Ambidextrous Leadership and Employees' Self-Reported Innovative Performance

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Published in:
Journal of creative behavior

DOI:
10.1002/jocb.66

JCB
Publication of the Creative Education Foundation ®

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Ambidextrous Leadership and Employees' Self-Reported Innovative Performance: The Role of Exploration and Exploitation Behaviors

The ambidexterity theory of leadership for innovation proposes that leaders' opening and closing behaviors positively predict employees' exploration and exploitation behaviors, respectively. The interaction of exploration and exploitation behaviors, in turn, is assumed to influence employee innovative performance, such that innovative performance is highest when both exploration and exploitation behaviors are high. The goal of this study was to provide the first empirical test of these hypotheses at the individual employee level. Results based on self-report data provided by 388 employees were consistent with ambidexterity theory, even after controlling for employee reports of their leaders' transformational and transactional leadership behaviors as well as employees' openness to experience, conscientiousness, and positive affect. The findings extend previous research on ambidexterity at the team and organizational levels and suggest a possible way for leaders to enhance employee self-reported innovative performance.

Keywords: ambidexterity, ambidextrous leadership, exploration, exploitation, innovation.

In times of rapidly changing and increasingly competitive global markets, organizations need to be innovative to make profit, grow, and survive (Rosenbusch, Brinckmann, & Bausch, 2011). *Innovation* has been defined as "the intentional introduction and application within a role, group or organization of ideas, processes, products, or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society" (West & Farr, 1990, p. 9). Thus, innovation entails both creativity (i.e., the introduction of new ideas, processes, products, or procedures) and the translation of these creative elements into beneficial applications. March (1991) suggested that organizations need to engage in two types of activities to facilitate innovation: exploration and exploitation. *Exploration* involves experimenting, venturing into new and unconventional directions, and taking risks; *exploitation* entails a focus on goal achievement, effectiveness, and avoiding risks and errors (March, 1991).

Organizational scholars have characterized exploration and exploitation activities as contradictory or even paradoxical (Gupta, Smith, & Shalley, 2006; March, 1991) and used the

The Journal of Creative Behavior, Vol. 50, Iss. 1, pp. 24–46 © 2014 by the Creative Education Foundation, Inc. © DOI: 10.1002/jocb.66

term "ambidexterity" to describe their role in driving innovation (Benner & Tushman, 2003; He & Wong, 2004; Tushman & O'Reilly, 1996). *Ambidexterity* literally means the ability to use both hands equally well. In the management literature, the term has been employed to refer to an organization's ability to explore new capabilities and, at the same time, to exploit their existing competencies. Researchers have proposed that ambidextrous organizations are more successful because of their greater capacity to innovate (Benner & Tushman, 2003; Gibson & Birkinshaw, 2004; Raisch, Birkinshaw, Probst, & Tushman, 2009; Taylor & Helfat, 2009). Indeed, research has shown that organizations with high levels of both exploration and exploitation activities have higher sales growth rates (He & Wong, 2004) and organizational performance (Raisch & Birkinshaw, 2008) than organizations with low levels in either or both of these activities.

Over the past decade, researchers have suggested that ambidexterity is not only an important antecedent of innovation at the organizational level, and that teams and individual employees also have to deal with the tension between exploration and exploitation to be innovative (Bledow, Frese, Anderson, Erez, & Farr, 2009; Gibson & Birkinshaw, 2004; Hunter, Thoroughgood, Myer, & Ligon, 2011; Mom, van den Bosch, & Volberda, 2007). Noting that leadership is widely considered to be one of the most important predictors of employee innovation, Rosing, Frese, and Bausch (2011) recently argued that leaders need to foster both exploration and exploitation behaviors among their subordinates, and that the combination of high levels of both employee exploration and exploitation behaviors should lead to high innovative performance. These researchers coined the term *ambidextrous leadership* to describe a set of two leader behaviors that are assumed to foster high levels of employee exploration and exploitation behaviors, respectively: leader opening and closing behaviors.

On the one hand, *leader opening behavior* involves actions that increase variance in employee behavior, such as allowing for errors, encouraging alternative methods for task accomplishment, and motivating employees to take risks (Rosing et al., 2011). *Leader closing behavior*, on the other hand, involves actions that focus on decreasing variance in employee behavior, such as establishing routines, ensuring rules are followed, monitoring whether goals are attained, and taking corrective action when necessary (Rosing et al., 2011). In a similar vein, Hunter et al. (2011) argued that leaders face the paradox of having to motivate employees to explore and to engage in creative behaviors and, simultaneously, to enforce employees' adherence to standards and to ensure high levels of efficiency and productivity.

Despite these recent theoretical developments, so far no empirical research exists on ambidextrous leadership, exploration and exploitation behaviors, and innovation at the employee level, and only two studies have examined the relationship between ambidextrous leadership and innovative performance at the intraindividual and team levels (Zacher & Rosing, in press; Zacher & Wilden, 2014). Specifically, Zacher and Wilden (2014) conducted a diary study and showed that the interaction between daily opening and closing leadership behaviors predicted employees' daily self-reported innovative performance, such that innovative performance was highest when both opening and closing behaviors were high. In their study of 33 team leaders and 99 employees of these leaders working in 33 architectural and interior design teams in Australia, Zacher and Rosing (in press) showed that employee ratings of ambidextrous leadership (i.e., the combination of high levels of both leader opening and closing

behaviors) were positively associated with leader ratings of team innovative performance.

The goal of the current study is to extend previous research on ambidextrous leadership and innovation at the intraindividual, team, and organizational levels by focusing on the association between these constructs at the interindividual employee level. Specifically, we aim to contribute to the literature on leadership and innovation by reporting results of one of the first investigations on the relationship between ambidextrous leadership and employee self-reported innovative performance, and by examining the mediating role of employee exploration and exploitation behaviors as postulated by the ambidexterity theory of leadership for innovation (Rosing et al., 2011). In addition, we address two limitations of Zacher and Rosing's (in press) study. First, while these authors used a relatively small and specialized sample, we recruited a large and heterogeneous sample of employees from various jobs and organizations for the current study. Second, Zacher and Rosing (in press) included only a limited set of relevant control variables (i.e., transformational leadership and leader ratings of team success) in their analyses. In the current study, we control for both transformational and transactional leadership behaviors as well as three individual difference variables that have previously been shown to predict employee innovative performance (i.e., openness to experience, conscientiousness, and positive affect).

