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## The role of leader support in facilitating proactive work behaviour: a perspective from attachment theory

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**THE ROLE OF LEADER SUPPORT IN FACILITATING PROACTIVE WORK  
BEHAVIOR: A PERSPECTIVE FROM ATTACHMENT THEORY**

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**ABSTRACT**

Researchers have proposed that leader support helps employees behave proactively at work. Leader support can facilitate the opportunities for employees to bring about change, as well as their motivation to do so. Nevertheless, empirical studies have shown mixed effects of leader support on employees' proactive behavior. In this study, to reconcile the inconsistent findings on the impact of leader support on employees' proactive behavior, the authors consider the content, mediating mechanisms, and boundary conditions of leader support in shaping employees' proactive behavior. Based on attachment theory, the authors propose that secure-base support from leaders (support in the form of leader availability, encouragement and noninterference) positively predicts employees' proactive work behavior by increasing their role breadth self-efficacy and autonomous motivation. These hypotheses are supported in an online-survey sample from United State (n = 138) and a sample from a large gas and oil company in China (n = 212). The authors further propose that the beneficial effects of secure-base support from leaders are more prominent for individuals with lower attachment security. This hypothesis was also supported: individuals high in attachment anxiety especially benefited from leader secure-base support in terms of its effect on role breadth self-efficacy; whereas those who are high in attachment avoidance especially benefited from leader secure-base support in terms of its effect on autonomous motivation. Our study helps explain how leaders' support motivates employees' proactive behavior, particularly for those individuals who have lower attachment security.

**Keywords:** leadership, proactivity, attachment style, self-efficacy, motivation

## **THE ROLE OF LEADER SUPPORT IN FACILITATING PROACTIVE WORK BEHAVIOR: A PERSPECTIVE FROM ATTACHMENT THEORY**

Proactive behavior, self-initiated and future-oriented action that aims to change and improve one's situation or self (Parker, Williams & Turner, 2006), has been found to contribute to various positive work outcomes (see Bindl & Parker, 2010, for a review). Despite its benefit, proactive behavior is not necessarily easy to promote. Being proactive involves seeking a different future, which introduces uncertainty and means that the outcomes of one's actions are unknown. Proactivity also involves initiating change, and change is not always welcomed by supervisors or peers, who often prefer the status quo (Morrison & Phelps, 1999; Parker, Bindl & Strauss, 2010). Because of the potential uncertainties and risks of proactive behavior, having a supportive environment in which employees are encouraged to try alternative ways to do their work without worrying about potential obstacles is likely to facilitate proactivity (Parker et al., 2010).

Leaders can play an important role in establishing such a supportive environment—for example, by “showing general support for the efforts of followers, encouraging their autonomy and empowering them to take on more responsibility” (Avolio & Bass, 1995, p. 202). However, study findings on the role of leader support for enhancing proactive behavior are mixed. Some reported a positive relationship between leader support and various forms of proactive behavior (e.g., Axtell, Holman, Unsworth, Wall, Waterson & Harrington, 2000; Madjar, Oldham & Pratt, 2002; Ramus & Steger, 2000), but some did not (e.g., Frese, Teng & Wijnen, 1999; Oldham & Cummings, 1996; Parker et al., 2006). These inconsistent findings suggest the need to delve more deeply into the question of whether and how leader support affects employees' proactive behavior. To address this question, we consider three aspects: the content of the support,

why support might matter (the mediating process) and for whom the support matters (which individuals might benefit the most from leader support).

First, the content of the support provided by leaders—as reflected in existing conceptualizations of leader support—varies tremendously. Not all conceptualizations capture aspects of support that are likely to be important for promoting proactivity. We integrate attachment theory (Bowlby, 1969/1982) with leadership theory to propose the particular importance of secure-base support. We argue that attachment theory is an especially useful theoretical perspective for understanding proactivity given its focus on the role of support in helping individuals explore and master novel environments. Proactive behavior, with its focus on bringing about change in uncertain contexts (Griffin, Neal & Parker, 2007), involves exploring new possibilities and mastering unfamiliar environments (Frese & Fay, 2001), and therefore can be seen as a form of exploration. From an attachment theory perspective, Popper and Mayseless (2003) suggested that, like the actions of “good parents”, leaders need to provide secure-base support to encourage exploration, including being available and responsive to the individual needs of employees, as well as reinforcing their autonomy in an encouraging and noninterfering way.

Second, we investigate why secure-base support facilitates proactive behavior. We propose that leader secure-base support helps cultivate employees’ sense of self-efficacy and autonomous motivation, which in turn drives proactive behavior. Self-efficacy and autonomous motivation map onto the “can do” and “reason to” motivational states, respectively, identified by Parker et al. (2010) as key motivations that drive proactive behavior.

Third, we examine who is more likely to respond positively to secure-base support from leaders. We propose employees' attachment style as a dispositional characteristic that will moderate the association between secure-base support and proactive behavior. Attachment theory (Bowlby, 1969/1982) indicates that adults low in attachment security in their early relationship with their primary caregivers tend to seek an effective substitute attachment figure to obtain a sense of security. Leaders who provide secure-base support can be regarded as effective substitute attachment figures (Mayseless & Popper, 2007; Popper & Mayseless, 2003). We thus propose that leaders' secure-base support will be especially important for employees whose attachment security is low.

Our study contributes to proactivity research by resolving inconsistent findings and enhancing our understanding as to how leader support can facilitate employee proactivity. In an avenue that has rarely been explored, we adopt an interactionist perspective to understand how leadership might work together with an individuals' attachment style, a relationally-oriented dispositional factor, to shape proactive behaviour (Wu & Parker, 2011). Our research also contributes to leadership theory. Although leadership has been considered through the lens of attachment theory (e.g., Popper & Mayseless, 2003), to date there is only a relatively small set of empirical studies on the topic (e.g., Davidovitz, Mikulincer, Shaver, Izsak & Popper, 2007; Popper, 2002; Richards & Hackett, 2012; Ronen & Mikulincer, 2012), with an even smaller set considering follower outcomes (Davidovitz et al., 2007; Ronen & Mikulincer, 2012). Our study substantiates the attachment theory perspective that a leader can play a role as a secure attachment figure, affecting follower motivation and behavior. In addition, as we discuss later, because our findings suggest that leaders can help insecurely attached

individuals see themselves as more competent and become more autonomously motivated, and thereby to behave proactively, our study hints at the potential role of leaders fostering longer-term employee development.

### **Leader Support and Proactivity at Work**

The role of leader support in prompting proactive behavior has been theorized and examined in several studies. A central argument for this process is that having support from leaders fosters a higher sense of self-determination (Oldham & Cummings, 1996) and boosts employees' sense of competence and willingness to initiate future-focused change (Parker & Wu, in press). Several studies reported that leader support positively predicts various forms of proactive behavior, including idea implementation (Axtell et al., 2000), creative performance (Madjar et al., 2002), personal initiative (Ohly, Sonnentag & Pluntke, 2006) and environmental initiative (Ramus & Steger, 2000).

However, a null relation between leader support and proactive behavior has also been found, including a non-significant predictive effect of leader support for idea suggestions (Axtell et al., 2000; Frese et al., 1999), creativity and innovation (Ohly et al., 2006; Oldham & Cummings, 1996), and for proactive problem solving (Parker et al., 2006). One explanation of these inconsistent findings concerns the content of leader support. Parker et al. (2006) suggest that, whereas some types of leader support, such as encouraging idea generation, may enhance employees' motivation to engage in proactive behavior, other types of support, such as "implementing suggestions made by employees," may foster passivity and dependence. Ohly et al. (2006) similarly argued that the content of leader support may determine its effect on proactivity. In some cases, the support concept includes such behaviors as encouragement (e.g., My supervisor is always ready to support me if I introduce an unpopular idea or solution at work; Madjar

et al., 2002). In other cases, support includes outcome-focused elements, such as praise and rewards for good performance (e.g., Ohly et al., 2006; Oldham & Cummings, 1996), which might undermine intrinsic motivation for proactivity. There is no consensus on what constitutes effective support from a leader when it comes to proactivity.

### **Leader Secure-Base Support and Proactive Behavior**

We use attachment theory (Bowlby, 1969/1982) as a theoretical framework for identifying what type of support is important because of this theory's emphasis on exploration, which has strong parallels with work proactivity. Exploration stems from the motivation to master one's environment (Elliot & Reis, 2003) by reducing knowledge gaps (Loewenstein, 1994), especially in the face of novelty, complexity and uncertainty (Berlyne, 1960). Proactivity is similar to exploration in terms of its underlying motivation and behavioral function. When behaving proactively, individuals take charge of their work environments to bring about change (Morrison & Phelps, 1999), come up new ideas to improve work procedures (Scott & Bruce, 1994) and actively scan the environment for important cues to find a novel way forward (Frese & Fay, 2001). Thus, like exploration, proactive behavior involves efforts to actively control one's environment to be effective in the face of uncertainty and novelty (Bateman & Crant, 1993; Griffin et al., 2007).

A central theme in attachment theory is the role of support from others in promoting an individual's exploration. Attachment theory originally focused on how a child's attachment to, and support from, their parents enhanced or inhibited their exploration of novel and challenging environments (Bowlby, 1969/1982). The theory has been applied to understanding adult relationships (e.g., Feeney, Cassidy & Ramos-Marcuse, 2008; Hazan & Shaver, 1987) and adult work behavior (e.g., Richards & Schat, 2011; Wu, Parker & de Jong, 2014). The theory suggests that sensitive and responsive caregivers



offer a secure base to enable an individual to explore, learn about and become competent in interacting with novel environments: “In essence this (support) role is one of being available, ready to respond when called upon to encourage and perhaps assist, but to intervene actively only when clearly necessary” (Bowlby, 1988, p. 11). More specifically, Feeney and Thrush (2010) identified three forms of support that jointly constitute “secure-base support” and that promote exploration: availability, encouragement of growth, and noninterference.

*Availability* refers to the extent to which the attachment figure is available when an individual is needed, such as to assist with removing obstacles. Availability means that individuals will be confident and intrinsically motivated to master their environment because they can access help and advice from the attachment figure to overcome potential obstacles and deal with any adverse consequences of exploration (Feeney & Vleet, 2010). *Encouragement of growth* refers to the extent to which the attachment figure supports individual decisions and actions, and encourages an individual to achieve personal goals and to develop. Encouragement is a type of social persuasion that confers an individual with a sense of competence (Bandura, 1999). *Noninterference* refers to the extent to which the attachment figure refrains from unnecessary interference with an individual’s decisions and actions, such as by taking over an activity. Noninterference provides room for an individual to approach the environment based on his or her interests, which strengthens his or her intrinsic motivation to do so (Sheldon & Elliot, 1999). Noninterference also conveys a level of trust in the individual that will strengthen his or her self-efficacy. Altogether, these forms of support contribute to exploration behaviors by strengthening individuals’ perception of their own competence and motivation to interact with the environment (Grossmann, Grossmann, Heinz & Zimmermann, 2008).

