diego.
- Dong, Y., Bartol, K. M., Zhang, Z., & Li, C. (2017). Enhancing employee creativity via individual skill development and team knowledge sharing: Influences of dual-focused transformational leadership. *Journal of Organizational Behavior, 38*, 439-458. <https://doi.org/10.1002/job.2134>

- Duan, S., Liu, Z., & Che, H. (2018). Mediating influences of ethical leadership on employee creativity. *Social Behavior and Personality: An International Journal*, *46*, 323-337.
<https://doi.org/10.2224/sbp.6160>
- Elenkov, D. S., Judge, W., & Wright, P. (2005). Strategic leadership and executive innovation influence: An international multi- cluster comparative study. *Strategic Management Journal*, *26*, 665-682. <https://doi.org/10.1002/smj.469>
- Elenkov, D. S., & Manev, I. M. (2005). Top management leadership and influence on innovation: The role of sociocultural context. *Journal of Management*, *31*, 381-402.
<https://doi.org/10.1177/0149206304272151>
- Eisenbeiß, S. A., & Boerner, S. (2013). A double- edged sword: Transformational leadership and individual creativity. *British Journal of Management*, *24*, 54-68.
<https://doi.org/10.1111/j.1467-8551.2011.00786.x>
- Emuwa, A., & Fields, D. (2017). Authentic leadership as a contemporary leadership model applied in Nigeria. *African Journal of Economic and Management Studies*, *8*, 296-313.
<https://doi.org/10.1108/AJEMS-06-2016-0092>
- Ensley, M. D., Hmieleski, K. M., & Pearce, C. L. (2006). The importance of vertical and shared leadership within new venture top management teams: Implications for the performance of startups. *The Leadership Quarterly*, *17*, 217-231.
<https://doi.org/10.1016/j.leaqua.2006.02.002>
- Fatima, T., Safdar, S., & Jahanzeb, S. (2017). Participative leadership and employee creativity: Moderating role of need for achievement. *International Journal of Business & Management*, *12*, 1-14.
- Feng, J., Zhang, Y., Liu, X., Zhang, L., & Han, X. (2016). Just the right amount of ethics inspires creativity: A cross-level investigation of ethical leadership, intrinsic motivation,

and employee creativity. *Journal of Business Ethics*, 1-14.

<https://doi.org/10.1007/s10551-016-3297-1>

George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity.

Academy of Management Journal, 50(3), 605-622.

<https://doi.org/10.5465/amj.2007.25525934>

Ghafoor, A., Qureshi, T., Azeemi, H., & Hijazi, S. (2011). Mediating role of creative self-efficacy. *African Journal of Business Management*, 5, 11093-11103.

<https://doi.org/10.5897/AJBM11.876>

Gilmore, P. L., Hu, X., Wei, F., Tetrick, L. E., & Zaccaro, S. J. (2013). Positive affectivity neutralizes transformational leadership's influence on creative performance and

organizational citizenship behaviors. *Journal of Organizational Behavior*, 34, 1061-

1075. <https://doi.org/10.1002/job.1833>

Gkorezis, P. (2015). Supervisor support and pro-environmental behavior: the mediating role of LMX. *Management Decision*, 53, 1045-1060. [https://doi.org/10.1108/MD-06-2014-](https://doi.org/10.1108/MD-06-2014-0370)

0370

Gkorezis, P. (2016). Principal empowering leadership and teacher innovative behavior: a

moderated mediation model. *International journal of educational management*, 30,

1030-1044. <https://doi.org/10.1108/IJEM-08-2015-0113>

Golden III, J. H. (2016). *Examining relationships between transformational leadership and employee creativity and innovation performance: The moderator effects of*

organizational culture (Unpublished Doctoral dissertation). Northcentral University.

Gong, Y., Huang, J.C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-

efficacy. *Academy of Management Journal*, 52, 765-778.

<https://doi.org/10.5465/AMJ.2009.43670890>

- Gong, Y., Kim, T. Y., Lee, D. R., & Zhu, J. (2013). A multilevel model of team goal orientation, information exchange, and creativity. *Academy of Management Journal*, 56, 827-851. <https://doi.org/10.5465/amj.2011.0177>
- Gross, R. (2016). *The impact of leadership styles on employee entrepreneurial orientation and innovative behavior: A comparative analysis of American and Indian immigrant Entrepreneurs* (Unpublished Doctoral dissertation). Regent University.
- Gu, J., He, C., & Liu, H. (2017). Supervisory styles and graduate student creativity: the mediating roles of creative self-efficacy and intrinsic motivation. *Studies in Higher Education*, 42, 721-742. <https://doi.org/10.1080/03075079.2015.1072149>
- Gu, J., Song, J., & Wu, J. (2016). Abusive supervision and employee creativity in China: Departmental identification as mediator and face as moderator. *Leadership & Organization Development Journal*, 37, 1187-1204. <https://doi.org/10.1108/LODJ-02-2015-0021>
- Gu, Q., Tang, T.L.P. & Jiang, W. (2015). Does moral leadership enhance employee creativity? Employee identification with leader and leader–member exchange (LMX) in the Chinese context. *Journal of Business Ethics*, 126, 513-529. <https://doi.org/10.1007/s10551-013-1967-9>
- Gu, J., Wang, G., Liu, H., Song, D., & He, C. (2018). Linking authoritarian leadership to employee creativity: the influences of leader–member exchange, team identification and power distance. *Chinese Management Studies*, 12, 384-406. <https://doi.org/10.1108/CMS-10-2017-0294>
- Guild, D. P. (2009). *Antecedents and consequences of supervisory support: The moderating affects of perceived organizational status of the supervisor* (Unpublished Doctoral dissertation), Webster University.

- Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of Business Research*, *62*, 461-473.
<https://doi.org/10.1016/j.jbusres.2007.07.032>
- Günzel-Jensen, F., Hansen, J. R., Jakobsen, M. L. F., & Wulff, J. (2018). A two-pronged approach? Combined leadership styles and innovative behavior. *International Journal of Public Administration*, *41*, 957-970. <https://doi.org/10.1080/01900692.2017.1303711>
- Guo, L., Decoster, S., Babalola, M. T., De Schutter, L., Garba, O. A., & Riisla, K. (2018). Authoritarian leadership and employee creativity: The moderating role of psychological capital and the mediating role of fear and defensive silence. *Journal of Business Research*, *92*, 219-230. <https://doi.org/10.1016/j.jbusres.2018.07.034>
- Han, G. H., Harms, P. D., & Bai, Y. (2017). Nightmare bosses: The impact of abusive supervision on employees' sleep, emotions, and creativity. *Journal of Business Ethics*, *145*, 21-31. <https://doi.org/10.1007/s10551-015-2859-y>
- Harris, T. B., Li, N., Boswell, W. R., Zhang, X. A., & Xie, Z. (2014). Getting what's new from newcomers: Empowering leadership, creativity, and adjustment in the socialization context. *Personnel Psychology*, *67*, 567-604. <https://doi.org/10.1111/peps.12053>
- Hassanzadeh, J. F. (2014). Leader-member exchange, Creative work involvement: The Importance of knowledge sharing. *Iranian Journal of Management Studies*, *7*, 391-412.
- Henker, N. (2013). *Antecedents of employee creativity* (Unpublished Doctoral dissertation). University of Konstanz.
- Henker, N., Sonnentag, S., & Unger, D. (2015). Transformational leadership and employee creativity: The mediating role of promotion focus and creative process engagement. *Journal of Business and Psychology*, *30*, 235-247. <https://doi.org/10.1007/s10869-014-9348-7>
- Hirst, G., Van Dick, R., & Van Knippenberg, D. (2009). A social identity perspective on

leadership and employee creativity. *Journal of Organizational Behavior*, 30, 963-982.