Figure 1 shows the conceptual model of our study. In a nutshell, we expect that leader opening and closing behaviors positively predict employee exploration and exploitation behaviors, respectively. The interaction of exploration and exploitation behaviors, in turn, is expected to predict employee self-reported innovative performance, such that self-reported innovative performance is highest when both exploration and exploitation behaviors are high. We focus on employees' self-reported innovative performance as an outcome variable in this study because we wanted to conduct an initial test of the ambidexterity theory of leadership for innovation using a large and heterogeneous sample of employees. Unfortunately, it is difficult to obtain objective measures or supervisor reports of innovative performance for such a sample. It is therefore important to emphasize that self-reported innovative performance is more likely to reflect participants' self-efficacy and motivation with regard to innovation than their objective innovative performance (Reiter-Palmon, Robinson-Morral, Kaufman, & Santo, 2012).

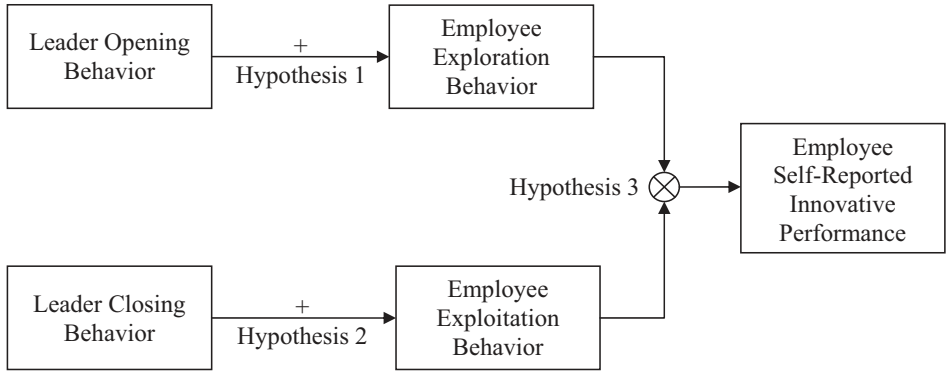

FIGURE 1. Conceptual Model and Hypotheses.

While some research has linked participants' self-efficacy and motivation for innovation to actual innovative performance (Gong, Huang, & Farh, 2009; Hammond, Neff, Farr, Schwall, & Zhao, 2011; Tierney & Farmer, 2002, 2011), it is imperative to note that these constructs capture different aspects of the innovation process and we can only draw conclusions regarding the perceived and motivational aspects of innovation based on the self-report data used in our study. However, creativity scholars have argued that employees' self-beliefs and motivation regarding creativity and innovation are practically important constructs in their own right, as they are associated with valued outcomes other than objective indicators of creativity and innovation. For instance, Silvia, Wigert, Reiter-Palmon, and Kaufman (2012) suggested that self-beliefs about creativity are of practical value because people use their self-beliefs when making high-stakes decisions, such as choosing social partners, hobbies, and career paths. Kurtzberg (2005) also acknowledged the distinction between subjective and objective measures of creativity, and described a number of benefits of self-beliefs about creativity. First, self-beliefs about creativity are more closely related to affective measures (e.g., satisfaction with one's performance, positive emotions, personal fulfillment, self-esteem) than objective measures and thus represents a "subjective force that shapes our perceptions of ourselves and the world around us" (Kurtzberg, 2005, p. 51). Second, Kurtzberg (2005) argued that self-beliefs about creativity can translate into actual creative performance over longer timeframes by creating self-fulfilling prophecies and commitment to implementing one's creative ideas, and by prompting people to reduce feelings of inconsistency between their self-beliefs and behavior. Finally, people with high self-beliefs about creativity may be more open about their own and others' creative thoughts and behaviors in the future (Kurtzberg, 2005). In sum, this research suggests that leader behaviors that enhance self-reported innovative performance may, in turn, influence employees' decisions, psychological well-being, and future creative outcomes. We will further address the potential limitations and practical implications of self-reported innovative performance in the Discussion section.

We aim to advance theory in the areas of leadership and innovation by providing initial evidence for the incremental validity of the recently devised theory of ambidextrous leadership for innovation, above and beyond established predictors of employee innovation. Our results might be beneficial for organizational practitioners as they may suggest ways to increase employees' self-beliefs and motivation for innovation by training leaders in ambidextrous leadership behaviors and by promoting exploration and exploitation behaviors among employees. The remainder of this article is structured as follows. In the next section, we review existing studies on leadership and innovation. We then explain the theory of ambidextrous leadership for innovation in further detail, and justify and outline our hypotheses based on this theory. Finally, we report and discuss the methods and results of an empirical study designed to test our hypotheses.

LEADERSHIP AND EMPLOYEE CREATIVITY AND INNOVATION

Leadership theorists consider leader behavior to be one of the best predictors of employee creativity and innovation in the workplace (Halbesleben, Novicevic, Harvey, & Buckley, 2003; Mumford & Licuanan, 2004; Mumford, Scott, Gaddis, & Strange, 2002; Reiter-Palmon & Illies, 2004; Williams & Foti, 2011; Zacher & Johnson, 2014; Zhou & Hoever, 2014). The most frequently investigated leadership style in the literature in

relation to these outcomes is transformational leadership, which involves leaders motivating their followers to perform above and beyond expectations by acting as a positive role model, communicating an attractive vision of the future, encouraging independent and creative thinking, and being caring and nurturing (Bass, 1985). For instance, Shin and Zhou (2003) reported that transformational leadership was positively related to supervisor ratings of employees' creativity, and that this relationship was partially mediated by employee intrinsic motivation. Several subsequent studies replicated the positive associations between transformational leadership and employee creativity and innovation. These studies also identified additional mediators such as employee psychological empowerment (Gumusluoglu & Ilsev, 2009), creative self-efficacy (Gong et al., 2009), and creative identity (Wang & Zhu, 2011), as well as moderators such as employees' organization-based self-esteem (Rank, Nelson, Allen, & Xu, 2009), identification with leader and innovative climate (Wang & Rode, 2010), and personal initiative and task novelty (Herrmann & Felfe, 2013). In a recent study, Eisenbeiß and Boerner (2013) showed that transformational leadership was positively related to employee creativity as well as to employees' dependency on the leader. Interestingly, these authors showed that the negative indirect effect of transformational leadership on creativity through dependency attenuated the positive direct effect of transformational leadership on creativity.