Feeney and Thrush (2010) showed that individuals having these three forms of support from their spouses experienced good moods and increased self-worth, and demonstrated higher persistence and better performance in a laboratory exploration activity.

We suggest that secure-base support from leaders will enhance employees' proactive behavior. Although attachment theory (Bowlby, 1969/1982) has traditionally stressed the role of a primary caregiver in providing secure-base support, this theory also recognizes that an individual can develop different relationships with different targets across contexts. Accordingly, several scholars have suggested that leaders can serve as a secure base for their followers (Davidovitz et al., 2007; Mayselless, 2010; Mayselless & Popper, 2007; Popper & Mayselless, 2003). A study by Oldham and Cummings (1996) that compared the effects of non-controlling supervision and supportive supervision provides some indirect support for the role of leader secure-base support. In this study, a measure of non-controlling supervision mapped directly onto the noninterference dimension of secure-base support, whereas a measure of supportive supervision involved items focused on contingent management and monitoring. In a correlation table, these authors reported that non-controlling supervision was positively and significantly ( $r = .28, p < .05$ ) related to employees' creative performance rated by supervisors, whereas supportive supervision was not significantly related to creative behavior. These findings offer only preliminary evidence that secure-base support facilitates proactive behavior. Moreover, to fully understand the role of leader secure-base support, we need to know how it can shape proactive behavior and who makes use of this form of support, as we elaborate next.

### **Mediation Mechanisms: Self-Efficacy and Autonomous Motivation**

We propose that, when leaders provide support in the form of availability, encouragement of growth and noninterference, this provision of a secure base promotes employees' proactive behavior via effects of self-efficacy and autonomous motivation.

Secure-base support from leaders can cultivate employees' self-efficacy by persuading employees to believe that they have the competence to achieve their goals (Bandura, 1999). Secure-base support also helps employees believe that they are able to face obstacles and that their efforts to bring about change will be appreciated, without unnecessary interference that can send signals of incompetence (Fisher, Nadler & Whitcher-Alagna, 1982). Self-efficacy, in turn, can enhance proactive behavior because individuals high in self-efficacy see opportunities for agency within the environment, and perceive an increased likelihood of success of their actions (Morrison & Phelps, 1999). As Parker et al. (2010) argued in regards to a "can do" motivation pathway for proactivity: because of the risks and uncertainty that proactive action can incur, it is especially important that individuals have strong beliefs that they *can* bring about change as well as deal with any consequences arising from that change. Self-efficacy has been positively linked to many forms of proactive behavior (e.g., Morrison & Phelps, 1999; Parker et al., 2006). Thus, we expect that leader secure-base support will be positively related to proactive behavior via its positive association with self-efficacy.

We also expect that leader secure-base support will foster employees' autonomous motivation, or a sense of volition in engaging in actions (Deci & Ryan, 1985). A leaders' availability enables employees to choose goals according to their interests without worrying excessively about potential obstacles or threats (Carmeli, Reiter-Palmon & Ziv, 2010). Encouragement from leaders facilitates self-concordant goal selection and feelings of self-determination because leaders provide a positive

environment in which employees can pursue their own ideas (Sheldon & Elliot, 1999). Noninterference is also likely to be crucial for autonomous motivation because interference introduces a feeling of being externally controlled, also known as controlled motivation (Ryan & Deci, 2000). In turn, autonomous motivation is important for fueling proactive behavior because it leads individuals to set challenging goals, as well as to devote more effort to achieving goals (Greguras & Diefendorff, 2010). As noted above, proactivity is sometimes risky; it incurs resistance from others or potential reputation damage if it is unsuccessful. Individuals therefore need a strong “reason to” embark on this course. Parker et al. (2010, p. 836) described the importance of autonomous motivation for prompting proactivity: “when goals are imposed or prescribed via some external regulation, there is already a reason to carry out the goal—it is expected or necessary. For self-initiated goals, however, the ‘reason to’ element cannot be taken for granted.” Consistent with the self-concordance model (Sheldon & Elliot, 1999), when a goal is important to an individual, such as in being relevant to his or her identity, then he or she is more likely to take the risk to set a proactive goal and to persist to achieve that goal. A positive association between autonomous motivation and proactive behavior has been supported in past studies (e.g., Zhang & Bartol, 2010). We thus predict that leader secure-base support will predict proactive behavior via its positive association with autonomous motivation.

### **Moderating Effect of Attachment Styles**

We next propose that leader secure-base support will be an especially powerful influence on proactive motivation and behavior for those low in attachment security. Individuals low in attachment security will particularly benefit from leaders’ secure-base support because they have not had good experiences with primary caregivers in early life.

This prediction derives from attachment theory (Bowlby, 1969/1982), which suggests that individuals will seek and rely on alternative figures who can provide attachment security if they cannot obtain it from their primary caregivers. Consequently, leaders who can provide secure-base support should be effective substitutes for attachment figures, and thus support will shape proactive motivation and behavior most for those with lower attachment security.

We use a two-dimensional framework (attachment anxiety and attachment avoidance) to indicate individual differences in attachment insecurity (Brennan, Clark & Shaver, 1998). Attachment anxiety represents the extent to which an individual is fearful about abandonment or being unloved, whereas attachment avoidance represents the extent to which an individual is uncomfortable with closeness and dependence on others (Brennan et al., 1998). Although both higher attachment anxiety and higher attachment avoidance signal insecure attachment, we propose that the two dimensions of attachment styles will interact with the effects of leader secure-base support somewhat differently in influencing proactivity.

**Attachment anxiety.** Higher attachment anxiety develops in a child when a caregiver inconsistently gives care and feedback, which results in ambivalent and anxious attitudes toward the relationship. To deal with the inconsistent caregiving environment, individuals tend to adopt a hyper-activating strategy to send stronger signals to their caregivers to obtain appropriate care (Mikulincer & Shaver, 2007). Over time, those high in attachment anxiety tend to regard themselves as unlovable, and to express excessive distress (Dozier & Lee, 1995) as a means of eliciting attention and care from others (Wei, Heppner & Mallinckrodt, 2003). They tend to tie their self-evaluations to interpersonal liking, regarding 'being liked' as a signal for 'being valued'. In an empirical

study, anxiously attached individuals were found to rely on others' approval to maintain their self-evaluations (Srivastava & Beer, 2005). We suggest that leader secure-base support is especially critical for enhancing self-efficacy for anxiously attached individuals because having secure-base support from leaders constitutes reliable social care that helps strengthen these individuals' perceived self-evaluations, thereby promoting a sense of competence and perceived capability.

We did not propose a moderating effect of attachment anxiety on the relation between leader secure-base support and autonomous motivation. Although anxiously attached individuals have caregivers who cannot provide reliable support, they can still pursue actions driven by their desires and interests, especially when they send stronger signals to obtain support from their caregivers (Mikulincer & Shaver, 2007). Accordingly, their desire to approach what they want is less contingent on support provided by others, although worries about the effects on their relationships have made them somewhat ambivalent about pursuing action (Mikulincer, 1997).

**Attachment avoidance.** Higher attachment avoidance is developed in childhood, when caregivers repeatedly give improper care and feedback or reject requests to be attached. Attachment avoidance develops because individuals learn that requests for attachment can have adverse consequences, such as being alienated or rebuffed by caregivers (Cassidy & Kobak, 1988). In this rejecting environment, an individual tends to adopt a deactivating strategy to reduce the desire for proximity, thereby avoiding the distress of the unavailable attachment figure and preventing potential harm due to rebuffed attachment requests (Mikulincer & Shaver, 2007). Over time, those higher in attachment avoidance tend to keep their distance (Collins & Read, 1990) and be indifferent to the environment (Mikulincer, 1997), because they believe that they will be

harmed when interacting with others and the environment. Accordingly, for those who are higher in attachment avoidance, leader secure-base support provides a source of autonomous motivation, as individuals will not suffer adverse consequences when they interact with supportive leaders (Feeney & Thrush, 2010). Also, secure-base support will enable individuals higher in attachment avoidance to select and approach goals for themselves (Feeney & Thrush, 2010). We thus propose that attachment avoidance will strengthen the positive association between leader secure-base support and autonomous motivation when attachment avoidance is high.

We do not make a similar prediction for the moderating effect of attachment avoidance on the association between leader secure-base support and self-efficacy. Those high in attachment avoidance tend to perceive themselves as self-reliant and not needing approval from others (Mikulincer & Shaver, 2007). Evidence suggests that individuals high in attachment avoidance do not change their self-evaluations according to interpersonal liking (Srivastava & Beer, 2005).

### **Research Hypotheses and Plan of Research**

Drawing together the above reasoning, we propose the moderated-mediation hypotheses as follows:

*Hypothesis 1: Leader secure-base support will be associated with proactive behavior via the mediating process of self-efficacy, and this mediating process will be stronger when attachment anxiety is higher rather than lower.*

*Hypothesis 2: Leader secure-base support will be associated with proactive behavior via the mediating process of autonomous motivation, and this mediating process will be stronger when attachment avoidance is higher rather than lower.*

We conducted two studies to examine our hypotheses. Study 1 is an initial, cross-sectional test of the relations among research variables. We recruited supervisor-employee pairs from a wide range of North American organizations via an online survey company (StudyResponse). Study 2 is time-lagged to overcome some of the key limitations of Study 1. In Study 2 we also recruited supervisor-employee pairs from a specific company in China to demonstrate generalizability of our findings across different cultures as well.

## STUDY 1

### Method

#### Procedure and Participants

We analyzed data from 138 supervisor-employee pairs recruited via StudyResponse. The StudyResponse administrators sent out recruitment e-mails with a link to an online survey for employees only. Supervisors were invited by employees via StudyResponse's linking system. All of them were also told that the research was voluntary and that they would receive an Amazon.com gift certificate after filling out the survey. Confidentiality of survey responses was ensured. This data-collection procedure has been used in past studies (e.g., Richards & Schat, 2011). The sample contained 79 male and 59 female employees with the mean age of 39.66 ( $SD = 9.86$ ).