<https://doi.org/10.1002/job.600>

Hon, A. H. (2011). Enhancing employee creativity in the Chinese context: The mediating role of employee self-concordance. *International Journal of Hospitality Management*, 30, 375-384. <https://doi.org/10.1016/j.ijhm.2010.06.002>

Hon, A. H. Y., Bloom, M., & Crant, J. M. (2014). Overcoming resistance to change and enhancing creative performance. *Journal of Management*, 40, 919-941. <https://doi.org/10.1177/0149206311415418>

Hsu, B. F., Chen, W. Y., Wang, M. L., & Lin, Y. Y. (2010). Explaining supervisory support to work-family conflict: The perspectives of Guanxi, LMX, and emotional intelligence. *Journal of Technology Management in China*, 5, 40-54. <http://dx.doi.org/10.1108/17468771011032787>

Huang, L., Krasikova, D. V., & Liu, D. (2016). I can do it, so can you: The role of leader creative self-efficacy in facilitating follower creativity. *Organizational Behavior and Human Decision Processes*, 132, 49-62. <https://doi.org/10.1016/j.obhdp.2015.12.002>

Hussain, H., Talib, N., & Shah, I. (2014). Exploring the impact of transformational leadership on process innovation and product innovation: A case of Iraqi public universities. *Asian Social Science*, 10, 168-174. <https://doi.org/10.5539/ass.v10n21p168>

Hwang, S. J. (2013). *Influence of leader behaviors on creativity: A comparative study between South Korea and the United States* (Unpublished Doctoral dissertation). University of Minnesota.

Hwang, J. (2017). *Asian American leadership: Does leadership style matter?* (Unpublished Doctoral dissertation). San Diego State University.

- Iskandarani, K. M. (2017). *Assessing the impact of transformational leadership, organizational climate, and personality on individual innovativeness at work* (Unpublished Doctoral dissertation). Eastern Michigan University.
- Jaffer, S. (2013) *Harnessing innovation in the 21st century: The impact of leadership styles*. (Unpublished doctoral dissertation). George Washington University.
- Jafri, M. H. (2018). Moderating role of job autonomy and supervisor support in trait emotional intelligence and employee creativity relationship. *Vision*, 22, 253-263. <https://doi.org/10.1177/0972262918785960>
- Jaiswal, N. K., & Dhar, R. L. (2016). Fostering employee creativity through transformational leadership: Moderating role of creative self-efficacy. *Creativity Research Journal*, 28, 367-371. <https://doi.org/10.1080/10400419.2016.1195631>
- Jaiswal, N. K., & Dhar, R. L. (2017). The influence of servant leadership, trust in leader and thriving on employee creativity. *Leadership & Organization Development Journal*, 38, 2-21. <https://doi.org/10.1108/LODJ-02-2015-0017>
- Janssen, O. (2005). The joint impact of perceived influence and supervisor supportiveness on employee innovative behavior. *Journal of Occupational and Organizational Psychology*, 78, 573-579. <https://doi.org/10.1348/096317905X25823>
- Janssen, O., & Van Yperen, N. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, 47, 369-384. <https://doi.org/10.2307/20159587>
- Jaramillo, F., Grisaffe, D. B., Chonko, L. B., & Roberts, J. A. (2009). Examining the impact of servant leadership on salesperson's turnover intention. *Journal of Personal Selling & Sales Management*, 29, 351-365. <https://doi.org/10.2753/PSS0885-3134290404>
- Jaussi, K. S., & Dionne, S. D. (2003). Leading for creativity: The role of unconventional leader behavior. *The Leadership Quarterly*, 14, 475-498. <https://doi.org/10.1016/S1048->

9843(03)00048-1

Javed, B., Bashir, S., Rawwas, M. Y. A., & Arjoon, S. (2017). Islamic work ethic, innovative work behavior, and adaptive performance: The mediating mechanism and an interacting effect. *Current Issues in Tourism, 20*, 647-663.

<https://doi.org/10.1080/13683500.2016.1171830>

Javed, B., Khan, A. A., Bashir, S., & Arjoon, S. (2017). Impact of ethical leadership on creativity: The role of psychological empowerment. *Current Issues in Tourism, 20*, 839-851. <https://doi.org/10.1080/13683500.2016.1188894>

Javed, B., Rawwas, M. Y., Khandai, S., Shahid, K., & Tayyeb, H. H. (2018). Ethical leadership, trust in leader and creativity: The mediated mechanism and an interacting effect. *Journal of Management & Organization, 24*, 388-405.

<https://doi.org/10.1017/jmo.2017.56>

Jiang, W., & Gu, Q. (2016). How abusive supervision and abusive supervisory climate influence salesperson creativity and sales team effectiveness in China. *Management Decision, 54*, 455-475. <https://doi.org/10.1108/MD-07-2015-0302>

Jiang, W., Gu, Q., & Tang, T. L. (2017). Do victims of supervisor bullying suffer from poor creativity? Social cognitive and social comparison perspectives. *Journal of Business Ethics, 1-20*. <https://doi.org/10.1007/s10551-017-3660-x>

Jiang, J., & Yang, B. (2015). Roles of creative process engagement and leader-member exchange in critical thinking and employee creativity. *Social Behavior and Personality: An International Journal, 43*, 1217-1231. <https://doi.org/10.2224/sbp.2015.43.7.1217>

Johnson, R. E., Venus, M., Lanaj, K., Mao, C., & Chang, C. H. (2012). Leader identity as an antecedent of the frequency and consistency of transformational, consideration, and abusive leadership behaviors. *Journal of Applied Psychology, 97*, 1262-1272.

<https://doi.org/10.1037/a0029043>

- Joo, B. K. B., & Bennett III, R. H. (2018). The influence of proactivity on creative behavior, organizational commitment, and job performance: Evidence from a Korean multinational. *Journal of International & Interdisciplinary Business Research*, 5, 1-20.
- Joo, B. K., Yang, B., & McLean, G. N. (2014). Employee creativity: The effects of perceived learning culture, leader–member exchange quality, job autonomy, and proactivity. *Human Resource Development International*, 17, 297-317.
<https://doi.org/10.1080/13678868.2014.896126>
- Jyoti, J., & Dev, M. (2015). The impact of transformational leadership on employee creativity: The role of learning orientation. *Journal of Asia Business Studies*, 9, 78-98.
<https://doi.org/10.1108/JABS-03-2014-0022>
- Kang, J. H. (2013). *CEOs' transformational leadership and managers' innovative behavior: The investigation of intervening effects in an entrepreneurial context* (Unpublished Doctoral dissertation). The George Washington University.
- Kang, J. H., Solomon, G. T., & Choi, D. Y. (2015). CEOs' leadership styles and managers' innovative behavior: Investigation of intervening effects in an entrepreneurial context. *Journal of Management Studies*, 52, 531-554. <https://doi.org/10.1111/joms.12125>
- Kao, P. J., Pai, P., Lin, T., & Zhong, J. Y. (2015). How transformational leadership fuels employees' service innovation behavior. *The Service Industries Journal*, 35, 448-466.
<https://doi.org/10.1080/02642069.2015.1015519>
- Karakitapoğlu-Aygün, Z., Gumusluoglu, L., & Scandura, T. A. (2019). How do different faces of paternalistic leaders facilitate or impair task and innovative performance? Opening the black box. *Journal of Leadership & Organizational Studies*, 1-15.
<https://doi.org/10.1177/1548051819833380>