A number of additional studies have examined relationships between subjective and objective measures of employee creativity and innovation on the one hand and leadership behaviors related to, but distinct from, transformational leadership on the other. For instance, unconventional leader behavior (e.g., standing on furniture) was positively related to follower creative performance when followers perceived their leader to be a role model (Jaussi & Dionne, 2003). Zhang and Bartol (2010) found that the positive relationship between empowering leadership and employee creativity was mediated by intrinsic motivation and creative process engagement. A more recent study showed that the positive relationships among empowering leadership, creative process engagement, and organizational newcomer creativity were moderated by organizational support for creativity and newcomers' trust in leaders (Harris, Li, Boswell, Zhang, & Xie, 2014). Other studies reported positive relationships between leadership support for innovation and employee perceptions of their organization's creative climate and innovative productivity (Isaksen & Akkermans, 2011), leader-member exchange quality and employees' creative work involvement (Volmer, Spurk, & Niessen, 2012), authentic leadership and employee self-reported creativity (Černe, Jaklič, & Škerlavaj, 2013), and servant leadership and leader ratings of employee creativity (Yoshida, Sendjaya, Hirst, & Cooper, 2014).

Consistent with these individual studies, a meta-analysis by Rosing et al. (2011) showed that several leadership behaviors were positively associated with employee creativity and innovation. However, these bivariate relationships were characterized by a high degree of heterogeneity. Based on their review, Rosing et al. (2011) argued that there is probably no single leadership behavior that best predicts employee creativity and innovation (see also Hunter et al., 2011; Mumford, 2006), and that a combination of different leadership behaviors may explain a larger proportion of variance in these outcomes via employee exploration and exploitation behaviors. They addressed this issue by developing the ambidexterity theory of leadership for innovation, which we describe next.

AMBIDEXTERITY THEORY OF LEADERSHIP FOR INNOVATION

Rosing et al. (2011) proposed that the complex nature of the employee activities that are required in the process leading to innovation needs to be matched by an equally complex leadership approach. Similarly, Hunter et al. (2011) argued that "the pursuit of innovation requires a unique leadership approach—one that may not be currently captured by traditional views of leadership" (p. 54). Rosing et al.'s (2011) ambidexterity theory represents such an approach to leadership for innovation. The theory proposes that two complementary leadership behaviors—opening and closing behaviors—predict employee exploration and exploitation behaviors, respectively. The interaction of employee exploration and exploitation behaviors, in turn, should predict employee innovation, such that innovation is highest when both exploration and exploitation behaviors are high (Rosing et al., 2011). In other words, leaders who engage in both opening and closing behaviors should be most successful in terms of encouraging high levels of exploration and exploitation behaviors and, in turn, innovation among their employees. Moreover, the theory posits that opening and closing leadership behaviors should predict exploration and exploitation behaviors above and beyond established leadership styles, such as transactional and transformational leadership (Rosing et al., 2011).

Specific *leader opening behaviors* include encouraging employees to do things differently and to experiment, allowing for errors, motivating to take risks, giving employees room for independent thinking and acting, as well as supporting their attempts to challenge the status quo and to think outside the box. These behaviors should increase variance in employee behavior (Rosing et al., 2011), which is the foundation of exploration activities (Gupta et al., 2006; March, 1991). Specific *leader closing behaviors* include establishing routines, ensuring that rules are followed, taking corrective actions, setting guidelines, and monitoring goal achievement. These behaviors should reduce variance in employee behavior (Rosing et al., 2011), which is the basis of exploitation activities (Gupta et al., 2006; March, 1991). In sum, the ambidexterity theory represents a novel and unique approach to the complex domain of leadership for innovation that outlines two distinct, yet complementary, behaviors through which leaders may enhance employee exploration and exploitation behaviors which, in turn, combine to facilitate employee innovation. Leaders with high levels of both opening and closing behaviors should be most capable of fulfilling innovation requirements because they foster high levels of exploration and exploitation behaviors among their employees (Rosing et al., 2011).

DEVELOPMENT OF HYPOTHESES

Based on the ambidexterity theory of leadership for innovation and consistent with our conceptual model (Figure 1), we have developed three hypotheses. First, we expect that leader opening behavior is positively related to employee exploration behavior. This assumption is based on the notion that leaders who show certain behaviors should influence their followers' behaviors in ways that are consistent with their own behaviors (Yukl, 2006). On the one hand, followers typically perceive their leaders as role models that signal which behaviors are appropriate in a given situation. On the other hand, leaders are also in a position of power, which allows them to reward and possibly punish employees for meeting or not meeting expectations, and therefore employees should be

more likely to show behaviors that are consistent with the expectations that are more or less directly communicated by leaders' engagement in certain behaviors. Specifically, we assume that leaders who engage in opening behaviors such as encouraging followers to do things differently and to experiment, allowing for errors and risk taking in the work process, and giving followers room for independent and critical thinking should be more likely to actually increase exploration behaviors such as experimentation, risk-taking, and critical thinking than leaders who do not engage in opening behaviors. Leader opening behavior also creates psychological safety (Edmondson, 1999), which employees require in order to try out new ways of accomplishing goals and tasks. For instance, leader opening behavior signals to employees that errors at work may be positive as they provide a basis for learning (van Dyck, Frese, Baer, & Sonnentag, 2005). Thus, leader opening behavior fosters a sense of security which, in turn, should increase employees' motivation to explore.

Hypothesis 1: Leader opening behavior is positively related to employee exploration behavior.

Second, we expect that leader closing behavior is positively related to employee exploitation behavior. Employees are likely to show behaviors that are consistent with leaders' expectations and behaviors because they view leaders as role models and leaders are in a position of power. Therefore, leaders who engage in specific closing behaviors such as establishing routines, ensuring that rules are followed, taking corrective actions, setting guidelines, and monitoring goal achievement should be more likely to reduce variance in follower behavior, which is the basis for exploitation activities (March, 1991). Leader closing behavior directs employees' focus on the task to be accomplished. When leaders engage in closing behaviors, employees should more likely rely on tried-and-proven methods instead of exploring novel ways of working. In addition, employees should focus more on getting the work done in an efficient and rigorous manner. Leader closing behavior signals that risk-taking behavior is not called for and that errors need to be prevented. Thus, employees will be more likely to engage in routine behaviors and adhere to rules and regulations in such an environment.

Hypothesis 2: Leader closing behavior is positively related to employee exploitation behavior.

Third, we expect that the interaction between employee exploration and exploitation behaviors predicts employee self-reported innovative performance, such that self-reported innovative performance is highest when both employee exploration and exploitation behaviors are high. This combination of exploration and exploitation behaviors is consistent with the notion of ambidexterity, which has been linked to high levels of innovation at the team and organizational levels (Gibson & Birkinshaw, 2004; He & Wong, 2004; Zacher & Rosing, in press). The rationale for our assumption is that high levels of exploitation behavior should boost the positive effects of high exploration behavior on self-reported innovative performance. For instance, employees who avoid risks and focus on rule adherence and goal achievement (i.e., exploitation) should be more likely to successfully turn a creative idea that resulted from previous engagement in experimentation, divergent thinking, and risk taking (i.e., exploration) into a beneficial product or service

and, in turn, perceive themselves as being innovative. Innovation involves that novel and useful ideas are implemented to benefit other people, the organization, or society (West & Farr, 1990). Thus, employee self-reported innovative performance should result from the combination of high exploration and exploitation.