#### Measures

**Leader secure-base support.** We assessed leader secure-base support mainly using existing leadership items. We only adapted items from an existing secure-base support scale (Feeney & Thrush, 2010) when necessary. Three items measuring leader availability for support during times of need were selected from the supervisor support scale developed by Yukl (1998): "My supervisor is sympathetic and supportive when I



am worried or upset about something;” “My supervisor gives me encouragement and support when I have a difficult and stressful task or responsibility” and “My supervisor offers to provide advice or assistance when I need help with a difficult task or problem.” We used three items for encouragement of growth. Two items came from the follower confidence subscale developed by House (1998): “My supervisor encourages me to live up to my potential” and “My supervisor allows me to take a strong hand in setting my own performance goals.” One item was adapted from the scale of secure-base characteristics (Feeney & Thrush, 2010): “When I tell my supervisor about something new that I would like to try, my supervisor encourages me to do it.” Finally, we selected three items for noninterference from the delegation scale developed by Yukl (1998). We used a measure of delegation to assess non-interference at work because delegation encapsulates the idea that supervisors do not take over or intrude in their employees’ activities at work. The three items were: “My supervisor delegates to me the authority to make important decisions and implement them without his/her prior approval;” “My supervisor encourages me to determine for myself the best way to carry out an assignment or accomplish an objective” and “My supervisor encourages me to take the initiative to resolve problems on my own.” The response scale for all items ranged from 1 (strongly disagree) to 7 (strongly agree).

Content validity and a higher-order factor structure (i.e., availability, encouragement and noninterference as the three first-order factors, and leader secure-base support as a second-order factor) of the used items were examined and supported in independent samples (see online supplemental appendix for more information). We used the average scores for availability, encouragement and noninterference to indicate leader secure-base support as a higher-order construct. In the current study, Cronbach’s  $\alpha$  values for

availability, encouragement and noninterference were .90, .80 and .88, respectively. Cronbach's  $\alpha$  for the average score was .87.

**Adult attachment.** We used a short-form adult-attachment scale, revised from the Adult Attachment Scale (Collins & Read, 1990), to assess attachment anxiety (four items) and attachment avoidance (six items). An illustrative item for attachment anxiety is "I often worry that others don't really like me," and an illustrative item for attachment avoidance is "I am somewhat uncomfortable being close to others" (see supplementary material for all items). These shortened scales have been used in previous studies (e.g., Wu & Parker, 2012) and construct validity of the scale was supported in an independent sample (see online supplemental appendix for more information). The response scales ranged from 1 (strongly disagree) to 7 (strongly agree). Cronbach's  $\alpha$  for attachment anxiety was .80; for attachment avoidance, it was .74 when only five items were used (one item was deleted in measurement analysis, as reported below).

**Role breadth self-efficacy.** Five items with the highest factor loadings in the role breadth self-efficacy scale (Parker, 1998) were used. The response scale ranged from 1 (not confident at all) to 7 (very confident). Cronbach's  $\alpha$  was .87.

**Autonomous motivation at work.** This concept was measured with three items from the Motivation at Work Scale (Gagné, Forest, Gilbert, Aubé, Morin & Malorni, 2010). These items assess the extent to which employees do their job because the job helps them achieve life goals and pursue personal values. Individuals responded to the stem "The reason for which you are doing your job is..." The participants then indicated the extent to which each of the following was true for them: "because it allows me to reach my life goals," "because this job fulfills my career plans" and "because this job fits

my personal values.” The response scale ranged from 1 (not at all) to 7 (exactly). Cronbach’s  $\alpha$  was .91.

**Proactive work behavior.** Based on Parker and Collins’ (2010) work, we measured proactive work behavior as a higher-order category of behavior indicated by voice, taking charge, individual innovation and problem prevention. Supervisors rated these four work behaviors. The response scale ranged from 1 (very infrequently) to 5 (very frequently). The four scales were highly inter-correlated ( $r_s = .71$  to  $.83$ ), supporting the higher-order concept approach defining proactive work behavior at a broader level. Cronbach’s  $\alpha$  for the four scales was .92.

**Control variables.** We considered several control variables, including sex (dummy-coded such that female = 1), age (years), education (high-school degree = 1, bachelor’s degree or equivalent = 2, and master’s degree or higher = 3), tenure (years), job level (manager = 1, non-manager = 0), supervision length between followers and leaders (years), proactive personality and job autonomy. Education was considered as a proxy for individuals’ stock of knowledge and correlates with proactive behaviors (Fuller, Marler & Hester, 2006). Similarly, as tenure represents the extent to which individuals’ knowledge has accumulated over the years, it was also regarded as a control variable. Because people with higher positions feel greater responsibility to bring about effective change (Fuller et al., 2006), job level was also controlled for. Supervision length between followers and leaders was also controlled for because individuals in dyads with short relationship tenures are likely to be less accurate in terms of rating leadership and/or rating employees’ behavior. Proactive personality was included because it is a dispositional antecedent of proactive behavior (Fuller & Marler, 2009) and role breadth self-efficacy (Parker et al., 2006). It was measured by four items (e.g., Parker et al., 2006)

selected from the scale developed by Bateman and Crant (1993). The response scale ranged from 1 (strongly disagree) to 7 (strongly agree). Cronbach's  $\alpha$  was .80. Finally, job autonomy can positively influence one's autonomous motivation at work (Hackman & Oldham, 1976), cultivate role breadth self-efficacy (Parker, 1998) and shape proactive behavior (Parker et al., 2006). We used three items for decision-making autonomy from Morgeson and Humphrey's (2006) Work Design Questionnaire. The response scale ranged from 1 (strongly disagree) to 7 (strongly agree). Cronbach's  $\alpha$  was .87.

### **Measurement Model**

We tested a measurement model in which attachment anxiety, attachment avoidance, role breadth self-efficacy, autonomous motivation, proactive work behavior, proactive personality and job autonomy were latent factors. Leader's secure-base support was a second-order factor, indicated by three first-order factors (availability, encouragement and noninterference). After deleting one item for attachment avoidance which had a nonsignificant factor loading, this measurement model was acceptable ( $SB-\chi^2 = 891.76$ ,  $df = 598$ ; CFI = .91; TLI = .89; RMSEA = .060; SRMR = .081).

We also examined the distinctiveness of the three personality measures (attachment anxiety, attachment avoidance and proactive personality) by specifying a latent factor for their items, while keeping the rest of the specification the same as the hypothesized model. This model did not fit well ( $SB-\chi^2 = 1215.93$ ,  $df = 611$ ; CFI = .81; TLI = .79; RMSEA = .085; SRMR = .133). We examined the distinctiveness of all self-report measures by specifying a latent factor for all self-report items, while keeping proactive work behavior as a separate factor. The model did not fit well ( $SB-\chi^2 = 1971.24$ ,  $df = 628$ ; CFI = .57; TLI = .54; RMSEA = .124; SRMR = .120). These findings thus support the validity of our measures.

## Results

Table 1 presents descriptive statistics and correlations among the variables. We examine the hypothesized moderated-mediation effects with the nested-equation path analytic approach (Edwards & Lambert, 2007; Hayes, 2013). We estimated coefficients in a model using mediators as outcomes (Step 1) and then using dependent variables as an outcome (Step 2). Next, in Step 3, we used coefficients in both models to estimate conditional mediation effects. Scores of leader secure-base support and both attachment dimensions were mean-centered. Table 2 presents results.

In Step 1, we first examined whether leader secure-base support predicted role breadth self-efficacy. As shown in Model 1-1, it did, positively ( $B = .21, p < .01$ ). In Model 1-2, we added interaction effects between leader secure-base support and the attachment styles. Attachment anxiety (but not attachment avoidance) had a significant positive interaction effect with leader secure-base support ( $B = .12, p < .05$ ). Figure 1 shows the relation between leader secure-base support and role breadth self-efficacy was significant and positive (simple slope =  $.43, p < .01$ ) when attachment anxiety was high, but not when it was low (simple slope =  $.09, p > .05$ ).

In Model 1-3, leader secure-base support positively predicted autonomous motivation ( $B = .74, p < .01$ ). In Model 1-4, when we added the same interaction effects, we found that attachment avoidance had a significant positive interaction with leader secure-base support ( $B = .25, p < .01$ ) in predicting autonomous motivation. Figure 2 shows that the relation between leader secure-base support and autonomous motivation was positive and stronger when attachment avoidance was high (simple slope =  $1.08, p < .01$ ) rather than low (simple slope =  $.51, p < .01$ ).

We also found that attachment anxiety had a significant negative-interaction effect with leader secure-base support ( $B = -.20, p < .01$ ) in predicting autonomous motivation. Leader secure-base support shapes autonomous motivation better for those low in attachment anxiety (simple slope = 1.07,  $p < .01$ ) than those high in it (simple slope = 0.52,  $p < .01$ ). This interaction effect, however, was not significant when examined independently, suggesting a suppression effect.

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Insert Figures 1 and 2 here  
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In Step 2, we conducted an analysis to predict proactive work behavior. In Model 1-5, we first found that leader secure-base support ( $B = .29, p < .01$ ) positively predicted proactive work behavior. We then added role breadth self-efficacy and autonomous motivation as predictors (Model 1-6) and found both of them were positively related to proactive work behavior ( $B = .20$  and  $.13, p$ 's  $< .01$ ). We did not include attachment variables in this step, as we had taken them into account in the first stage's moderated-mediation effects by integrating equations for predicting role breadth self-efficacy, autonomous motivation and proactive work behavior all together (see Edwards & Lambert, 2007, p.8 for detail), as described next.

In Step 3, we integrated equations of Model 1-2, Model 1-4 and Model 1-6 and bootstrapped to estimate conditional mediation effect. We relied on the PROCESS procedure developed by Hayes (Model 9, 2013) to perform the estimation. Supporting Hypothesis 1, role breadth self-efficacy had a significant mediation effect when attachment anxiety was high (conditional mediation effect = .09; 95% C.I. = .02 to .20), but a nonsignificant one when attachment anxiety was low (conditional mediation effect

= .02; 95% C.I. =  $-.02$  to  $.07$ ). Supporting Hypothesis 2, autonomous motivation had a stronger significant mediation effect when attachment avoidance was high (conditional mediation effect =  $.14$ ; 95% C.I. =  $.04$  to  $.27$ ) than when it was low (conditional mediation effect =  $.06$ ; 95% C.I. =  $.01$  to  $.16$ ). Alternative moderated-mediation models and other interaction effects were not supported by the data.

## **Discussion**

Findings in Study 1 generally supported our predictions. However, we unexpectedly found secure-base support had a stronger positive effect on autonomous motivation for those lacking attachment anxiety. It is possible that anxiously attached individuals already achieve autonomous engagement with the environment, so leader support is less salient and makes less difference for these individuals. This finding is consistent with their ambivalent attitudes toward exploration (Mikulincer, 1997): anxiously attached individuals have stronger motivation to take action, but have self-views that are not competent to support them in doing so (Wu & Parker, 2012). Although this post-hoc explanation is plausible, it should be further tested.