- Karatepe, O. M., Ozturk, A., & Kim, T. T. (2019). Servant leadership, organizational trust, and bank employee outcomes. *The Service Industries Journal*, 39, 86-108.
<https://doi.org/10.1080/02642069.2018.1464559>
- Kark, R., Van Dijk, D., & Vashdi, D. R. (2018). Motivated or demotivated to be creative: The role of self-regulatory focus in transformational and transactional leadership processes. *Applied Psychology*, 67, 186-224. <https://doi.org/10.1111/apps.12122>
- Khalili, A. (2016). Linking transformational leadership, creativity, innovation, and innovation-supportive climate. *Management Decision*, 54, 2277-2293.
<https://doi.org/10.1108/MD-03-2016-0196>
- Khalili, A. (2018). Creativity and innovation through LMX and personal initiative. *Journal of Organizational Change Management*, 31, 323-333. <https://doi.org/10.1108/JOCM-09-2016-0183>
- Khuong, M. N., & Hoang, D. T. (2015). The effects of leadership styles on employee motivation in auditing companies in Ho Chi Minh City, Vietnam. *International Journal of Trade, Economics and Finance*, 6, 210-217
- Kim, J. G. (2000). A study of relationships among work motivation, problem-solving style, leadership style, and team climate on creative behavior in the South Korean workplace (Unpublished doctoral dissertation). University of Missouri-Columbia.
- Kim, S. L. (2019). The interaction effects of proactive personality and empowering leadership and close monitoring behavior on creativity. *Creative and Innovation Management*, <https://doi.org/10.1111/caim.12304>
- Kim, J. G., & Lee, S.-Y. (2011). Effects of transformational and transactional leadership on employees' creative behavior: Mediating effects of work motivation and job satisfaction. *Asian Journal of Technology Innovation*, 19, 233-247.
<https://doi.org/10.1080/19761597.2011.632590>

- Kim, M. S., & Koo, D. W. (2017). Linking LMX, engagement, innovative behavior, and job performance in hotel employees. *International Journal of Contemporary Hospitality Management*, 29, 3044-3062. <https://doi.org/10.1108/IJCHM-06-2016-0319>
- Kollmann, T., Stöckmann, C., & Krell, P. (2011). *One style fits all? Integrating achievement motives in the transformational leadership-dependency-creativity linkage*. Paper session presented at the meeting of the International Council for Small Business (ICSB), Stockholm, Sweden.
- Kong, M., Xu, H., Zhou, A., & Yuan, Y. (2019). Implicit followership theory to employee creativity: The roles of leader–member exchange, self-efficacy and intrinsic motivation. *Journal of Management and Organization*, 25, 81-95. <https://doi.org/10.1017/jmo.2017.18>
- Kool, M., & van Dierendonck, D. (2012). Servant leadership and commitment to change, the mediating role of justice and optimism. *Journal of Organizational Change Management*, 25, 422-433. <https://doi.org/10.1108/09534811211228139>
- Koseoglu, G., Liu, Y., & Shalley, C. E. (2017). Working with creative leaders: Exploring the relationship between supervisors' and subordinates' creativity. *The Leadership Quarterly*, 28, 798-811. <https://doi.org/10.1016/j.leaqua.2017.03.002>
- Krog, C. L., & Govender, K. (2015). The relationship between servant leadership and employee empowerment, commitment, trust and innovative behavior: A project management perspective. *SA Journal of Human Resource Management*, 13, 1-12. <https://doi.org/10.4102/sajhrm.v13i1.712>
- Lee, J. (2008). Effects of leadership and leader-member exchange on innovativeness. *Journal of Managerial Psychology*, 23, 670-687. <https://doi.org/10.1108/02683940810894747>
- Lee, J. Y., Jang, S. H., & Lee, S. Y. (2018). Paternalistic leadership and knowledge sharing with outsiders in emerging economies: Based on social exchange relations within the

- China context. *Personnel Review*, 47, 1094-1115. <https://doi.org/10.1108/PR-03-2017-0068>
- Lee, K., Scandura, T., Kim, Y., Joshi, K., & Lee, J. (2012). Examining leader-member exchange as a moderator of the relationship between emotional intelligence and creativity of software developers. *Engineering Management Research*, 1, 15-28. <https://doi.org/10.5539/emr.v1n1p15>
- Lee, S., Yun, S., & Srivastava, A. (2013). Evidence for a curvilinear relationship between abusive supervision and creativity in South Korea. *The Leadership Quarterly*, 24, 724-731. <https://doi.org/10.1016/j.leaqua.2013.07.002>
- Li, H., Chen, T., & Cao, G. (2017). How high-commitment work systems enhance employee creativity: A mediated moderation model. *Social Behavior and Personality: An International Journal*, 45, 1437-1450. <https://doi.org/10.2224/sbp.6514>
- Li, V., Mitchell, R., & Boyle, B. (2016). The divergent effects of transformational leadership on individual and team innovation. *Group & Organization Management*, 41, 66-97. <https://doi.org/10.1177/1059601115573792>
- Li, F., Yu, K. F., Yang, J., Qi, Z., & Fu, J. H. Y. (2014). Authentic leadership, traditionality, and interactional justice in the Chinese context. *Management and Organization Review*, 10, 249-273. <https://doi.org/10.1111/more.12027>
- Li, M., & Zhang, P. (2016). Stimulating learning by empowering leadership: Can we achieve cross-level creativity simultaneously?. *Leadership & Organization Development Journal*, 37, 1168-1186. <https://doi.org/10.1108/LODJ-01-2015-0007>
- Li, C., Zhao, H., & Begley, T. M. (2015). Transformational leadership dimensions and employee creativity in china: A cross-level analysis. *Journal of Business Research*, 68, 1149-1156. <https://doi.org/10.1016/j.jbusres.2014.11.009>

- Liao, S. H., Chen, C. C., & Hu, D. C. (2018). The role of knowledge sharing and LMX to enhance employee creativity in theme park work team: A case study of Taiwan. *International Journal of Contemporary Hospitality Management*, 30, 2343-2359. <https://doi.org/10.1108/IJCHM-09-2016-0522>
- Liao, E. Y., & Chun, H. (2016). Supervisor monitoring and subordinate innovation. *Journal of Organizational Behavior*, 37(2), 168-192. <https://doi.org/10.1002/job.2035>
- Liao, H., Liu, D., & Loi, R. (2010). Looking at both sides of the social exchange coin: A social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Academy of Management Journal*, 53, 1090-1109. <https://doi.org/10.5465/amj.2010.54533207>
- Liaw, Y. J., Chi, N. W., & Chuang, A. (2010). Examining the mechanisms linking transformational leadership, employee customer orientation, and service performance: The mediating roles of perceived supervisor and coworker support. *Journal of Business and Psychology*, 25, 477-492. <http://dx.doi.org/10.1007/s10869-009-9145-x>
- Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., & Liao, C. (2015). Servant leadership: Validation of a short form of the SL-28. *The Leadership Quarterly*, 26, 254-269. <https://doi.org/10.1016/j.leaqua.2014.12.002>
- Lim, H. S., & Choi, J. N. (2009). Testing an alternative relationship between individual and contextual predictors of creative performance. *Social Behavior and Personality: An International Journal*, 37, 117-135. <https://doi.org/10.2224/sbp.2009.37.1.117>
- Lin, P. Y., MacLennan, S., Hunt, N., & Cox, T. (2015). The influences of nursing transformational leadership style on the quality of nurses' working lives in Taiwan: A cross-sectional quantitative study. *BMC nursing*, 14, 33-42. <http://dx.doi.org/10.1186/s12912-015-0082-x>