In contrast, employee self-reported innovative performance should be lower when either exploration or exploitation behavior, or both exploration and exploitation, are low. On the one hand, the combination of high levels of exploration behavior and low levels of exploitation behavior is not sufficient to yield high levels of self-reported innovative performance, as novel and useful ideas are not turned into a beneficial product or service. Thus, employees might perceive themselves as being creative, but as they are not effectively implementing their ideas, they will be less likely to perceive themselves as high in innovative performance. On the other hand, the combination of low levels of exploration behavior and high levels of exploitation behavior is not sufficient for high self-reported innovative performance, because a focus on turning ideas that are not novel and useful into a product or service is not consistent with the notion of innovation. Finally, when both exploration and exploitation behaviors are low, employees do not engage in actions that result in the introduction or implementation of novel and useful ideas, and therefore self-reported innovative performance should be low as well.

Hypothesis 3: The interaction between employee exploration and exploitation behaviors predicts employee self-reported innovative performance, such that self-reported innovative performance is highest when both exploration and exploitation behaviors are high.

METHOD

PARTICIPANTS AND PROCEDURE

Data for this study was obtained from 388 employees, including 209 (53.9%) male and 179 (46.1%) female employees. The age distribution ranged from 18 to 69 years, and the average age was 30.77 years (SD = 10.32). In terms of highest level of education, 12 (3.1%) employees indicated some high school, 102 (26.3%) had completed high school, 216 (55.7%) completed an undergraduate university degree, and 58 (14.9%) completed a postgraduate university degree. On average, participants had been employed for 11.32 years (SD = 9.95).

Participants from the United States were recruited for an online survey study using the popular crowdsourcing website Amazon's Mechanical Turk (MTurk; http://www.mturk.com). Participants were selected based on the following criteria: they were required to be at least 18 years of age, employed, and to have a supervisor with whom they interacted every week. Participants received 50 U.S. cents for their participation in the study. The participation from 400 employees was requested, and 388 provided complete data. The use of MTurk to collect high-quality survey data in a fast and inexpensive way has been recommended by researchers (Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2011). For example, Buhrmester et al. (2011) showed that data obtained using MTurk are at least as reliable as data obtained using traditional methods and that MTurk workers are generally more diverse than student samples.

MEASURES

Employee self-reported innovative performance

Employees were asked to rate their own innovative performance at work using a reliable and well-validated 4-item scale developed by Welbourne, Johnson, and Erez (1998). The items are "Coming up with new ideas," "Working to implement new ideas," "Findings improved ways to do things," and "Creating better processes and routines." The items were answered on a 5-point scale ranging from 1 (*needs much improvement*) to 5 (*excellent*). Previous studies have successfully used this scale (Bono & Judge, 2003; Chen, 2005). Cronbach's alpha for the scale was .87 in the current study.

Opening and closing leadership behaviors

These behaviors were assessed with two scales developed based on the examples for opening and closing leadership behaviors provided in Table 3 of Rosing et al.'s (2011) paper (see also Zacher & Rosing, in press, who used the same scales). Employees were asked to rate their supervisor's leadership behaviors using two sets of items. The items for opening leadership behavior are "Allows different ways of accomplishing a task," "Encourages experimentation with different ideas," "Motives to take risks," "Gives possibilities for independent thinking and acting," "Gives room for own ideas," "Allows errors," and "Encourages error learning." Cronbach's alpha for this scale was .91. The items for closing leadership behavior are "Monitors and controls goal attainment," "Established routines," "Takes corrective action," "Controls adherence to rules," "Sanctions errors", and "Sticks to plans." Cronbach's alpha for this scale was .83. The items were answered on a 5-point scale ranging from 1 (*not at all*) to 5 (*frequently, if not always*). An exploratory factor analysis with Varimax rotation showed that the items had their highest factor loadings on their theoretically relevant factor. Thus, there is evidence that employees distinguished between opening or closing leadership behaviors in their ratings.

Employee exploration and exploitation behaviors

These behaviors were measured using established scales developed and validated by Mom et al. (2007). Employees rated the extent to which they engaged in two sets of behaviors on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The exploration behavior items are "Searching for new possibilities with respect to my work," "Evaluating diverse options with respect to my work," "Focusing on strong renewal of products/services or processes," "Activities requiring me to be adaptable," and "Activities requiring me to learn new skills or knowledge." Cronbach's alpha for this scale was .85. The exploitation behavior items are "Activities in which I have accumulated a lot of experience," "Activities which serve existing customers with existing products/services," "Activities which I clearly know how to conduct," and "Activities primarily focused on achieving short-term goals," Activities I can properly conduct using my existing knowledge," and "Activities which clearly fit into existing company policy." Cronbach's alpha for this scale was .83.

Control and demographic variables

We controlled for employee ratings of their leaders' transformational and transactional leadership behaviors, as well as employees' openness to experience, conscientiousness,

and positive affect in this study. We note that the same patterns of results as reported in the Results section emerged when we did not control for these variables. Transformational and transactional leadership have frequently been investigated in relation to innovation (Rosing et al., 2011). For example, Jansen, Vera, and Crossan (2009) found that transformational leadership behaviors were positively associated with exploration activities, whereas transactional leadership behaviors were positively related to exploitation activities. We measured transformational and transactional leadership using employees' ratings on the 20 transformational leadership items and the eight transactional leadership items from the Multifactor Leadership Questionnaire (MLQ Form 5X-Short; Avolio & Bass, 2004).[1] The items were answered on 5-point scales ranging from 1 (*not at all*) to 5 (*frequently, if not always*). Cronbach's alphas were .96 for the transformational leadership scale and .77 for the transactional leadership scale. The MLQ is one of the most frequently used instruments in the leadership literature and is considered to be highly reliable and well-validated (Avolio, Bass, & Jung, 1999).