Several limitations in Study 1 should be noted. First, our recruitment method might involve self-selection bias, limiting generalization of our findings. However, empirically, our sample is not significantly different from those in previous studies. Our participants have comparable scores with other samples in terms of proactive personality (e.g., Bateman & Crant, 1993; Greguras & Diefendorff, 2010), attachment styles (e.g., Richards & Schat, 2011) and proactive work behavior (e.g., Griffin et al., 2007; Parker & Collins, 2010), despite these studies using different recruitment methods. In Study 2, we recruited from an organization with known supervisor-employee pair structure.

Second, independent variables and mediators were assessed at the same time through self-reporting, which might result in common-method bias. However, common-method bias seems an unlikely explanation for the observed interaction effects. Nevertheless, to alleviate this concern, we used a time-lagged design in Study 2 to collect independent variables and mediators at different times.

## **STUDY 2**

### **Method**

#### **Procedure and Participants**

The data were collected from a large gas and oil company in China. With the assistance of human-resource managers, 418 subordinates and their corresponding 85 supervisors (one supervisor rated three to seven subordinates) participated in this study voluntarily without specific rewards. Respondents were assured that their responses were confidential. Each respondent sealed his or her completed survey in an envelope and returned it via a secure box to human resources.

In the first wave, we distributed questionnaires to 418 subordinates and received 283 complete questionnaires (response rate = 67.70%). Employees were asked to provide their demographics and completed measures of attachment styles and leader secure-base support and control variables. Two weeks later, we sent questionnaires to the 283 subordinates who had finished the first wave. We received 232 complete questionnaires in the second wave (response rate = 81.97%). This time, employees were asked to rate their role breadth self-efficacy and autonomous motivation. In the third wave, questionnaires were sent to the 82 supervisors who supervised the 232 subordinates. We received 212 complete ratings of subordinates' proactive work behavior from 77 supervisors. Hence, the final sample consists of 212 subordinates and 77 supervisors,



representing a final response rate of 51%. Of the 212 subordinates, 104 were female and the average age was 35.78 years ( $SD = 9.13$ ).

### Measures

The same measures of research variables used in Study 1 were applied here but with a five-point Likert scale. We added interaction frequency with supervisors as a further control variable because, depending on projects and tasks, employees can vary quite significantly in this aspect. Having this frequency measure helps capture differences between pairs in their supervision activities, and helps to control for potential inaccuracies of leader or employee ratings. Participants (employees) indicated how frequently they interact with supervisors on a five-point Likert scale from “rarely” to “always.” When translation was applied, meanings of the original items were checked against the translated version. Cronbach’s  $\alpha$  values were reported in Table 3. We tested a hypothesized measurement model as specified in Study 1 and found it acceptable ( $SB-\chi^2 = 773.67$ ,  $df = 634$ ; CFI = .96; TLI = .96; RMSEA = .033; SRMR = .053). The measurement model was also better than other alternative models as examined in Study 1.

### Results

Table 3 presents descriptive statistics and correlations among the variables. Because there is a strong rater effect on proactive work behavior ( $ICC(1) = .20$ ), we used multilevel analysis to examine our hypotheses. Except for sex and education, all predictors in our model were grand-mean-centered. Table 4 presents results of analyses, which followed the same logic as for Study 1.

We predicted role breadth self-efficacy and found leader secure-base support had a positive predictive effect ( $B = .26$ ,  $p < .01$ ) (Model 2-1). In Model 2-2, we additionally included interaction effects and found that attachment anxiety (but not attachment

avoidance) had a significant positive interaction effect with leader secure-base support ( $B = .24, p < .01$ ). Figure 3 shows that the relation between leader secure-base support and role breadth self-efficacy was positive (simple slope =  $.37, p < .01$ ) when attachment anxiety was high, but not significant (simple slope =  $.07, p > .05$ ) when it was low.

In Model 2-3, using the same approach, we found leader secure-base support positively predicted autonomous motivation ( $B = .20, p < .01$ ). In Model 2-4, we included interaction effects and found that attachment avoidance (but not attachment anxiety) had a significant positive interaction with leader secure-base support ( $B = .28, p < .01$ ) in predicting autonomous motivation. Figure 4 shows that the relation between leader secure-base support and autonomous motivation was positive (simple slope =  $.37, p < .01$ ) when attachment avoidance was high, but not significant (simple slope =  $.02, p > .05$ ) when it was low.

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 Insert Tables 3 & 4 and Figures 3 & 4 here  
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We next predicted proactive work behavior. In Model 2-5, leader secure-base support positively predicted ( $B = .16, p < .01$ ) proactive work behavior. In Model 2-6, when role breadth self-efficacy and autonomous motivation were included, we found that both of them positively predict proactive work behavior ( $B = .25$  and  $B = .13, p$ 's  $< .05$ ).

Finally, we estimated conditional mediation effects. Supporting Hypothesis 1, role breadth self-efficacy had a significant mediation effect when attachment anxiety was high (conditional mediation effect =  $.09$ ; 95% C.I. =  $.04$  to  $.15$ ), but a nonsignificant mediation effect when attachment anxiety was low (conditional mediation effect =  $.02$ ; 95% C.I. =  $-.02$  to  $.06$ ). Supporting Hypothesis 2, autonomous motivation had a significant

mediation effect when attachment avoidance was high (conditional mediation effect = .05; 95% C.I. = .01 to .08) rather than low (conditional mediation effect = .00; 95% C.I. = -.02 to .02). Alternative moderated-mediation models and other interaction effects were not supported by the data. Findings of Study 1 were generally replicated.

### **GENERAL DISCUSSION**

Our research suggests that leaders' support in the form of availability, encouragement of growth and noninterference (i.e., leader secure-base support) is an important facilitator of employees' proactivity. Such secure-base support appears to cultivate higher role breadth self-efficacy, a "can do" process, as well as higher autonomous motivation, a "reason to" process (Parker et al., 2010). We found that individuals high in attachment anxiety rely more on leader secure-base support to foster their role breadth self-efficacy and thus their proactive behavior, whereas those high in attachment avoidance rely more on leader secure-base support to foster their autonomous motivation and thus proactive behavior.

Our investigation of the content, mechanisms and boundary conditions of leader support in shaping employees' proactive behavior advances our understanding of how leaders can enhance employees' proactive behavior. It helps reconcile inconsistent findings in past studies. One reason for those inconsistencies is that the exact nature of leader support has not been thoroughly considered, and therefore studies differing in measures of leader support have provided different results. A further reason some previous studies might have obtained a null association between leader support and employees' proactive behavior is that they did not consider individual differences regarding which persons are likely benefit from support to motivate their proactive action. Our study highlights the importance of looking at the interaction between situational

(leader support) and dispositional factors (attachment styles) in the shaping of proactive behavior (Wu & Parker, 2011).

Our investigation contributes to leadership literature by providing empirical evidence to support a perspective of leadership based on attachment theory (Mayseless, 2010; Popper & Mayseless, 2003). As Popper and Mayseless (2003, p. 42) suggest, “leaders, like parents, are figures whose role includes guiding, directing, taking charge, and taking care of others less powerful than they and whose fate is highly dependent on them.” Our finding substantiates the idea that leaders can serve as secure bases to enhance employees’ competence and motivation for exploration and associated behavior (i.e., proactivity at work), especially for those low in attachment security. Although attachment theory has been used to understand leadership’s impact and process, our study is one of only a few (e.g., Davidovitz et al., 2007; Ronen & Mikulincer, 2012) to examine leaders’ impact on employee outcomes through the lens of attachment theory. Unlike previous studies, however, we focused on leaders’ provision of secure-base support and how this support shapes employees’ proactive behavior. Our investigation is important because we provide a direct examination of the idea that leaders can be a secure base for employees’ exploration.

Practically, our study suggests that, in contexts in which employee proactivity is important, leaders can act to support this type of behavior. Our study particularly highlights the value of leaders being available, encouraging, and non-interfering. Such behaviors might not come naturally to many leaders, especially in high pressure contexts in which leaders can be tempted to intervene to achieve faster or better outcomes. Leaders might also have different understandings of what it means to be ‘supportive’. Consequently coaching or training leaders to understand what support means when it

comes to encouraging proactivity, as well as how to actually provide this support, is likely to be useful. It might also be valuable to encourage leaders to recognize insecure attachment styles amongst their employees so that they can particularly target their support efforts to these individuals.

One unexpected finding was that, across the two studies, attachment anxiety and attachment avoidance had different main-effect associations with proactive motivation and proactive behavior. Specifically, we found that attachment variables were generally negatively related to proactive motivation and proactive behavior in Study 1 (the greater the insecure attachment the lower the proactivity), but not in Study 2. Theoretically, it is reasonable to find negative associations between attachment variables and self-efficacy and autonomous motivation consistent with Study 1 findings. Both of these motivations develop from secure, reliable interpersonal interactions, as suggested by previous studies that show people who lack attachment security tend to have lower self-efficacy and autonomous motivation (e.g., Collins & Read, 1990; Elliot & Reis, 2003; Wei et al., 2003). It is also theoretically reasonable to find negative associations between attachment variables and proactive behavior because proactivity involves exploration fostered by attachment security. Consequently, individuals low in attachment security, who worry about social relationships and struggle to get along with others, are likely to hesitate before being proactive. Altogether, the findings in Study 1 are consistent with reasoning based on attachment theory. In contrast, the null associations between attachment variables and proactive motivation/behavior in Study 2 are somewhat surprising. One possible explanation is that we recruited participants in a specific organization in Study 2, and perhaps this context somehow constrained the direct impact of attachment style. In Study 1, participants were drawn from various organizational settings, which might allow

more scope for dispositional main effects. Nevertheless, further studies are needed to clarify the main effects of attachment on proactivity-related variables.

Our studies do not allow for causal inferences. One important direction, therefore, is for experimental studies to establish causality. Moreover, the association among our research variables may be more complex and dynamic than we have hypothesized, such that, when individuals behave more proactively, they may obtain more support from leaders in a process of social exchange. We thus encourage longitudinal studies to examine the potential dynamics among research variables in the longer term. Qualitative research will also be useful to understand how employees with different attachment styles interpret and react to leaders' secure-base support. Such studies might also help to obtain insight to understand the unexpected interaction effect between attachment anxiety and leader secure-base support in predicting autonomous motivation as observed in Study 1.

It might be argued that individuals with insecure attachment styles will perceive less support from leaders no matter how much they receive, because their notions of caregiving might block the opportunity to embrace a secure base provided by leaders. Although we cannot rule out this possibility in this research, our findings suggest it is unlikely. For example, it was only in Study 1 that we found a negative relation between attachment avoidance and leader secure-base support, and even then, these variables had a significant interaction effect in predicting autonomous motivation. In addition, employees' attachment styles did not predict leader secure-base support when we analyzed the nested data in Study 2. Likewise, Schirmer and Lopez (2001) did not find a significant association between attachment anxiety/avoidance and the level of supervisor support. These findings suggest that those with insecure attachment styles do not perceive less support from leaders, ruling out this alternative explanation of our findings.