- Lin, W., Ma, J., Zhang, Q., Li, J. C., & Jiang, F. (2018). How is benevolent leadership linked to employee creativity? The mediating role of leader–member exchange and the moderating role of power distance orientation. *Journal of Business Ethics, 152*, 1099-1115. <https://doi.org/10.1007/s10551-016-3314-4>
- Liu, D., Liao, H., & Loi, R. (2012). The dark side of leadership: A three-level investigation of the cascading effect of abusive supervision on employee creativity. *Academy of Management Journal, 55*, 1187-1212. <https://doi.org/10.5465/amj.2010.0400>
- Liu, D., Gong, Y., Zhou, J., & Huang, J. (2017). Human resource systems, employee creativity, and firm innovation: The moderating role of firm ownership. *Academy of Management Journal, 60*, 1164-1188. <https://doi.org/10.5465/amj.2015.0230>
- Liu, W., Zhang, P., Liao, J., Hao, P., & Mao, J. (2016). Abusive supervision and employee creativity: The mediating role of psychological safety and organizational identification. *Management Decision, 54*, 130-147. <https://doi.org/10.1108/MD-09-2013-0443>
- Lu, X., & Sun, J. M. (2017). Multiple pathways linking leader-member exchange to work effort. *Journal of Managerial Psychology, 32*, 270-283. <http://dx.doi.org/10.1108/JMP-01-2016-0011>
- Luu, M. A. (2017). The moderating role of transformational leadership and perceived organizational support in the relationship between openness to experience and creativity (Unpublished Doctoral dissertation). San Jose State University.
- Ma, Y., Cheng, W., Ribbens, B. A., Zhou, J. (2013). Linking ethical leadership to employee creativity: Knowledge sharing and self-efficacy as mediators. *Social Behavior and Personality: An International Journal, 41*, 1409-1419. <https://doi.org/10.2224/sbp.2013.41.9.1409>

- Malatesta, R. M. (1995). *Understanding the dynamics of organizational and supervisory commitment using a social exchange framework* (Unpublished Doctoral dissertation), Wayne State University.
- Malik, N., Dhar, R. L., & Handa, S. C. (2016). Authentic leadership and its impact on creativity of nursing staff: A cross sectional questionnaire survey of Indian nurses and their supervisors. *International journal of nursing studies*, *63*, 28-36.
<https://doi.org/10.1016/j.ijnurstu.2016.08.004>
- Malingumu, W., Stouten, J., Euwema, M., & Babygegeya, E. (2016). Servant leadership, organizational citizenship behavior and creativity: The mediating role of team-member exchange. *Psychologica Belgica*, *56*, 342-356. <https://doi.org/10.5334/pb.326>
- Mansur, J. A. (2016). *On paternalistic leadership fit: exploring cross-cultural endorsement, leader-follower fit, and the boundary role of organizational culture* (Unpublished Doctoral dissertation). Escola Brasileira de Administração Pública e de Empresas, Centro de Formação Acadêmica e Pesquisa.
- Mao, J., Chiu, C. Y., Owens, B. P., Brown, J. A., & Liao, J. (2019). Growing Followers: Exploring the Effects of Leader Humility on Follower Self- Expansion, Self- Efficacy, and Performance. *Journal of Management Studies*, *56*, 343-371.
<http://dx.doi.org/10.1111/joms.12395>
- Martinaityte, I., & Sacramento, C. A. (2013). When creativity enhances sales effectiveness: The moderating role of leader–member exchange. *Journal of Organizational Behavior*, *34*, 974-994. <https://doi.org/10.1002/job.1835>
- Mehmood, S. (2016). Impact of ethical leadership on employee creativity: Mediating role of trust and moderating role of creative self-efficacy. *Jinnah Business Review*, *4*, 65-74.

- Meng, H., Cheng, Z. C., & Guo, T. C. (2016). Positive team atmosphere mediates the impact of authentic leadership on subordinate creativity. *Social Behavior and Personality: an international journal*, *44*, 355-368. <http://dx.doi.org/10.2224/sbp.2016.44.3.355>
- Meng, Y., Tan, J., & Li, J. (2017). Abusive supervision by academic supervisors and postgraduate research students' creativity: The mediating role of leader-member exchange and intrinsic motivation. *International Journal of Leadership in Education*, *20*, 605-617. <https://doi.org/10.1080/13603124.2017.1304576>
- Ma, X., & Jiang, W. (2018). Transformational leadership, transactional leadership, and employee creativity in entrepreneurial firms. *The Journal of Applied Behavioral Science*, *54*, 302-324. <https://doi.org/10.1177/0021886318764346>
- Miao, Q., Newman, A., & Lamb, P. (2012). Transformational leadership and the work outcomes of Chinese migrant workers: The mediating effects of identification with leader. *Leadership*, *8*, 377-395. <https://doi.org/10.1177/1742715012444055>
- Miao, C. F., & Wang, G. (2016). The differential effects of functional vis-à-vis relational customer orientation on salesperson creativity. *Journal of Business Research*, *69*(6), 6021-6030. <https://doi.org/10.1016/j.jbusres.2016.05.017>
- Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity: mediating role of creative self-efficacy and moderating role of knowledge sharing. *Management Decision*, *53*, 894-910. <https://doi.org/10.1108/MD-07-2014-0464>
- Mahmood, M., Uddin, M. A., & Fan, L. (2019). The influence of transformational leadership on employees' creative process engagement: A multi-level analysis. *Management Decision*, *57*, 741-764. <https://doi.org/10.1108/MD-07-2017-0707>
- Moss, S. A., & Ritossa, D. A. (2007). The impact of goal orientation on the association between leadership style and follower performance, creativity and work attitudes. *Leadership*, *3*, 433-456. <https://doi.org/10.1177/1742715007082966>