We further controlled for employees' openness to experience, conscientiousness, and positive affect, because these personality characteristics have consistently emerged as important individual difference predictors of creativity and innovation in meta-analyses (Baas, De Dreu, & Nijstad, 2008; Feist, 1998; Hammond et al., 2011). In addition, methodologists have recommended controlling for positive affect to address the potential problem of common method variance when using self-report data (Podsakoff, MacKenzie, & Podsakoff, 2012). *Openness to experience* is defined as "one's willingness to engage in, or with, novel experiences and ideas" (Steel, Rinne, & Fairweather, 2012, p. 6). Employees with higher levels of openness to experience may have a tendency to engage in more exploration behaviors. *Conscientiousness* refers to "one's sense of duty, desire to achieve, desire to complete tasks to a high standard, and self-discipline" (Steel et al., 2012, p. 6). Highly conscientious employees may have a tendency to engage in more exploitation behaviors. *Positive affect* describes the tendency to experience positive emotions (Watson, Clark, & Tellegen, 1988). We assessed openness to experience and conscientiousness with items from the well-validated Big Five Inventory (John, Donahue, & Kentle, 1991). Employees indicated on 7-point scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) how they generally perceive themselves. Example items for openness to experience are "Is inventive" and "Is curious about many different things." Example items for conscientiousness are "Does a thorough job" and "Is a reliable worker." Cronbach's alphas were .85 for openness to experience and .87 for conscientiousness. We measured positive affect with five items from Mackinnon et al. (1999). Participants rated on a 5-point scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*) how inspired, alert, excited, enthusiastic, and determined they generally are. Cronbach's alpha for the scale was .88.

Finally, employees reported their gender (1 = *male* and 2 = *female*), age in years, and education (0 = *some high school*, 1 = *completed high school*, 2 = *undergraduate university degree*, 3 = *postgraduate university degree*).

[1] The Multifactor Leadership Questionnaire, Form 5X-Short, copyright 1995, 2000, 2004 by Bernard M. Bass and Bruce J. Avolio, is used with the permission of Mind Garden, 855 Oak Grove Ave., Menlo Park, CA 94025. All rights reserved.

STATISTICAL ANALYSES

We tested our hypotheses using hierarchical linear regression and simple slope analyses (Cohen, Cohen, West, & Aiken, 2003). In the first two analyses predicting employee exploration and exploitation behaviors, respectively, the control variables were entered in the first step, and leader opening and closing behaviors were entered in the second step in the regression equations. In the third analysis predicting employee self-reported innovative performance, employee exploration and exploitation behaviors were additionally entered in the third step, and the interaction of employee exploration and exploitation behaviors was entered in the fourth step. We calculated simple slopes by regressing employee self-reported innovative performance on employee exploration behaviors at high (i.e., one standard deviation above the mean) and low (i.e., one standard deviation below the mean) levels of employee exploitation behaviors.

Before these analyses, we computed confirmatory factor analyses to examine the factor structure of the self-report items used to measure the five central constructs of this study (leader opening and closing behaviors, employee exploration and exploitation behaviors, and employee self-rated innovative performance). We assumed that an adequate fit of the factor models exists when we obtain a comparative fit index (CFI) of .90 or higher and a root-mean-square error of approximation (RMSEA) of .08 or lower (cf. Avery, McKay, & Wilson, 2007). A 5-factor model in which all items loaded on their designated factors had an adequate fit ($\chi^2[340] = 882.268$, $p < .001$; CFI = .905; RMSEA = .064). In contrast, a 3-factor model in which leader opening and closing behavior items loaded on the same factor, employee exploration and exploitation behaviors loaded on the same factor, and employee self-reported innovative performance loaded on a third factor did not fit the data well ($\chi^2[347] = 2278.494$, $p < .001$; CFI = .661; RMSEA = .120). Similarly, a 2-factor model in which leader opening and closing behavior items loaded on the first factor, and employee exploration and exploitation behaviors as well as employee self-reported innovative performance loaded on the second factor also did not fit the data well ($\chi^2[349] = 2557.830$, $p < .001$; CFI = .610; RMSEA = .128). Finally, a 1-factor model in which all items loaded on a single factor failed to fit the data ($\chi^2[350] = 3694.448$, $p < .001$; CFI = .410; RMSEA = .157). These results suggest that the five self-report scales used to measure our central constructs were statistically distinct.

We further tested a 6-factor method effects model to address potential concerns about common method variance when using self-report scales (Podsakoff et al., 2012). In this model, the indicators of the five scales had equal factor loadings on an additional latent method factor. The method effects model did not substantially improve the fit beyond the 5-factor model ($\chi^2[339] = 846.740$, $p < .001$; CFI = .910; RMSEA = .062). These findings suggest that common method bias was not a significant problem in this study.

RESULTS

DESCRIPTIVE STATISTICS AND CORRELATIONS

The descriptive statistics and correlations of the study variables are shown in Table 1. Leader opening behavior correlated positively with leader closing behavior ($r = .19$, $p < .001$). In addition, leader opening behavior was correlated with transformational leadership behavior ($r = .67$, $p < .001$) and transactional leadership behavior ($r = .24$, $p < .001$), as well as employee exploration behavior ($r = .42$, $p < .001$),

TABLE 1. Means (*M*), Standard Deviations (*SD*), and Correlations of Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10
1. Leader opening behavior	3.22	0.98	(.91)									
2. Leader closing behavior	3.46	0.79	.19**	(.83)								
3. Leader transformational leadership behavior	3.28	0.91	.67**	.43**	(.96)							
4. Leader transactional leadership behavior	3.11	0.77	.24**	.48**	.53**	(.77)						
5. Employee exploration behavior	5.08	1.08	.42**	.08	.45**	.26**	(.85)					
6. Employee exploitation behavior	5.50	0.88	.09	.21**	.19**	.20**	.32**	(.83)				
7. Employee openness to experience	5.10	0.92	.10	.04	.13**	.03	.42**	.30**	(.85)			
8. Employee conscientiousness	5.31	1.02	.16**	.11*	.18**	.06	.27**	.31**	.36**	(.87)		
9. Employee positive affect	3.25	0.97	.42**	.17**	.58**	.34**	.51**	.26**	.22**	.32**	(.88)	
10. Employee self-reported innovative performance	3.67	0.88	.34**	.03	.30**	.13*	.60**	.30**	.44**	.24**	.42**	(.87)

Note. $N = 388$. Reliability estimates (α) are provided in parentheses along the diagonal.

*p < .05, **p < .01.

conscientiousness ($r = .16$, $p = .002$), positive affect ($r = .42$, $p < .001$), and employee self-reported innovative performance ($r = .34$, $p < .001$). The positive correlation between leader opening behavior and employee exploration behavior provides preliminary support for Hypothesis 1. Leader opening behavior was not significantly correlated with employee exploitation behavior and openness to experience.

Leader closing behavior was additionally correlated with transformational leadership behavior ($r = .43$, $p < .001$) and transactional leadership behavior ($r = .48$, $p < .001$), as well as employee exploitation behavior ($r = .21$, $p < .001$), conscientiousness ($r = .11$, $p = .025$), and positive affect ($r = .17$, $p < .001$). The positive correlation between leader closing behavior and employee exploitation behavior provides preliminary support for Hypothesis 2. Leader closing behavior was not significantly correlated with employee exploration behavior, openness to experience, and employee self-reported innovative performance.