Future research can explore the longer-term implication of leader secure-base support. Our findings are consistent with past research suggesting that supportive leadership can contribute to employees' self-concept (van Knippenberg, van Knippenberg, De Cremer & Hogg, 2004) and work motivation (Avolio & Bass, 1995). Beyond such implications, our findings suggest that supportive leadership might ultimately make employees' attachment style more secure. Bowlby (1969/1982) theorized that individuals can update their existing schemata to accommodate new experiences. It might be possible for leaders to make insecurely attached employees more secure by providing supportive care. This possibility goes beyond our study, but our study suggests a mechanism by which such development could occur. Such speculation is worth examination.

One further avenue for future research is to explore which types of supervisors are most likely to provide secure-base support under which circumstances. Identifying dispositions, as well as contextual factors, that enable and motivate leaders' provision of secure-base support would help determine how to use the leadership system to enhance proactive employee behavior at work. Finally, it is possible that an individual might often generate creative ideas or seek to improve his or her work methods, but nevertheless be ineffective in these endeavors (e.g., Grant, Parker & Collins, 2009). Our study, focusing only on antecedents of proactive behavior, therefore cannot provide implications on the effectiveness of proactive work behavior, which should be explored in the future.

**REFERENCES**

- Avolio, B. J., & Bass, B. M. 1995. Individual consideration viewed at multiple levels of analysis: A multi-level framework for examining the influence of transformational leadership. *Leadership Quarterly*, 6: 199-218.
- Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. 2000. Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of Occupational and Organizational Psychology*, 73: 265-285.
- Bandura, A. 1999. A social cognitive theory of personality. In L. Pervin and O. John (Eds.), *Handbook of personality*: 154-196. New York: Guilford Publications.
- Bateman, T. S., & Crant, J. M. 1993. The proactive component of organizational behavior: A measure and correlates. *Journal of Organizational Behavior*, 14: 103-118.
- Berlyne, D. E. 1960. *Conflict, arousal, and curiosity*. New York: McGraw-Hill
- Bindl, U. K., & Parker, S. K. 2010. Proactive work behaviour: Forward-thinking and change-oriented action in organizations In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology*. Washington, DC: American Psychological Association.
- Bowlby, J. 1969/1982. *Attachment and loss. Vol. 1: Attachment*. London: Pimlico.
- Bowlby, J. 1988. *A secure base*. New York: Basic Books.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. 1998. Self-report measurement of adult attachment: An integrative overview. In J. A. Simpson and W. S. Rholes (Eds.), *Attachment theory and close relationships*: 46-76. New York: Guilford Press.



- Carmeli, A., Reiter-Palmon, R., & Ziv, E. 2010. Inclusive leadership and employee involvement in creative tasks in the workplace: The mediating role of psychological safety. *Creativity Research Journal*, 22: 250-260.
- Cassidy, J., & Kobak, R. R. 1988. Avoidance and its relation to other defensive processes. In J. Belsky and T. Nezworski (Eds.), *Clinical implications of attachment*: 300-323. Hillsdale, NJ: Erlbaum.
- Collins, N. L., & Read, S. J. 1990. Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology*, 58: 644-663.
- Davidovitz, R., Mikulincer, M., Shaver, P. R., Izsak, R., & Popper, M. 2007. Leaders as attachment figures: Leaders' attachment orientations predict leadership-related mental representations and followers' performance and mental health. *Journal of Personality and Social Psychology*, 93: 632-650.
- Deci, E. L., & Ryan, R. M. 1985. *Intrinsic motivation and self determination in human behavior*. New York: Plenum.
- Dozier, M., & Lee, S. W. 1995. Discrepancies between self- and other-report of psychiatric symptomatology: Effects of dismissing attachment strategies. *Development and Psychopathology*, 7: 217-226.
- Edwards, J. R., & Lambert, L. S. 2007. Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, 12: 1-22.
- Elliot, A. J., & Reis, H. T. 2003. Attachment and exploration in adulthood. *Journal of Personality and Social Psychology*, 85: 317-331.

- Feeney, B. C., Cassidy, J., & Ramos-Marcuse, F. 2008. The generalization of attachment representations to new social situations: Predicting behavior during initial interactions with strangers. *Journal of Personality and Social Psychology*, 95: 1481-1498.
- Feeney, B. C., & Thrush, R. L. 2010. Relationship influences on exploration in adulthood: The characteristics and function of a secure base. *Journal of Personality and Social Psychology*, 98: 57-76.
- Feeney, B. C., & Vleet, M. V. 2010. Growing through attachment: The interplay of attachment and exploration in adulthood. *Journal of Social and Personal Relationships*, 27: 226-234.
- Fisher, J. D., Nadler, A., & Whitcher-Alagna, S. 1982. Recipient reactions to aid. *Psychological Bulletin*, 91: 27-54.
- Frese, M., & Fay, D. 2001. Personal initiative (PI): An active performance concept for work in the 21st century. In B. M. Staw and R. M. Sutton (Eds.), *Research in Organizational Behavior*: 133-187. Amsterdam: Elsevier Science.
- Frese, M., Teng, E., & Wijnen, C. J. D. 1999. Helping to improve suggestion systems: Predictors of making suggestions in companies. *Journal of Organizational Behavior*, 20: 1139-1155.
- Fuller, J. B., & Marler, L. E. 2009. Change driven by nature: A meta-analytic review of the proactive personality literature. *Journal of Vocational Behavior*, 75: 329-345
- Fuller, J. B., Marler, L. E., & Hester, K. 2006. Promoting felt responsibility for constructive change and proactive behavior: Exploring aspects of an elaborated model of work design. *Journal of Organizational Behavior*, 27: 1089-1120.

- Gagné, M., Forest, J., Gilbert, M.-H., Aubé, C., Morin, E., & Malorni, A. 2010. The Motivation at Work Scale: Validation evidence in two languages. *Educational and Psychological Measurement, 70*: 628-646.
- Grant, A. M., Parker, S. K., & Collins, C. G. 2009. Getting credit for proactive behavior: Supervisor reactions depend on what you value and how you feel. *Personnel Psychology, 62*: 31-55.
- Greguras, G. J., & Diefendorff, J. M. 2010. Why does proactive personality predict employee life satisfaction and behaviors? A field investigation of the mediating role of the self-concordance model. *Personnel Psychology, 63*: 539-560.
- Griffin, M. A., Neal, A., & Parker, S. K. 2007. A new model of work role performance: Positive behavior in uncertain and interdependent contexts. *Academy of Management Journal, 50*: 327 - 347.
- Grossmann, E., Grossmann, K., Heinz, K., & Zimmermann, P. 2008. A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. In J. Cassidy and P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications*: 857-879. New York: Guilford Press.
- Hackman, J. R., & Oldham, G. R. 1976. Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance, 16*: 250-279.
- Hayes, A. F. 2013. *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.
- Hazan, C., & Shaver, P. R. 1987. Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology, 52*: 511-524.

- Loewenstein, G. 1994. The psychology of curiosity: A review and reinterpretation. *Psychological Bulletin*, 116: 75-98.
- Madjar, N., Oldham, G. R., & Pratt, M. G. 2002. There's no place like home? The contributions of work and non-work creativity to support employee's creative performance. *Academy of Management Journal*, 45: 757-767
- Mayseless, O. 2010. Attachment and the leader—follower relationship. *Journal of Social and Personal Relationships*, 27: 271-280.
- Mayseless, O., & Popper, M. 2007. Reliance on leaders and social institutions: An attachment perspective. *Attachment and Human Development*, 9: 73-93.
- Mikulincer, M. 1997. Adult attachment style and information processing: Individual differences in curiosity and cognitive closure. *Journal of Personality and Social Psychology*, 72: 1217-1230.
- Mikulincer, M., & Shaver, P. R. 2007. *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Morgeson, F. P., & Humphrey, S. E. 2006. The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91: 1321-1339.
- Morrison, E. W., & Phelps, C. C. 1999. Taking charge at work: Extrarole efforts to initiate workplace change. *Academy of Management Journal*, 42: 403-419.
- Ohly, S., Sonnentag, S., & Pluntke, F. 2006. Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior*, 27: 257-279.
- Oldham, G. R., & Cummings, A. 1996. Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39: 607-634.

- Parker, S. K. 1998. Enhancing role breadth self-efficacy: The roles of job enrichment and other organizational interventions. *Journal of Applied Psychology*, 83: 835-852.
- Parker, S. K., Bindl, U. K., & Strauss, K. 2010. Making things happen: A model of proactive motivation. *Journal of Management*, 36: 827-856.
- Parker, S. K., & Collins, C. G. 2010. Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management*, 36: 633-662.
- Parker, S. K., Williams, H. M., & Turner, N. 2006. Modeling the antecedents of proactive behavior at work. *Journal of Applied Psychology*, 91: 636-652.
- Parker, S. K., & Wu, C.-H. in press. Leading for proactivity: How leaders cultivate staff who make things happen. In D. V. Day (Ed.), *The Oxford Handbook of Leadership and Organizations*. New York: Oxford University Press.
- Popper, M. 2002. Narcissism and attachment patterns of personalized and socialized charismatic leaders. *Journal of Social and Personal Relationships*, 19: 797-809.
- Popper, M., & Maysel, O. 2003. Back to basics: Applying a parenting perspective to transformational leadership. *Leadership Quarterly*, 14: 41-65.
- Ramus, C. A., & Steger, U. 2000. The roles of supervisory support behaviors and environmental policy in employee "ecoinitiatives" at leading-edge European companies. *Academy of Management Journal*, 43: 605-626.
- Richards, D. A., & Hackett, R. D. 2012. Attachment and emotion regulation: Compensatory interactions and leader-member exchange. *Leadership Quarterly*, 23: 686-701.
- Richards, D. A., & Schat, A. C. 2011. Attachment at (not to) work: Applying attachment theory to explain individual behavior in organizations. *Journal of Applied Psychology*, 96: 169-182.