- Mubarak, F., & Noor, A. (2018). Effect of authentic leadership on employee creativity in project-based organizations with the mediating roles of work engagement and psychological empowerment. *Cogent Business & Management*, 5, 1-14. <https://doi.org/10.1080/23311975.2018.1429348>
- Muñoz-Doyague, M. F., & Nieto, M. (2012). Individual creativity performance and the quality of interpersonal relationships. *Industrial Management & Data Systems*, 112, 125-145. <https://doi.org/10.1108/02635571211193671>
- Naseer, S., Raja, U., Syed, F., Donia, M. B. L., & Darr, W. (2016). Perils of being close to a bad leader in a bad environment: Exploring the combined effects of despotic leadership, leader member exchange, and perceived organizational politics on behaviors. *The Leadership Quarterly*, 27, 14-33. <https://doi.org/10.1016/j.leaqua.2015.09.005>
- Neubert, M. J., Hunter, E. M., & Tolentino, R. C. (2016). A servant leader and their stakeholders: When does organizational structure enhance a leader's influence? *The Leadership Quarterly*, 27, 896-910. <https://doi.org/10.1016/j.leaqua.2016.05.005>
- Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B., & Roberts, J. A. (2008). Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, 93, 1220 - 1233. <https://doi.org/10.1037/a0012695>
- Newman, A., Neesham, C., Manville, G., & Tse, H. H. M. (2017). Examining the influence of servant and entrepreneurial leadership on the work outcomes of employees in social enterprises. *The International Journal of Human Resource Management*, 1-22. <https://doi.org/10.1080/09585192.2017.1359792>
- Newman, A., Herman, H. M., Schwarz, G., & Nielsen, I. (2018). The effects of employees' creative self-efficacy on innovative behavior: The role of entrepreneurial leadership. *Journal of Business Research*, 89, 1-9. <https://doi.org/10.1016/j.jbusres.2018.04.001>

- Nguyen, D. (2017). Intrinsic property of trait activation: the case of openness to experience and creative behavior in the context of transformational leadership and job complexity. (Unpublished master dissertation). Illinois State University.
- Nguyen, Q., Kuntz, J. R., Näswall, K., & Malinen, S. (2016). Employee resilience and leadership styles: The moderating role of proactive personality and optimism. *New Zealand Journal of Psychology (Online)*, *45*, 13-21.
- Odoardi, C., Montani, F., Boudrias, J., & Battistelli, A. (2015). Linking managerial practices and leadership style to innovative work behavior: The role of group and psychological processes. *Leadership & Organization Development Journal*, *36*, 545-569.
<https://doi.org/10.1108/LODJ-10-2013-0131>
- Ogunfowora, B. (2009). *The consequences of ethical leadership: comparisons with transformational leadership and abusive supervision* (Unpublished Doctoral dissertation), University of Calgary.
- Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *27*, 257-279. <https://doi.org/10.1002/job.376>
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, *39*, 607-634.
<https://doi.org/10.5465/256657>
- Owens, B. P., & Hekman, D. R. (2016). How does leader humility influence team performance? Exploring the mechanisms of contagion and collective promotion focus. *Academy of Management Journal*, *59*, 1088-1111.
<http://dx.doi.org/10.5465/amj.2013.0660>

- Owens, B. P., Yam, K. C., Bednar, J. S., Mao, J., & Hart, D. W. (2019). The impact of leader moral humility on follower moral self-efficacy and behavior. *Journal of Applied Psychology, 104*, 146-163. <http://dx.doi.org/10.1037/apl0000353>
- Oyer, B. J. (2015). Teacher Perceptions of Principals' Confidence, Humility, and Effectiveness: Implications for Educational Leadership. *Journal of School Leadership, 25*, 684-719.
- Park, S., & Jo, S. J. (2018). The impact of proactivity, leader-member exchange, and climate for innovation on innovative behavior in the Korean government sector. *Leadership & Organization Development Journal, 39*, 130-149. <https://doi.org/10.1108/LODJ-09-2016-0216>
- Pan, J., Wu, Q., Zhou, W., & Lou, Y. (2015). When is the leader's creativity related to the followers' creativity? A cross-level examination in China. *Innovation, 17*, 364-382. <https://doi.org/10.1080/14479338.2015.1061897>
- Pan, W., Sun, L.-Y., & Chow, I. H. S. (2012). Leader-member exchange and employee creativity: Test of a multilevel moderated mediation model. *Human Performance, 25*, 432-451. <https://doi.org/10.1080/08959285.2012.721833>
- Panaccio, A., Henderson, D. J., Liden, R. C., Wayne, S. J., & Cao, X. (2015). Toward an understanding of when and why servant leadership accounts for employee extra-role behaviors. *Journal of Business and Psychology, 30*, 657-675. <https://doi.org/10.1007/s10869-014-9388-z>
- Pieterse, A.N., van Knippenberg, D., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior, 31*, 609-623. <https://doi.org/10.1002/job.650>

Pundt, A. (2015). The relationship between humorous leadership and innovative behavior.

Journal of Managerial Psychology, 30, 878-893. <https://doi.org/10.1108/JMP-03-2013-0082>

Qu, R., Janssen, O., & Shi, K. (2015). Transformational leadership and follower creativity:

The mediating role of follower relational identification and the moderating role of leader creativity expectations. *The Leadership Quarterly*, 26, 286-299.

<https://doi.org/10.1016/j.leaqua.2014.12.004>

Qu, R., Janssen, O., & Shi, K. (2017). Leader–member exchange and follower creativity: The

moderating roles of leader and follower expectations for creativity. *The International Journal of Human Resource Management*, 28, 603-626.

<https://doi.org/10.1080/09585192.2015.1105843>

Rada, V. I. (2018). *Examining the relationship between perceptions of organizational justice,*

innovative work behavior, and transformational leadership after controlling for gender (Unpublished Doctoral dissertation). Alliant International University

Rank, J., Nelson, N. E., Allen, T. D., & Xu, X. (2009). Leadership predictors of innovation

and task performance: Subordinates' self- esteem and self- presentation as

moderators. *Journal of Occupational and Organizational Psychology*, 82, 465-489.

<https://doi.org/10.1348/096317908X371547>

Ramos, D. (2002). *Relationships among leader-member exchange quality, satisfaction with*

organizational communication, and creativity in entertainment organizations

(Unpublished Doctoral dissertation). Northcentral University.

Rasool, G., Naseer, S., Syed, F., & Ahmed, I. (2018). Despotic leadership and employee's

outcomes: Mediating effect of impression management. *Pakistan Journal of Commerce and Social Sciences*, 12, 784-806.

Rego, A., Sousa, F., Marques, C., & Cunha, M. P. E. (2012). Authentic leadership promoting

- employees' psychological capital and creativity. *Journal of Business Research*, 65, 429-437. <https://doi.org/10.1016/j.jbusres.2011.10.003>
- Rego, A., Sousa, F., Marques, C., & Cunha, M. P. E. (2014). Hope and positive affect mediating the authentic leadership and creativity relationship. *Journal of Business Research*, 67, 200-210. <https://doi.org/10.1016/j.jbusres.2012.10.003>
- Ribeiro, N., Duarte, A. P., & Filipe, R. (2018). How authentic leadership promotes individual performance: Mediating role of organizational citizenship behavior and creativity. *International Journal of Productivity and Performance Management*, 67, 1585-1607. <https://doi.org/10.1108/IJPPM-11-2017-0318>
- Rickards, T., Chen, M. H., & Moger, S. (2001). Development of a self-report instrument for exploring team factor, leadership and performance relationships. *British Journal of Management*, 12, 243-250. <https://doi.org/10.1111/1467-8551.00197>
- Saeed, B. B., Afsar, B., Shahjehan, A., & Shah, S. I. (2019). Does transformational leadership foster innovative work behavior? The roles of psychological empowerment, intrinsic motivation, and creative process engagement. *Economic Research*, 32, 254-281. <https://doi.org/10.1080/1331677X.2018.1556108>
- Sagnak, M. (2012). The empowering leadership and teachers' innovative behavior: The mediating role of innovation climate. *African Journal of Business Management*, 6, 1635-1641. <https://doi.org/10.5897/AJBM11.2162>
- Sanda, A., & Arthur, N. A. D. (2017). Relational impact of authentic and transactional leadership styles on employee creativity: The role of work-related flow and climate for innovation. *African Journal of Economic and Management Studies*, 8, 274-295. <https://doi.org/10.1108/AJEMS-07-2016-0098>
- Sanders, K. S., Moorkamp, M., Torka, N., Groenveld, S., & Groenveld, C. (2010). How to support innovative work behavior? The role of LMX and satisfaction with HR practice.