Employee exploration behavior was further correlated with transformational leadership behavior ($r = .45$, $p < .001$) and transactional leadership behavior ($r = .26$, $p < .001$), as well as employee exploitation behavior ($r = .32$, $p < .001$), openness to experience ($r = .42$, $p < .001$), conscientiousness ($r = .27$, $p < .001$), positive affect ($r = .51$, $p < .001$), and employee self-reported innovative performance ($r = .60$, $p < .001$). Employee exploitation behavior was additionally correlated with transformational leadership behavior ($r = .19$, $p < .001$) and transactional leadership behavior ($r = .20$, $p < .001$), as well as openness to experience ($r = .30$, $p < .001$), conscientiousness ($r = .31$, $p < .001$), positive affect ($r = .26$, $p < .001$), and employee self-reported innovative performance ($r = .30$, $p < .001$). Finally, employee self-reported innovative performance was additionally correlated with openness to experience ($r = .44$, $p < .001$), conscientiousness ($r = .24$, $p < .001$), and positive affect ($r = .42$, $p < .001$).

TEST OF HYPOTHESES

The results of the three regression analyses conducted to test our hypotheses are displayed in Table 2. In support of Hypothesis 1, leader opening behavior positively predicted employee exploration behavior above and beyond the control variables ($\beta = .20$, $p < .001$). Employee exploration behavior was also predicted by leader closing behavior ($\beta = -.11$, $p = .016$), leader transactional leadership behavior ($\beta = .11$, $p = .026$), openness to experience ($\beta = .32$, $p < .001$), and positive affect ($\beta = .27$, $p < .001$).

According to Hypothesis 2, leader closing behavior is positively related to employee exploitation behavior. This hypothesis was also supported, as leader closing behavior positively predicted employee exploitation behavior above and beyond the control variables ($\beta = .13$, $p = .019$). Employee exploitation behavior was also predicted by openness to experience ($\beta = .21$, $p < .001$), conscientiousness ($\beta = .19$, $p < .001$), and positive affect ($\beta = .13$, $p = .033$).

Hypothesis 3 states that the interaction of employee exploration and exploitation behaviors predicts employee self-reported innovative performance, such that employee self-reported innovative performance is highest when both exploration and exploitation are high. As shown in Table 2, employee self-reported innovative performance was significantly predicted by employee exploration behavior ($\beta = .37$, $p < .001$), employee exploitation behavior ($\beta = .12$, $p = .007$), and the interaction between employee exploration and exploitation behaviors ($\beta = .12$, $p = .003$), above and beyond the control variables

TABLE 2. Results of Regression Analyses

Variable	Employee exploration behavior		Employee exploitation behavior		Employee self-reported innovative performance			
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 3	Step 4
Step 1								
Leader transformational leadership behavior	.21**	.10	−.01	−.02	.10	−.04	−.08	−.08
Leader transactional leadership behavior	.04	.11*	.15**	.10	−.03	.03	−.02	−.03
Employee openness to experience	.32**	.32**	.21**	.21**	.36**	.36**	.22**	.22**
Employee conscientiousness	.02	.03	.20**	.19**	.00	.01	−.02	−.02
Employee positive affect	.30**	.27**	.10	.13*	.29**	.27**	.15**	.15**
Step 2								
Leader opening behavior		.20**		−.05		.22**	.15**	.14*
Leader closing behavior		−.11*		.13*		−.07	−.04	−.05
Step 3								
Employee exploration behavior							.39**	.37**
Employee exploitation behavior							.08*	.12**
Step 4								
Employee exploration behavior × Employee exploitation behavior								.12**
ΔR^2		.03**		.01*		.03**	.10**	.01**
R^2	.39	.43	.18	.19	.31	.34	.44	.45
F	49.75**	40.51**	16.73**	13.02**	33.71**	27.71**	32.97**	31.14**

Note. $N = 388$. Standardized regression coefficients (βs) are reported. Predictor variables were standardized.

*p < .05, **p < .01.

and leader opening and closing behaviors. Employee self-reported innovative performance was also predicted by openness to experience ($\beta = .22$, $p < .001$), positive affect ($\beta = .15$, $p = .003$), and leader opening behavior ($\beta = .14$, $p = .010$). Consistent with expectations, simple slope analyses showed that the relationship between employee exploration behavior and employee self-reported innovative performance was stronger when employee exploitation behavior was high ($\beta = .42$, $p < .001$) than when employee exploitation behavior was low ($\beta = .27$, $p < .001$). Figure 2 illustrates the interaction effect of employee exploration and exploitation behaviors on employee self-reported innovative performance. Together, these findings support Hypothesis 3.

DISCUSSION

The overarching goal of this study was to advance the literature on leadership and innovation by providing initial empirical evidence for the incremental validity of the recently proposed ambidexterity theory of leadership for innovation (Rosing et al., 2011) at the individual employee level, above and beyond established leadership and individual difference predictors of employee innovation. This theory suggests that leader opening and closing behaviors predict employee exploration and exploitation behaviors, respectively. The interaction of employee exploration and exploitation behaviors, in turn, is expected to predict employee innovation, such that innovation is highest when exploration and exploitation behaviors are high. In support of our first two hypotheses which we derived from ambidextrous leadership theory, we found that leader opening behavior positively predicted employee exploration behavior, and that leader closing behavior positively predicted employee exploitation behavior, above and beyond the effects of transformational and transactional leadership as well as employees' openness to experience, conscientiousness, and positive affect. These findings suggest that leaders who engage in opening and closing behaviors influence their followers' behaviors in ways that are consistent with leaders' behaviors. On the one hand, we argued that leader opening behavior creates a psychologically safe environment (Edmondson, 1999), which is necessary for employee exploration behaviors such as learning. On the other hand, leader closing behavior directs employees' focus on goal accomplishment, which should facilitate exploitation behaviors.