- Ronen, S., & Mikulincer, M. 2012. Predicting employees' satisfaction and burnout from managers' attachment and caregiving orientations. *European Journal of Work and Organizational Psychology*, 21: 828-849.
- Ryan, R. M., & Deci, E. L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55: 68-78.
- Schirmer, L. L., & Lopez, F. G. 2001. Probing the social support and work strain relationship among adult workers: Contributions of adult attachment orientations. *Journal of Vocational Behavior*, 59: 17-33.
- 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.
- Sheldon, K. M., & Elliot, A. J. 1999. Goal striving, need-satisfaction, and longitudinal well-being: The self-concordance model. *Journal of Personality and Social Psychology*, 76: 482-497.
- Srivastava, S., & Beer, J. S. 2005. How self-evaluations relate to being liked by others: Integrating sociometer and attachment perspectives. *Journal of Personality and Social Psychology*, 89: 966-977.
- van Knippenberg, D., van Knippenberg, B., De Cremer, D., & Hogg, M. A. 2004. Leadership, self, and identity: A review and research agenda. *Leadership Quarterly*, 15: 825-856.
- Wei, M., Heppner, P. P., & Mallinckrodt, B. 2003. Perceived coping as a mediator between attachment and psychological distress: A structural equation modeling approach. *Journal of Counseling Psychology*, 50: 438-447.

- Wu, C.-H., & Parker, S. K. 2011. Proactivity in the work place: Looking back and looking forward. In K. Cameron and G. Spreitzer (Eds.), *The Oxford Handbook of Positive Organizational Scholarship*. New York: Oxford University Press.
- Wu, C.-H., & Parker, S. K. 2012. The role of attachment styles in shaping proactive behaviour: An intra-individual analysis. *Journal of Occupational and Organizational Psychology*, 85: 523-530.
- Wu, C.-H., Parker, S. K., & de Jong, J. P. J. 2014. Feedback seeking from peers: A positive strategy for insecurely attached team workers. *Human Relations*, 67: 441-464.
- Yukl, G. 1998. Short version of Managerial Practices Survey. In F. Dansereau and F. Yammarino (Eds.), *Leadership: The multiple level approaches*. Greenwich, CT: JAI Press.
- Zhang, X., & Bartol, K. M. 2010. Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, 53: 107-128

Table 1

Descriptive statistics of Research Variables (n = 138)

	<i>M</i>	<i>SD</i>	Correlations																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Female	0.43	0.50																	
2. Age	39.66	9.86	.20*																
3. Education <sup>a</sup>	--	--	-.05	-.18*															
4. Tenure	7.98	6.35	.08	.53**	-.09														
5. Job level (manager=1)	1.51	0.50	.12	.01	-.12	-.11													
6. Supervision length (years)	5.42	4.74	.14	.49**	-.12	.72**	-.04												
7. Proactive personality	5.50	0.91	.07	-.04	.03	-.12	-.09	-.01											
8. Job autonomy	5.55	1.04	.22*	.19*	-.07	.04	-.04	.14	.52**										
9. Attachment anxiety	3.36	1.41	-.16	-.34**	.07	-.13	.02	-.16	-.04	-.17*									
10. Attachment avoidance	3.27	1.13	-.05	-.07	.10	.01	.03	-.10	-.24**	-.31**	.48**								
11. Availability	5.51	1.04	.06	-.04	-.02	-.07	-.16	-.01	.53**	.39**	-.11	-.26**							
12. Encouragement	5.51	1.21	.05	.04	-.04	-.06	-.15	.05	.48**	.52**	-.22*	-.27**	.71**						
13. Non-interference	5.28	1.31	.00	-.07	.00	.02	-.06	.10	.44**	.29**	-.10	-.20*	.78**	.64**					
14. Leader secure-base support <sup>b</sup>	5.43	1.07	.04	-.02	-.02	-.04	-.13	.06	.53**	.44**	-.16	-.27**	.92**	.87**	.91**				
15. Role breadth self-efficacy	5.60	1.05	.09	.12	-.01	.12	-.10	.24**	.51**	.54**	-.43**	-.52**	.46**	.54**	.43**	.53**			
16. Autonomous motivation	5.32	1.43	-.07	.03	.03	.05	-.04	.15	.47**	.32**	.02	-.26**	.57**	.50**	.64**	.64**	.40**		
17. Proactive work behavior	3.84	0.76	.05	.04	.04	.01	-.09	.10	.51**	.42**	-.20*	-.38**	.59**	.53**	.47**	.58**	.56**	.55**	

a: Education has three levels, 1) high school degree and lower, 2) bachelor's degree or equivalent and 3) Masters' degree or higher.

b: Leader secure-base support is the average score of Availability, Encouragement, and Non-interference.

\*  $p < .05$

\*\*  $p < .01$ .



Table 2  
Results of Regression Analysis (n = 138)

	Role breadth self-efficacy (B/S.E.)		Autonomous motivation (B/S.E.)		Proactive work behavior (B/S.E.)	
	Model 1-1	Model 1-2	Model 1-3	Model 1-4	Model 1-5	Model 1-6
Intercept	2.65/.57	3.14/.62	3.21/.86	3.62/.91	2.11/.49	1.26/.50
Female	-.10/.13	-.12/.12	-.31/.19	-.26/.18	-.02/.11	.04/.10
Education <sup>a</sup>	.11/.10	.08/.10	.15/.15	.05/.15	.07/.09	.04/.08
Supervision length	.03/.01*	.03/.01*	.05/.02*	.04/.02*	.01/.01	.00/.01
Job level (manager=1)	-.03/.12	-.07/.12	.23/.18	.22/.18	-.01/.10	-.03/.10
Proactive personality	.26/.09**	.22/.08*	.25/.13*	.30/.13*	.20/.07**	.11/.07
Job autonomy	.22/.07**	.20/.07**	-.02/.11	-.09/.11	.08/.06	.03/.06
Leader secure-base support (LSBS)	.21/.07**	.26/.07**	.74/.10**	.80/.11**	.29/.06**	.13/.07*
Attachment anxiety	-.18/.05**	-.20/.05**	.20/.07**	.19/.07*	--	--
Attachment avoidance	-.20/.06**	-.21/.06**	-.21/.10*	-.18/.09*	--	--
LSBS × Attachment anxiety		.12/.05*		-.19/.07**		--
LSBS × Attachment avoidance		.00/.06		.25/.08**		--
Role breadth self-efficacy						.20/.06**
Autonomous motivation						.13/.05**
F test	20.447 <sup>^^</sup>	18.203 <sup>^^</sup>	14.269 <sup>^^</sup>	13.585 <sup>^^</sup>	13.037 <sup>^^</sup>	13.420 <sup>^</sup>
R <sup>2</sup>	.590	.614	.501	.543	.412	.485
ΔR <sup>2</sup>		.024 <sup>^</sup>		.042 <sup>^^</sup>		.073 <sup>^^</sup>

\*  $p < .05$

\*\*  $p < .01$

Note. Age and tenure were not included as they were highly related to supervision length.

Table 3  
Descriptive statistics of Research Variables (n = 212)

	<i>M</i>	<i>SD</i>	Correlations																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Female	0.49	0.50																	
2. Age	35.78	9.13	.09																
3. Education <sup>a</sup>	--	--	-.06	-.02															
4. Supervision length (years)	5.54	3.43	.08	.46**	.07														
5. Interaction frequency with supervisors	3.99	0.89	-.11	-.07	.05	-.15*													
6. Proactive personality	3.48	0.72	.12	-.01	-.13	-.08	-.12	.71											
7. Job autonomy	3.70	0.76	.07	.01	-.08	.10	-.13	.19**	.87										
8. Attachment anxiety	2.50	0.62	-.09	-.05	-.02	-.04	-.02	.05	.01	.67									
9. Attachment avoidance	2.65	0.64	-.02	.00	-.07	-.09	.00	-.05	-.04	.34**	.78								
10. Availability	3.62	0.92	-.03	-.07	-.05	-.10	-.10	.13	-.01	.01	-.01	.93							
11. Encouragement	3.78	0.86	.00	.03	-.03	-.03	-.12	.06	.04	.01	.03	.72**	.84						
12. Non-interference	3.61	0.85	-.01	-.09	-.01	-.16*	-.04	.10	.01	-.02	-.05	.84**	.72**	.88					
13. Leader secure-base support <sup>b</sup>	3.67	0.80	-.01	-.05	-.03	-.10	-.09	.11	.01	.00	-.01	.93**	.88**	.93**	.90				
14. Role breadth self-efficacy	3.54	0.66	-.08	-.05	-.07	-.02	-.12	.18**	.18**	.00	.06	.33**	.29**	.32**	.34**	.92			
15. Autonomous motivation	3.52	0.63	-.01	-.10	-.02	-.08	-.04	.24**	.20**	.10	.01	.27**	.23**	.26**	.28**	.45**	.82		
16. Proactive work behavior	3.62	0.58	-.04	-.03	-.10	-.06	-.01	.31**	.24**	-.09	.07	.29**	.24**	.20**	.27**	.45**	.37**	.82	

a: Education has three levels, 1) high school degree and lower, 2) bachelor's degree or equivalent and 3) Masters' degree or higher.

b: Leader secure-base support is the average score of Availability, Encouragement, and Non-interference.

Diagonal values are Cronbach's  $\alpha$  values for measures.

\*  $p < .05$

\*\*  $p < .01$

Table 4  
Results of Multilevel Analysis (n = 212)

	Role breadth self-efficacy (B/S.E.)		Autonomous motivation (B/S.E.)		Proactive work behavior (B/S.E.)	
	Model 2-1	Model 2-2	Model 2-3	Model 2-4	Model 2-5	Model 2-6
Intercept	3.67/.15	3.67/.15	3.47/.15	3.46/.14	3.71/.13	3.70/.12
Female	-.16/.08	-.16/.08	-.02/.08	-.01/.08	-.07/.07	-.03/.07
Education <sup>a</sup>	-.03/.07	-.03/.07	.03/.07	.03/.07	-.03/.06	-.03/.06
Supervision length	.00/.01	.01/.01	-.01/.01	.00/.01	-.01/.01	.00/.01
Interaction frequency with supervisors	-.05/.05	-.06/.05	.01/.05	.01/.05	.03/.04	.04/.04
Proactive personality	.12/.06*	.11/.06	.15/.06**	.15/.06**	.21/.05**	.16/.05**
Job autonomy	.13/.06**	.12/.06*	.14/.06**	.13/.05*	.14/.05**	.09/.05
Leader secure-base support (LSBS)	.26/.05**	.22/.05**	.20/.05**	.19/.05**	.16/.05**	.07/.04
Attachment anxiety	-.06/.07	-.05/.07	.09/.07	.07/.07	--	--
Attachment avoidance	.10/.07	.08/.07	-.02/.07	.00/.07	--	--
LSBS × Attachment anxiety		.24/.09**		-.08/.09		--
LSBS × Attachment avoidance		.04/.09		.28/.09**		--
Role breadth self-efficacy						.25/.06**
Autonomous motivation						.13/.06*
-2 Restricted Log Likelihood	418.61	416.29	411.35	407.71	357.19	333.75
Residual	0.364	0.353	0.331	0.323	0.237	0.205
Pseudo R <sup>2</sup>		0.030		0.024		0.135