- Technology and Investment*, 1, 59-68. <https://doi.org/10.4236/ti.2010.11007>
- Schaffer, B. S., & Riordan, C. M. (2013). Relational demography in supervisor- subordinate dyads: An examination of discrimination and exclusionary treatment. *Canadian Journal of Administrative Sciences*, 30, 3-17. <https://doi.org/10.1002/cjas.1237>
- Schermuly, C. C., Meyer, B., & Dämmer, L. (2013). Leader-member exchange and innovative behavior. *Journal of Personnel Psychology*, 12, 132-142. <https://doi.org/10.1027/1866-5888/a000093>
- Schmidt, A. A. (2008). *Development and validation of the toxic leadership scale* (Unpublished Doctoral dissertation), University of Maryland.
- Schuh, S. C., Zhang, X., & Tian, P. (2013). For the Good or the Bad? Interactive effects of transformational leadership with moral and authoritarian leadership behaviors. *Journal of Business Ethics*, 116, 629-640. <https://doi.org/10.1007/s10551-012-1486-0>
- Scott, S. (1993). *The influence of climate perceptions on innovation behavior* (Unpublished Doctoral dissertation), Department of Management, University of Cincinnati.
- Scott, S. G., & Bruce, R. A. (1998). Following the leader in R&D: The joint effect of subordinate problem-solving style and leader-member relations on innovative behavior. *Engineering Management, IEEE Transactions*, 45, 3-10. <https://doi.org/10.1109/17.658656>
- Searle, T. P. (2011). *A multilevel examination of proactive work behaviors: contextual and individual differences as antecedents* (Unpublished Doctoral dissertation), University of Nebraska.
- Semedo, A. S., Coelho, A., & Ribeiro, N. (2018). The relationship between authentic leaders and employees' creativity: What are the roles of affective commitment and job resourcefulness?. *International Journal of Workplace Health Management*, 11, 58-73. <https://doi.org/10.1108/IJWHM-06-2017-0048>

- Semedo, A. S. D., Coelho, A. F. M., Ribeiro, N. M. P. (2016). Effects of authentic leadership, affective commitment and job resourcefulness on employees' creativity and individual performance. *Leadership & Organization Development Journal*, 37, 1038-1055.
<https://doi.org/10.1108/LODJ-02-2015-0029>
- Semedo, A. S. D., Coelho, A. F. M., Ribeiro, N. M. P. (2017). Authentic leadership and creativity: The mediating role of happiness. *International Journal of Organizational Analysis*, 25, 395-412. <https://doi.org/10.1108/IJOA-03-2016-0994>
- Sercan, G. (2016). *Authentic leadership on widespread organization: As an authentic leader provincial gendarmerie commander's impacts on creativity, organizational identification, leader-member exchange (LMX), and emergence of his staff's potential capabilities*. (Unpublished Doctoral dissertation). ISCTE Business School, ISCTE-IUL Instituto Universitário de Lisboa.
- Sethibe, T., & Steyn, R. (2017). The impact of leadership styles and the components of leadership styles on innovative behavior. *International Journal of Innovation Management*, 21, 1750015. <https://doi.org/10.1142/S1363919617500153>
- Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *The Academy of Management Journal*, 46, 703-714.
<https://doi.org/10.2307/30040662>
- Shu, C. Y., Chiang, Y. H., & Lu, C. H. (2018). Authoritarian leadership supervisor support and workers' compulsory citizenship behavior. *International Journal of Manpower*, 39, 468-485. <https://doi.org/10.1108/IJM-10-2016-0191>
- Si, S., & Wei, F. (2012). Transformational and transactional leaderships, empowerment climate, and innovation performance: A multilevel analysis in the Chinese context. *European Journal of Work and Organizational Psychology*, 21, 299-320.
<https://doi.org/10.1080/1359432X.2011.570445>

- Škerlavaj, M., Černe, M., & Dysvik, A. (2014). I get by with a little help from my supervisor: Creative-idea generation, idea implementation, and perceived supervisor support. *The Leadership Quarterly*, 25, 987-1000. <https://doi.org/10.1016/j.leaqua.2014.05.003>
- Slåtten, T. (2014). Determinants and effects of employee's creative self-efficacy on innovative activities. *International Journal of Quality and Service Sciences*, 6, 326-326. <https://doi.org/10.1108/IJQSS-03-2013-0013>
- Slåtten, T., Svensson, G., & Sværi, S. (2011). Empowering leadership and the influence of a humorous work climate on service employees' creativity and innovative behavior in frontline service jobs. *International Journal of Quality and Service Sciences*, 3, 267-284. <https://doi.org/10.1108/17566691111182834>
- Son, S. Y., Cho, D. H., & Kang, S. W. (2017). The impact of close monitoring on creativity and knowledge sharing: The mediating role of leader- member exchange. *Creativity and Innovation Management*, 26, 256-265. <https://doi.org/10.1111/caim.12219>
- Song, D., Liu, H., Gu, J., & He, C. (2018). Collectivism and employees' innovative behavior: The mediating role of team identification and the moderating role of leader- member exchange. *Creativity and Innovation Management*, 27, 221-231. <https://doi.org/10.1111/caim.12253>
- Sönmez, B., & Yıldırım, A. (2019). The mediating role of autonomy in the effect of pro-innovation climate and supervisor supportiveness on innovative behavior of nurses. *European Journal of Innovation Management*, 22, 41-58. <https://doi.org/10.1108/EJIM-05-2018-0088>
- Sosik, J. J., Kahai, S. S., & Avolio, B. J. (1999). Leadership style, anonymity, and creativity in group decision support systems: The mediating role of optimal flow. *Journal of Creative Behavior*, 33, 227-256. <https://doi.org/10.1002/j.2162-6057.1999.tb01405.x>

- Steinmann, B., Nübold, A., & Maier, G. W. (2016). Validation of a German version of the ethical leadership at work questionnaire by Kalshoven et al. (2011). *Frontiers in Psychology, 7*, 446. <http://dx.doi.org/10.3389/fpsyg.2016.00446>
- Suifan, T. S., Abdallah, A. B., & Al Janini, M. (2018). The impact of transformational leadership on employees' creativity: The mediating role of perceived organizational support. *Management Research Review, 41*, 113-132. <https://doi.org/10.1108/MRR-02-2017-0032>
- Sun, Y. (2016). Does servant leadership inspire personnel's innovation performance: Performance control as a moderator. *International Journal of Business Administration, 7*, 86-91. <https://doi.org/10.5430/ijba.v7n2p86>
- Sun, L. Y., Zhang, Z., Qi, J., & Chen, Z. (2012). Empowerment and creativity: A cross-level investigation. *The Leadership Quarterly, 23*, 55-65. <https://doi.org/10.1016/j.leaqua.2011.11.005>
- Taylor, A. M. (2012). Cultivating an engaged workforce: The roles of leader personality, motivation, and leadership style (Unpublished Doctoral dissertation). University of South Florida.
- Taylor, A. S. (2015). *Transformational leadership, diversity, and creativity at work: A moderated mediation model* (Unpublished Doctoral dissertation). Portland State University.
- Tian, Q., & Sanchez, J. I. (2017). Does paternalistic leadership promote innovative behavior? The interaction between authoritarianism and benevolence. *Journal of Applied Social Psychology, 47*, 235-246. <https://doi.org/10.1111/jasp.12431>
- Tierney P. (1992). *The contribution of leadership, supportive environment, and individual attributes to creative performance: A quantitative field study* (Unpublished Doctoral dissertation), Department of Management, University of Cincinnati.