We further found, consistent with our third hypothesis based on ambidextrous leadership theory, that employee self-reported innovative performance was highest when both employee exploration and exploitation behaviors were high. These findings extend previous research on ambidexterity at the team and organizational levels by showing that the combination of high employee exploration and exploitation behaviors yields the highest level of employee self-reported innovative performance compared to situations in which either exploration or exploitation behavior, or both, are low. Consistent with Rosing et al.'s (2011) ambidextrous leadership theory, we argued that employee exploitation behavior should boost the positive relationship between exploration behavior and self-reported innovative performance. Engagement in exploitation behaviors, such as adhering to standards, avoiding risks, and focusing on goal achievement, increases the probability that new and useful ideas that are generated through exploration behaviors, such as experimenting and challenging assumptions, are eventually turned into products and services that are beneficial for others, the organization, or broader society. However, if only either employee exploration or exploitation behavior is high, or if both behaviors are

low, essential requirements for high levels of innovation are lacking. In consequence, only employees who engage in high levels of both exploration and exploitation behaviors perceive themselves as highly innovative. It is important to note that this perception is likely to be more closely related to employees' self-beliefs and motivation for innovation than to their objective innovative performance (Reiter-Palmon et al., 2012). However, scholars have argued that self-beliefs and motivation for creativity and innovation are important in their own right, as they may influence employees' career-related decisions, psychological well-being, and long-term creative and innovative outcomes (Kurtzberg, 2005; Silvia et al., 2012).

Overall, the findings of our study are consistent with our conceptual model (Figure 1) that was derived from ambidextrous leadership theory, and the relationships predicted by our model held when controlling for well-established leadership and individual differences predictors of employee self-reported innovative performance. It is important to note, however, that overall employees' openness to experience and positive affect emerged as the strongest predictors of employee exploration behavior, and also had strong relationships with employee self-reported innovative performance. In addition, employee openness to experience and conscientiousness overall emerged as the strongest predictors of employee exploitation behavior.

A number of additional findings warrant attention. First, leader opening and closing behaviors were related to, but distinct from, both transformational and transactional leadership behaviors. Opening behavior was positively associated with transformational leadership and, to a lesser degree, with transactional leadership. Closing behavior was moderately related to both transformational and transactional leadership. Interestingly, opening and closing behaviors were only relatively weakly associated. These findings are consistent with Rosing et al.'s (2011) suggestions that there is some overlap between opening and closing behaviors and transformational and transactional leadership styles. More specifically, Rosing et al. (2011) assumed that specific leadership behaviors that are summarized under the umbrellas of transformational and transactional leadership can have the function of both opening and closing behaviors. For example, communicating a

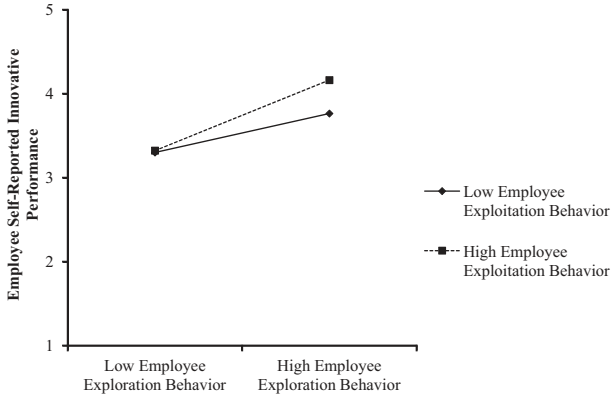

FIGURE 2. Employee Self-Reported Innovative Performance Predicted by the Interaction of Employee Exploration Behavior and Employee Exploitation Behavior.

vision as part of transformational leadership may be considered opening behavior when the vision focuses on learning and development, but it could be considered closing behavior when the vision concentrates on achieving specific goals or ensuring efficient processes. The present findings confirm this assumption by showing that both leadership styles are related to both opening and closing behaviors, albeit to a different extent.

Consistent with assumptions, the bivariate correlations in this study suggested that leader opening behavior was positively related to employee exploration but not exploitation behavior, and that leader closing behavior was positively related to employee exploitation but not exploration behavior. After the control variables were taken into account, opening behavior still positively predicted exploration behavior, and closing behavior still positively predicted exploitation behavior consistent with the hypotheses. However, the regression analyses also showed a small and negative effect of leader closing behavior on employee exploration behavior. This finding may point to the partly paradoxical nature of innovation and ambidextrous leadership (Denison, Hooijberg, & Quinn, 1995; Miron-Spektor, Erez, & Naveh, 2011): leader closing behavior is helpful for exploitation, but detrimental for exploration. Yet, it appears as if leaders need to show both kinds of behaviors to facilitate self-reported innovative performance among employees. This paradox might be solved when time is taken into account (Roe, 2008). In situations when employees need to be creative and generate ideas, leader closing behaviors may indeed hinder exploration. However, in other situations when efficiency and conscientiousness is called for, leader closing behavior may benefit the innovation process. In other words, the flexible switching between leader opening and closing behaviors is central to ambidextrous leadership (Rosing et al., 2011). Only the time-sensitive engagement in the complementary leadership behaviors may lead to highly innovative outcomes. This complex relationship could not be captured with the current design, but needs to be investigated in future research.

LIMITATIONS AND FUTURE RESEARCH

This study has a number of limitations that need to be addressed in future research on the ambidexterity theory of leadership for innovation. First, we were not able to assess employee innovative performance in an objective way (e.g., number of novel ideas implemented in a given time) or through peer or supervisor reports. Instead, we relied on single-source employee self-reports, which represents a common research approach for empirically testing a novel theory for the first time. However, our measure may not accurately reflect employees' actual innovative performance and participants' responses may have been biased due to factors such as self-enhancement bias and social desirability. While some researchers have argued that employees' are in a good position to rate their own levels of creativity and innovative performance (Shalley, Gilson, & Blum, 2009), others have criticized self-report measures of creativity and innovation based on the observation that people often do not fare well in terms of evaluating their own creative and innovative performance (Nemeth & Ormiston, 2007; Reiter-Palmon et al., 2012; Runco & Smith, 1992). For instance, Nemeth and Ormiston (2007) demonstrated substantial differences (or what they call a "disconnect") between perceived and actual measures of creativity, and between the predictors of these two outcome measures. While stable group memberships resulted in positive perceptions of group creativity compared to groups with changing memberships, the opposite was found with regard to actual creativity.

More recently, Reiter-Palmon et al. (2012) assessed self-perceptions of creativity in four domains (i.e., in general, at work, at school, in a hobby) for their usefulness as criteria. The scales correlated positively and moderately with self-report measures of creative self-efficacy and creative personality, but not with objective creativity measures (i.e., fluency, quality, and originality of ideas). Based on these findings, Reiter-Palmon et al. (2012) suggested that self-perceptions of creativity reflect a motivational construct instead of actual creativity. Thus, it is important to emphasize that our current findings apply only to self-reported innovative performance but may not generalize to more objective measures of innovative performance. While some research has suggested that motivational constructs such as creative self-efficacy and creative identity may mediate relationships between leadership and actual creative performance (Gong et al., 2009; Wang & Zhu, 2011), future research is needed to establish the role of ambidextrous leadership behaviors, as well as the interaction between employee exploration and exploitation behaviors, for objective assessments of employee innovative performance. This research should take into account the role of employees' self-beliefs and motivation for innovation, which may act as mediators or influence other valued outcomes such as subjective well-being and openness to creative thoughts and behaviors (Kurtzberg, 2005).