\*  $p < .05$

\*\*  $p < .01$

Figure 1

Interaction plot of attachment anxiety and leader secure-base support in predicting role breadth self-efficacy in Study 1

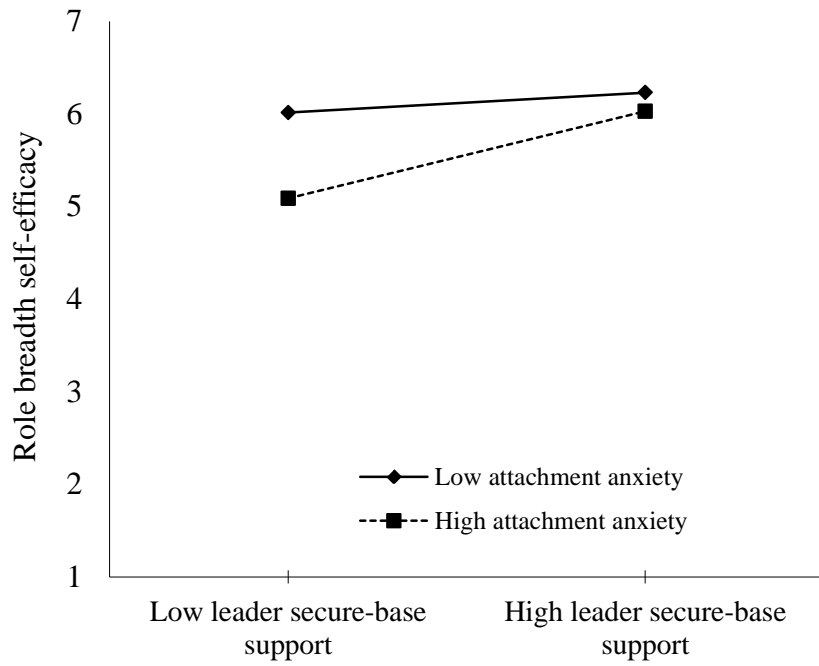


Figure 2

Interaction plot of attachment avoidance and leader secure-base support in predicting

autonomous motivation in Study 1

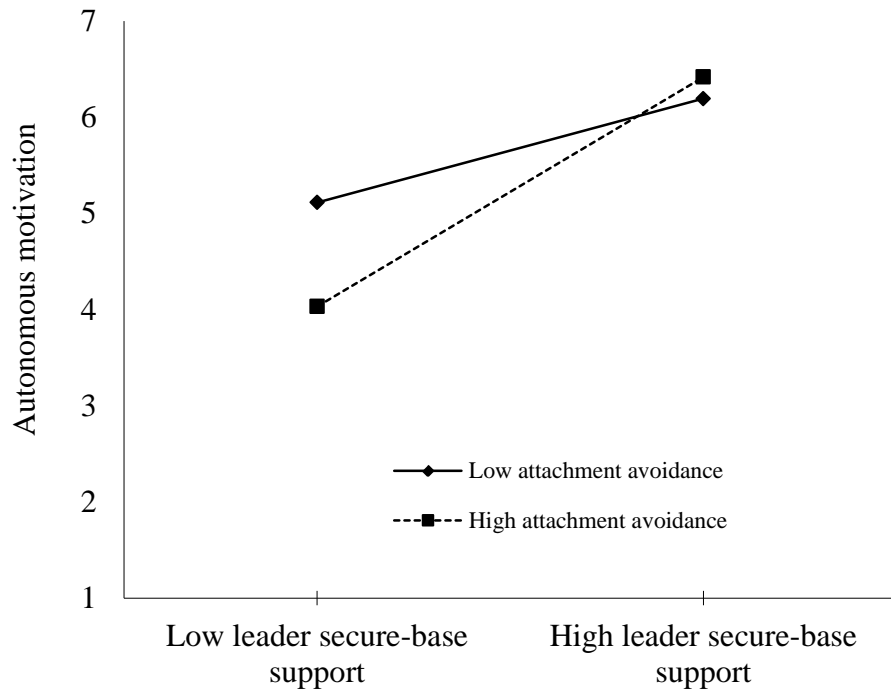


Figure 3

Interaction plot of attachment anxiety and leader secure-base support in predicting role breadth self-efficacy in Study 2

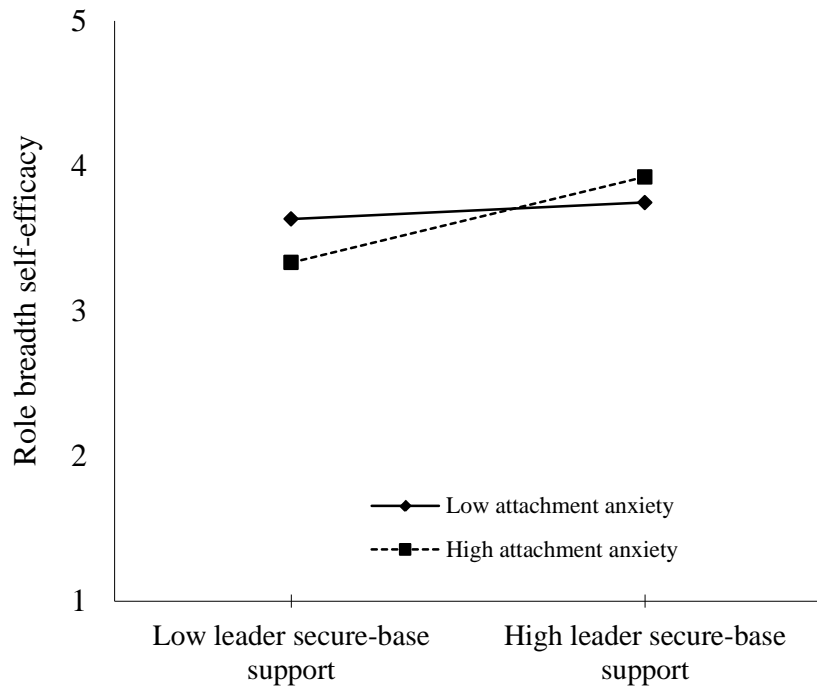
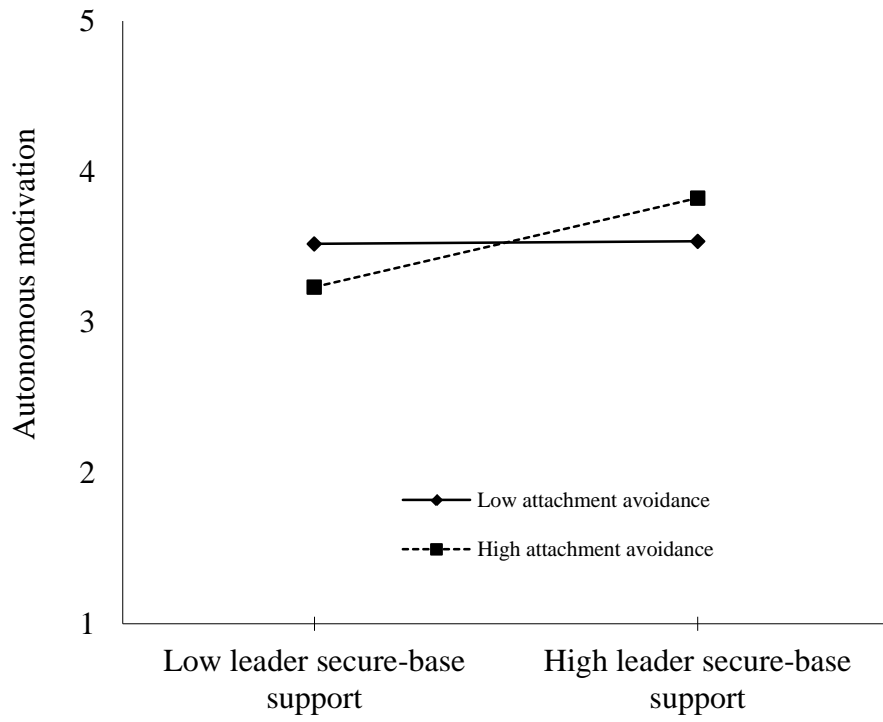


Figure 4

Interaction plot of attachment avoidance and leader secure-base support in predicting autonomous motivation in Study 2



## ONLINE SUPPLEMENTAL APPENDIX

### Validation of Leader Secure-Base Support Scale

We present analyses examining content validity, factorial validity and discriminant validity of the used leader secure-base support scale in different samples.

#### Content validity

We evaluated the content validity of our used items by consulting researchers trained in organizational psychology or management studies ( $n = 7$ ), people who are human resource officers ( $n = 2$ ), managers in organizations ( $n = 2$ ) or employees without managerial roles ( $n = 8$ ) in various organizations. These consultants provide a diverse background in evaluating the appropriateness of our used items for measuring the posited constructs. We not only included items used to assess leader secure-base support but also three items measuring leader vision (Rafferty & Griffin, 2004) for discriminant validity. We included leader vision because it is an important leadership factor that has been shown to predict proactive behavior (Griffin, Parker & Mason, 2010) and it emphasizes change in the future rather than provision of support to followers.

Based on Hinkin and Tracey's (1999) suggestion, we used a rating task to assess the strength of relations between an item and its constructs to see if an item had a strongest relation with its posited construct. Specifically, consultants were asked to rate the appropriateness of each item for measuring the three constructs (viz., availability during times of need, encouragement for personal growth and noninterference) on a 5-point Likert-type scale with "not appropriate at all" (1), "not appropriate" (2), "appropriate" (3), "very appropriate" (4) and "completely appropriate" (5). We then examined whether items would have highest scores on their posited constructs than scores on the other two constructs. We found that items for availability had highest appropriateness scores on availability ( $M = 4.25$ ), more than scores on the other two ( $M = 2.65$  on encouragement and  $M = 2.42$  on noninterference) ( $p$ 's  $< .01$  in repeated-measure ANOVA); items for encouragement had



highest appropriateness scores on encouragement ( $M = 4.37$ ), more than scores on the other two ( $M = 2.95$  on availability and  $M = 3.70$  on noninterference) ( $p$ 's  $< .01$  in repeated measure ANOVA); items for noninterference had highest appropriateness scores on noninterference ( $M = 4.51$ ), more than scores on the other two ( $M = 2.14$  on availability and  $M = 3.67$  on encouragement) ( $p$ 's  $< .01$  in repeated measure ANOVA); finally, items for leader vision had scores lower than 3 on the three constructs ( $M = 2.65$  on availability,  $M = 2.35$  on noninterference and  $M = 1.84$  on noninterference). The same pattern was obtained across consultants with different backgrounds. Accordingly, the content validity of our used items was warranted.