- Tierney, P., Farmer, S. M., & Graen, G. B. (1999). An examination of leadership and employee creativity: The relevance of traits and relationships. *Personnel Psychology, 52*, 591-620. <https://doi.org/10.1111/j.1744-6570.1999.tb00173.x>
- Topcu, M. K., Gursoy, A., & Gurson, P. (2015). The role of the servant leadership on the relation between ethical climate perception and innovative work. *European Research Studies, 18*, 67-79.
- Tremblay, M., & Gibson, M. (2016). The role of humor in the relationship between transactional leadership behavior, perceived supervisor support, and citizenship behavior. *Journal of Leadership & Organizational Studies, 23*, 39-54.
<http://dx.doi.org/10.1177/1548051815613018>
- Tse, H., & Chiu, W. (2014). Transformational leadership and job performance: A social identity perspective. *Journal of Business Research, 67*, 2827-2835.
<https://doi.org/10.1016/j.jbusres.2012.07.018>
- Tse, H. H., To, M. L., & Chiu, W. C. (2018). When and why does transformational leadership influence employee creativity? The roles of personal control and creative personality. *Human Resource Management, 57*, 145-157. <https://doi.org/10.1002/hrm.21855>
- Tu, Y., & Lu, X. (2013). How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation. *Journal of Business Ethics, 116*, 441-455. <https://doi.org/10.1007/s10551-012-1509-x>
- Tuan, L. T. (2019). Coach humility and player creativity: The roles of knowledge sharing and group diversity. *Sport Management Review*. <https://doi.org/10.1016/j.smr.2019.02.004>
- Tung, F. C. (2016). Does transformational, ambidextrous, transactional leadership promote employee creativity? Mediating effects of empowerment and promotion focus. *International Journal of Manpower, 37*, 1250-1263. <https://doi.org/10.1108/IJM-09-2014-0177>

- Tung, F., & Yu, T. (2015). Does innovation leadership enhance creativity in high-tech industries? *Leadership & Organization Development Journal*, *37*, 579-592.
<https://doi.org/10.1108/LODJ-09-2014-0170>
- Turunc, O., Celik, M., Tabak, A., & Kabak, M. (2010). The impact of transformational leadership and contingent reward leadership styles on innovative behavior: Mediating role of leader-member exchange quality. *International Journal of Business and Management Studies*, *2*, 69-79.
- Unsworth, K. L., Wall, T. D., & Carter, A. (2005). Creative requirement: A neglected construct in the study of employee creativity? *Group & Organization Management*, *30*, 541-560. <https://doi.org/10.1177/1059601104267607>
- Vazquez, L. (2016). *Examining the relationship between perceived transformational leadership styles and the innovative performance of the engineering team member in emerging and legacy space organizations* (Unpublished Doctoral dissertation), Our Lady of the Lake University.
- Volmer, J., Spurk, D., & Niessen, C. (2012). Leader-member exchange (LMX), job autonomy, and creative work involvement. *The Leadership Quarterly*, *23*, 456-465.
<https://doi.org/10.1016/j.leaqua.2011.10.005>
- Walumbwa, F. O., Wu, C., & Orwa, B. (2008). Contingent reward transactional leadership, work attitudes, and organizational citizenship behavior: The role of procedural justice climate perceptions and strength. *The Leadership Quarterly*, *19*, 251-265.
<http://dx.doi.org/10.1016/j.leaqua.2008.03.004>
- Wang, C. J. (2016). Does leader-member exchange enhance performance in the hospitality industry? The mediating roles of task motivation and creativity. *International Journal of Contemporary Hospitality Management*, *28*, 969-987. <https://doi.org/10.1108/IJCHM-10-2014-0513>

- Wang, P., Chang, L. & Wang, S. Q. (2018) Employee voice behavior and innovative behavior: Comparison of the influence of benevolent leadership and authoritative leadership. *Paper presented at 4th International Conference on Social Science and Management*
- Wang, A. C., & Cheng, B. S. (2010). When does benevolent leadership lead to creativity? The moderating role of creative role identity and job autonomy. *Journal of Organizational Behavior, 31*, 106-121. <https://doi.org/10.1002/job.634>
- Wang, A. C., Chiang, J. T. J., Tsai, C. Y., Lin, T. T., & Cheng, B. S. (2013). Gender makes the difference: The moderating role of leader gender on the relationship between leadership styles and subordinate performance. *Organizational Behavior and Human Decision Processes, 122*, 101-113. <https://doi.org/10.1016/j.obhdp.2013.06.001>
- Wang, X. H., Fang, Y., Qureshi, I., & Janssen, O. (2015). Understanding employee innovative behavior: Integrating the social network and leader–member exchange perspectives. *Journal of Organizational Behavior, 36*, 403-420. <https://doi.org/10.1002/job.1994>
- Wang, Y., Liu, J., & Zhu, Y. (2018). How does humble leadership promote follower creativity? The roles of psychological capital and growth need strength. *Leadership & Organization Development Journal, 39*, 507-521. <https://doi.org/10.1108/LODJ-03-2017-0069>
- Wang, P., & Rode, J. (2010). Transformational leadership and follower creativity: The moderating effects of identification with leader and organizational climate. *Human Relations, 63*, 1105-1128. <https://doi.org/10.1177/0018726709354132>
- Wang, Y., Tang, C., Naumann, S. E., & Wang, Y. (2017). Paternalistic leadership and employee creativity: A mediated moderation model. *Journal of Management & Organization, 25*, 137-156. <https://doi.org/10.1017/jmo.2017.8>

- Wang, C. J., Tsai, H. T., & Tsai, M. T. (2014). Linking transformational leadership and employee creativity in the hospitality industry: The influences of creative role identity, creative self-efficacy, and job complexity. *Tourism Management, 40*, 79-89.
<https://doi.org/10.1016/j.tourman.2013.05.008>
- Wang, D., Xue, H., & Su, H. (2010). Influence of work support on employee creativity: An empirical examination in the Peoples Republic of China. *African Journal of Business Management, 4*, 1546-1553.
- Wang, J., Zhang, Z., & Jia, M. (2017). Understanding how leader humility enhances employee creativity: The roles of perspective taking and cognitive reappraisal. *The Journal of Applied Behavioral Science, 53*, 5-31.
<https://doi.org/10.1177/0021886316678907>
- Wang, P., & Zhu, W. (2011). Mediating role of creative identity in the influence of transformational leadership on creativity: Is there a multilevel effect? *Journal of Leadership & Organizational Studies, 18*, 25-39.
<https://doi.org/10.1177/1548051810368549>
- Washington, R. R., Sutton, C. D., & Sauser Jr, W. I. (2014). How distinct is servant leadership theory? Empirical comparisons with competing theories. *Journal of Leadership, Accountability and Ethics, 11*. 11 - 25.
- Weaver, C. P. (2017). Leadership style, innovative work behavior, and the mediating effect of innovation climate on individual job satisfaction and team effectiveness (Unpublished Doctoral dissertation), Regent University.
- Wei, F., Yuan, X., & Di, Y. (2010). Effects of transactional leadership, psychological empowerment and empowerment climate on creative performance of subordinates: A cross-level study. *Frontiers of Business Research in China, 4*, 29-46.
<https://doi.org/10.1007/s11782-010-0002-6>