Another potential problem of collecting single-source self-report data is common method bias, which may have resulted in artificially inflated correlations among the study variables. We addressed this issue statistically using techniques recommended by Podsakoff et al. (2012). The results of these analyses suggested that common method bias did not constitute a significant threat to the validity of our findings. In addition, interactions effects are not affected by these biases (Evans, 1985). On the contrary, interactions are even less likely to be found when common method bias exists (Siemsen, Roth, & Oliveira, 2010). Nevertheless, our additional analyses and the argument that common method bias does not affect interaction effects do not fully solve the problem of single-source data. Therefore, future research should employ more complex study designs and collect leadership, exploration and exploitation, as well as innovation data from multiple sources. For instance, researchers could obtain peer or supervisor ratings as well as objective innovation measures in addition to the self-report measures.

Second, the use of a cross-sectional design does not allow conclusions about causality as well as temporal changes in behavior. However, it is very common that the first empirical tests of a theory involve only cross-sectional data, and the current findings are generally consistent with ambidextrous leadership theory. It could also be argued that it is more intuitive that leadership behaviors influence employee behaviors as well as perceptions of employee behaviors and not vice versa (especially since leadership is often defined in terms of influencing others). Nevertheless, future studies should employ experimental or longitudinal designs to examine the direction of relationships suggested in the model shown in Figure 1. In addition, future studies could adopt daily or weekly diary designs to investigate temporal flexibility in leader and employee perceptions and behaviors. Temporal flexibility refers to a leader's ability to adjust his or her behaviors in accordance with the present task requirements (Rosing et al., 2011). For example, a flexible leader would show opening behavior when a situation requires employees to engage in exploration behavior and closing behavior when the situation requires the engagement in exploitation behavior.

Third, our choice of control variables may be criticized. Due to practical considerations, we were able to include only a limited set of leadership behaviors and individual difference variables. We attempted to include control variables that are frequently investigated in relation to self-reported innovative performance, and that have been shown to be consistently associated with innovative performance in meta-analyses (Baas et al., 2008; Feist, 1998; Hammond et al., 2011; Rosing et al., 2011). With regard to leadership, future studies could additionally control for potentially relevant leadership constructs such as leader-member exchange quality and authentic leadership that have been shown to be distinct from transformational and transactional leadership behaviors (Avolio, Walumbwa, & Weber, 2009). With regard to personality, conscientiousness, openness to experience, and positive affect cover the cognitive, motivational, and affective dispositional dimensions that distinguish creative from less creative people (Feist, 1998). However, future studies should additionally assess traits that tap the social dimensions of creativity such as extraversion and agreeableness (Feist, 1998). In addition, future research needs to assess and control for job characteristics of employees that may influence innovative performance, such as complexity and autonomy (Hammond et al., 2011). Unfortunately, we did not assess employees' job descriptions and characteristics in the current study and, therefore, we were not able to examine the main and moderating effects of these characteristics.

Future research may also examine additional aspects of ambidextrous leadership theory. For example, studies could investigate possible antecedents of leaders' opening and closing behaviors (e.g., emotional intelligence; Rosing et al., 2011) and boundary conditions of the effects of these leader behaviors on employee behaviors. In addition, ambidextrous behavior is not only a challenge for employees (Hunter et al., 2011), but also for leaders. Opening and closing behaviors require very different or even partly contradictory cognitions and actions that they may be quite difficult to align. Thus, more knowledge about what helps leaders integrate opening and closing behaviors is necessary to promote ambidextrous leadership. Another interesting avenue for future research may be to examine whether the current findings are consistent across different types of work environments; this issue was beyond the scope of the current project. For example, researchers could investigate organizations with and without an innovation focus, and thus include the requirement to be creative and innovative (Shalley et al., 2009) as a boundary condition of the impact of ambidextrous leadership on employee outcomes.

Finally, future research could examine whether opening and closing behaviors shown by one and the same leader or distributed among different leaders lead to better results in terms of innovation. Individual leaders might tend to engage in either closing or opening leadership, but have difficulties in engaging both at the same expert level. In this case, shared leadership by multiple leaders that specialize in either opening or closing behaviors might be more suited to achieve ambidextrous leadership. However, this shared leadership configuration requires a high amount of coordination to achieve smooth transitions between leaders and a high amount of integration to obtain a consistent overall leadership approach. In line with this reasoning, Van de Ven, Polley, Garud, and Venkataraman (1999) argued that leadership for innovation necessitates different leadership roles. Consistent with the findings of the current study, these researchers showed that in workplaces that required innovation, these roles were not taken on by separate people but rather leaders were found to engage in multiple roles. Future research could examine

this idea with regard to leader opening and closing behaviors, and thus integrate the ambidextrous leadership theory with leader role theory.

PRACTICAL IMPLICATIONS AND CONCLUSION

The findings of this study may have important practical applications for leader selection, training, and development. Specifically, organizations could focus on selecting leaders that are able to show two specific leadership behaviors, opening and closing, to increase employee exploration and exploitation behaviors. In addition, leaders could be made aware in trainings of the importance of both opening and closing behaviors in order to foster these behaviors. As the link between leader opening behaviors and innovation outcomes seems to be more intuitive, training could focus primarily on leader closing behaviors as a necessary supplement to leader opening behaviors. Our findings also suggest that a better understanding of the concept of ambidexterity in organizations may benefit individual employees in that ambidextrous leader behaviors might enhance employees' self-beliefs and motivation for innovation. Scholars in the field of creativity and innovation have argued that these subjective outcomes are practically important in their own right, as they might influence employees' career-related and other high-stakes decisions, psychological well-being, openness to creative thoughts and actions, and, possibly, objective innovation outcomes over longer, less narrowly defined timeframes (Kurtzberg, 2005; Silvia et al., 2012). Thus, it may be that leaders engaging in ambidextrous behaviors can impact on this diverse set of practically important outcomes by enhancing employees' self-beliefs and motivation for innovation. The positive effects of ambidextrous leadership on subjective employee outcomes, in turn, are likely to translate into improved team functioning and organizational success over time (cf. Kurtzberg, 2005).

In conclusion, the results of this initial study on ambidextrous leadership for employee innovation shed some more light on the complex relationships between leadership behaviors, employee exploration and exploitation behaviors, and employee self-reported innovative performance. Future research is now needed to replicate the current findings using objective measures of innovative performance, longitudinal data collection methods, and additional control variables. We hope that this study provides a useful first step with regard to the evaluation of the value of the ambidexterity theory of leadership for innovation.

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