### **Factorial validity**

We examined the factor structure of the used items for leader secure-base support using a sample of 220 employees from a bank in Australia. Employees rated their leaders on these items. Theoretically, because these three aspects define secure-base support, we conceptualized secure-base support as a higher-order concept. Specifically, we built a measurement model in which availability, encouragement and noninterference were three first-order factors indicated by their items, and there was a second-order factor, namely leader secure-base support, indicated by the three first-order factors. This measurement model fits well ( $SB-\chi^2 = 35.22$ ,  $df = 26$ ; CFI = .99; TLI = .99; RMSEA = .040; SRMR = .031)<sup>1</sup>.

We examined several alternative measurement models and found the propose second-order factor model is better than models including a one-factor model ( $SB-\chi^2 = 298.75$ ,  $df = 28$ ; CFI = .75; TLI = .68; RMSEA = .021; SRMR = .135), a two-factor model in which availability and encouragement was influenced by the same factor and noninterference was influenced by the other one ( $SB-\chi^2 = 167.03$ ,  $df = 27$ ; CFI = .87; TLI = .83; RMSEA = .154; SRMR = .101), a two-factor model in which noninterference and encouragement was influenced by the same factor and availability was influenced by the other one ( $SB-\chi^2 = 107.18$ ,  $df = 27$ ; CFI = .93; TLI = .90; RMSEA = .116; SRMR = .050) and a two-factor

model in which availability and noninterference was influenced by the same factor and encouragement was influenced by the other one ( $SB-\chi^2 = 203.72$ ,  $df = 27$ ; CFI = .84; TLI = .78; RMSEA = .172; SRMR = .123).

Although a three-correlated-factor model in which availability, encouragement and noninterference are three different but correlated factors indicated by their items ( $SB-\chi^2 = 35.73$ ,  $df = 25$ ; CFI = .99; TLI = .99; RMSEA = .044; SRMR = .032) provides a comparable model fit to the proposed second-order factor model, the three factors were highly correlated ( $r = .69$  to  $.84$ ). We suggest that the proposed second-order factor model is better than the three-correlated-factor model because it is more parsimonious for describing the relations among the three constructs. Based on these findings, the factorial validity of our items was supported. In this sample, the Cronbach's  $\alpha$  values for each scale were .95, .90 and .88 for availability, encouragement and noninterference, respectively. Cronbach's  $\alpha$  for whole 12-item subscales was .90.

We performed the same analyses in samples of Study 1 and Study 2 and obtained the same conclusion. The second-order factor model fits well in both samples ( $SB-\chi^2 = 38.67$ ,  $df = 25$ ; CFI = .98; TLI = .97; RMSEA = .063; SRMR = .044 in Study 1<sup>1</sup>;  $SB-\chi^2 = 53.55$ ,  $df = 24$ ; CFI = .97; TLI = .96; RMSEA = .078; SRMR = .030 in Study 2).

### **Discriminant validity**

In Study 1 we also asked employees to rate their supervisors in terms of leader vision, in order to show the discriminant validity of leader secure-base support. Three items assessing leader vision (Rafferty & Griffin, 2004) were used. The correlation between leader secure-base support and leader vision was .66. We conducted the same analyses in Study 1, except that we used leader vision in place of the variable of leader secure-base support. We found that leader vision did not significantly predict role breadth self-efficacy and autonomous motivation. Nor did it have significant interaction effects with attachment anxiety and attachment avoidance to predict role breadth self-efficacy and autonomous

motivation. Finally, when leader vision was included in analyses with leader secure-base support at the same time, leader secure-base support still had its main effects and interaction effects with attachment anxiety and attachment avoidance in predicting role breadth self-efficacy and autonomous motivation. These findings show that, although leader secure-base support is related to leader vision as transformational leadership theory implies (Avolio, Bass & Jung, 1999; Bass, 1985), the two are distinct constructs and have different functions in shaping employees' outcomes. These findings thus support the discriminant validity of leader secure-base support.

### **Validation of Attachment Scale**

We provide evidence supporting the validity of the used short-form adult attachment. Here, we examine its factor structure and whether this two-dimensional measure can account for differences between people with different attachment categories (i.e., secure attachment, avoidant attachment, and anxious/ambivalent attachment). A total of 453 undergraduate students in Taiwan participated in this validation study. Their ages ranged from 18 to 32 years ( $M = 20.06$ ,  $SD = 1.64$ ). All participants answered items in the short-form adult-attachment scale (see Table A1), with a five-point Likert scale ranging from “strongly disagree” to “strongly agree.” A subsample of 332 participants completed a categorical adult-attachment measurement adapted from Hazan and Shaver (1987). They were presented with descriptions of secure, avoidant and anxious/ambivalent attachment styles and were asked to choose one of them to indicate their attachment style in general. Finally, a subsample with only 127 participants also completed rating scales on three adult-attachment categories, with a five-point Likert scale ranging from “strongly disagree” to “strongly agree” to indicate the extent to which each attachment style description could be used to describe them.

Descriptive statistics for the items in the short-form adult-attachment style scale are presented in Table A1. A confirmatory two-factor model, in which the six items assessing

attachment avoidance are influenced by one factor and the four items assessing attachment anxiety are influenced by the other factor, is acceptable ( $SB-\chi^2 = 110.46$ ,  $df = 34$ ; TLI = .92; CFI = .90; RMSEA = .071; SRMR = 0.062).

-----  
Insert Table A1 here  
-----

Among the 332 participants, 180 (54.2%) classified themselves as secure, 83 (25.0%) classified themselves as avoidant, and 69 (20.8%) classified themselves as anxious/ambivalent. These proportions are similar to those reported by Hazan and Shaver (1987). The results of a one-way ANOVA test showed that the three attachment categories were significantly different in attachment avoidance ( $F(2, 329) = 94.37$ ,  $p < .01$ , partial  $\eta^2 = .37$ ) and attachment anxiety ( $F(2, 329) = 59.98$ ,  $p < .01$ , partial  $\eta^2 = .26$ ). The results of post-hoc tests using Tukey's method (all tests were significant at  $p < .01$ ) revealed that the secure-attachment category had the lowest attachment avoidance scores ( $M = 2.30$ ); the anxious-attachment category fell in the middle ( $M = 2.78$ ), and the avoidant-attachment category had the highest scores ( $M = 3.29$ ) on this dimension. In contrast, the secure attachment category had the lowest attachment anxiety scores ( $M = 2.44$ ); the avoidant attachment category fell in the middle ( $M = 2.83$ ), and the anxious attachment category had the highest scores ( $M = 3.46$ ) on this dimension. We also correlated attachment anxiety and attachment avoidance with two dummy variables created from the categorical measure and found that attachment anxiety was significantly related only to the secure-anxious/ambivalent dummy indicator ( $r = .46$ ,  $p < .01$ ), and attachment avoidance was significantly related only to the secure-avoidant contrast indicator ( $r = .54$ ,  $p < .01$ ), revealing that the two-dimension measure of attachment style can fully capture the differences among attachment categories.

We also examined the correlations between attachment category rating scores and dimensional scores, based on 127 participants for whom we had both sets of data. Attachment

avoidance had a strong relation with avoidant-attachment category rating score ( $r = .66, p < .01$ ) and had a nonsignificant relation with anxious/ambivalent-attachment category rating score ( $r = .17, p > .05$ ). Attachment anxiety was highly correlated with anxious/ambivalent-attachment category rating score ( $r = .71, p < .01$ ) and had a nonsignificant relation with avoidant-attachment category rating score ( $r = .12, p > .05$ ). More importantly, the secure-attachment category rating score had a negative relation with attachment avoidance ( $r = -.53, p < .01$ ), attachment anxiety ( $r = -.49, p < .01$ ), avoidant-attachment category rating score ( $r = -.42, p < .01$ ) and anxious/ambivalent-attachment style rating score ( $r = -.41, p < .01$ ), which suggests that secure attachment is associated with both attachment avoidance and attachment anxiety. When regression analysis was conducted to predict secure-attachment category rating score using the four attachment scores just mentioned, only attachment avoidance ( $b = -.42, \beta = -.32, t(122) = -3.46, p < .01$ ) and attachment anxiety ( $b = -.33, \beta = -.31, t(122) = -3.06, p < .01$ ) from the dimension measure were significant. The overall test of the regression model was significant ( $F(4,144) = 23.45, p < .01$ ), and the total  $R^2$  was .44.

The results support the validity of the short-form adult-attachment scale. Although the two-dimensional framework of adult attachment has been widely adopted in research on adult attachment, at first glance it may be argued that the concept of secure attachment was not assessed. The present validation study clarifies this doubt by showing that the two-dimensional attachment scores are effective and sufficient to represent individual differences in adults' attachment styles.

**REFERENCES**

- Avolio, B. J., Bass, B. M., & Jung, D. I. 1999. Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology*, 72: 441-462.
- Bass, B. M. 1985. *Leadership and performance beyond expectations*. New York: Free Press.
- Griffin, M. A., Parker, S. K., & Mason, C. M. 2010. Leader vision and the development of adaptive and proactive performance: A longitudinal study. *Journal of Applied Psychology*, 95: 174-182.
- Hazan, C., & Shaver, P. R. 1987. Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52: 511-524.
- Hinkin, T. R., & Tracey, J. B. 1999. An analysis of variance approach to content validation. *Organizational Research Methods*, 2: 175-186.
- Rafferty, A. E., & Griffin, M. A. 2004. Dimensions of transformational leadership: Conceptual and empirical extensions. *The Leadership Quarterly*, 15: 329–354.

Table A1  
Item Analysis of Short-form Adult Attachment Scale

Items	<i>M</i>	<i>SD</i>	Corrected item-total correlation	Cronbach's alpha if item deleted	Factor loadings
Attachment avoidance (Cronbach's $\alpha = 0.76$ )					
I am comfortable depending on others. <sup>a</sup>	2.93	0.94	.52	.72	.57
I am somewhat uncomfortable being close to others.	2.26	.90	.54	.71	.65
I find it difficult to allow myself to depend on others.	2.70	1.05	.48	.73	.57
I am nervous when anyone gets too close.	2.63	1.03	.60	.69	.72
I don't often worry about someone getting too close to me. <sup>a</sup>	2.66	.94	.46	.73	.54
I am comfortable having others depend on me. <sup>a</sup>	2.54	.88	.40	.75	.46
Attachment anxiety (Cronbach's $\alpha = .72$ )					
I often worry that others doesn't really love me.	2.85	1.11	.67	.54	.84

I often worry that others won't want to stay with me.	2.81	1.11	.70	.52	.89
I don't often worry about being abandoned. <sup>a</sup>	2.99	1.11	.40	.72	.47
My desire to be close sometimes scares people away.	2.25	.91	.28	.77	.34

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*Note.* a: Item scores have been reversed.