- Weng, R. H., Huang, C. Y., Chen, L. M., & Chang, L. Y. (2013). Exploring the impact of transformational leadership on nurse innovation behavior: A cross-sectional study. *Journal of Nursing Management, 23*, 427-439. <https://doi.org/10.1111/jonm.12149>
- White, C. D., Campbell, K. S., & Kacmar, M. K. (2012). Development and validation of a measure of leader rapport management: The LRM scale. *Journal of Behavioral & Applied Management, 13*, 121-149.
- Williams, W. A., Brandon, R., Hayek, M., Haden, S. P., & Atinc, G. (2017). Servant leadership and followership creativity: The influence of workplace spirituality and political skill. *Leadership & Organization Development Journal, 38*, 178-193. <https://doi.org/10.1108/LODJ-02-2015-0019>
- Wu, Y. (2018). The influence of paternalistic leadership on the creative behavior of knowledge workers-based on the perspective of psychological contractual perception. *Open Journal of Business and Management, 6*, 478-487.
- Wu, W., Liu, Y., Kim, Y., & Gao, P. (2018). How does emotional conflict affect innovation behavior? The moderating roles of leader-member exchange and team-member exchange. *International Journal of Conflict Management, 29*, 327-346. <https://doi.org/10.1108/IJCMA-09-2017-0094>
- Xu, B., Zhao, S., Li, C., & Lin, C. (2017). Authentic leadership and employee creativity: Testing the multilevel mediation model. *Leadership & Organization Development Journal, 38*, 482-498. <https://doi.org/10.1108/LODJ-09-2015-0194>
- Yang, J., Liu, H., & Gu, J. (2017). A multi-level study of servant leadership on creativity: The roles of self-efficacy and power distance. *Leadership & Organization Development Journal, 38*, 610-629. <https://doi.org/10.1108/LODJ-10-2015-0229>

- Yasir, M., & Majid, A. (2019). Boundary integration and innovative work behavior among nursing staff. *European Journal of Innovation Management*, 22, 2-22.
<https://doi.org/10.1108/EJIM-02-2018-0035>
- Yoshida, D. T., Sendjaya, S., Hirst, G., & Cooper, B. (2014). Does servant leadership foster creativity and innovation? A multi-level mediation study of identification and prototypicality. *Journal of Business Research*, 67, 1395-1404.
<https://doi.org/10.1016/j.jbusres.2013.08.013>
- Yuan, P. (2005). *Modeling, simulation and analysis of multi-barge flotillas impacting bridge piers*. UKnowledge, University of Kentucky. Retrieved from
https://uknowledge.uky.edu/cgi/viewcontent.cgi?referer=https://www.google.com.au/&httpsredir=1&article=1313&context=gradschool_diss
- Yuan, L., Zhang, L., & Tu, Y. (2018). When a leader is seen as too humble: a curvilinear mediation model linking leader humility to employee creative process engagement. *Leadership & Organization Development Journal*, 39, 468-481.
<https://doi.org/10.1108/LODJ-03-2017-0056>
- Zacher, H., & Johnson, E. (2015). Leadership and creativity in higher education. *Studies in Higher Education*, 40, 1210-1225. <https://doi.org/10.1080/03075079.2014.881340>
- Zahra, T. T., & Waheed, A. (2017). Influence of ethical leadership on innovative work behavior: Examination of individual-level psychological mediators. *Pakistan Journal of Commerce and Social Sciences*, 11, 448-470.
- Zaitouni, M., & Ouakouak, M. L. (2018). Key predictors of individual creativity in a Middle Eastern culture: The case of service organizations. *International Journal of Organizational Analysis*, 26, 19-42. <https://doi.org/10.1108/IJOA-03-2017-1139>
- Zhang, Y. W. (2013). *Leaders' daily work demands, recovery, and leadership behaviors* (Unpublished Doctoral dissertation), Arizona State University.

Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity:

The influence of psychological empowerment, intrinsic motivation, and creative process management. *Academy of Management Journal*, *53*, 107-128.

<https://doi.org/10.5465/AMJ.2010.48037118>

Zhang, J., Fan, Y., & Zhang, X. (2015). The role of power motivation in creativity: A

moderated mediation model. *Social Behavior and Personality: An International Journal*, *43*, 613-628. [tps://doi.org/10.2224/sbp.2015.43.4.613](https://doi.org/10.2224/sbp.2015.43.4.613)

Zhang, S., Ke, X., Wang, X. H., & Liu, J. (2018). Empowering leadership and employee

creativity: A dual- mechanism perspective. *Journal of Occupational and Organizational Psychology*, *91*, 896-917. <https://doi.org/10.1111/joop.12219>

Zhang, H., Kwan, H.K., Zhang, X. & Wu, L.Z. (2014). High core self-evaluators maintain

creativity: A motivational model of abusive supervision. *Journal of Management*, *40*, 1151-1174. <https://doi.org/10.1177/0149206312460681>

Zhang, Y., LePine, J. A., Buckman, B. R., & Wei, F. (2014). It's not fair... or is it? The role of justice and leadership in explaining work stressor–job performance

relationships. *Academy of Management Journal*, *57*, 675-697.

<https://doi.org/10.5465/amj.2011.1110>

Zhang, Y., Zheng, J., & Darko, A. (2018). How does transformational leadership promote

innovation in construction? The mediating role of innovation climate and the multilevel moderation role of project requirements. *Sustainability*, *10*, 1506-1525.

<https://doi.org/10.3390/su10051506>

Zhang, X., & Zhou, J. (2014). Empowering leadership, uncertainty avoidance, trust, and

employee creativity: Interaction effects and a mediating mechanism. *Organizational Behavior and Human Decision Processes*, *124*, 150-164.

<https://doi.org/10.1016/j.obhdp.2014.02.002>

Zhao, H., Kessel, M., & Kratzer, J. (2014). Supervisor-subordinate relationship, differentiation, and employee creativity: A self- categorization perspective. *Journal of Creative Behavior*, 48, 165-184. <https://doi.org/10.1002/jocb.46>

Zhou, Q., & Pan, W. (2015). A cross-level examination of the process linking transformational leadership and creativity: The role of psychological safety climate. *Human Performance*, 28, 405-424. <https://doi.org/10.1080/08959285.2015.1021050>

Zhu, C., & Mu, R. (2016). Followers' innovative behavior in organizations: The role of transformational leadership, psychological capital and knowledge sharing. *Frontiers of Business Research in China*, 10, 636-663. 10.3868/s070-005-016-0023-0

Zhu, W., Wang, G., Zheng, X., Liu, T., & Miao, Q. (2013). Examining the role of personal identification with the leader in leadership effectiveness a partial nomological network. *Group & Organization Management*, 38, 36-67.

<https://doi.org/10.1177/1059601112456595>