A Relational Model of Career Adaptability and Career Prospects: The Roles of Leader-Member Exchange and Agreeableness

ABSTRACT

Drawing on career construction theory and leader-member exchange (LMX) theory, this research examined the mediating role of LMX in explaining the effect of employee career adaptability on career prospects, as well as the moderating role of agreeableness in this process. Two field studies were conducted among Chinese employees and their supervisors to test this model. In study 1, time-lagged multi-source data were collected from 252 employees and 69 supervisors. The results showed that supervisor-rated LMX (Time 2) mediated the relationship between employee-rated career adaptability (Time 1) and supervisor-rated career prospects (Time 2). In study 2, a cross-lagged panel study among 149 employees and 47 supervisors across 4 months replicated the mediating effect of LMX for the relationship between career adaptability and career prospects. Results of study 2 also showed that LMX (Time 1, supervisor-rated) did not significantly predict career adaptability (Time 2, employee-rated), providing support for the unidirectional relationship from career adaptability to LMX in this context. The moderating role of agreeableness was supported such that the effect of career adaptability on LMX, as well as the indirect effect of career adaptability on career prospects via LMX, were stronger among employees with a higher level of agreeableness. We discussed the theoretical and practical implications of these findings and offered directions for future research.

Keywords: career adaptability; leader-member exchange; career prospects; agreeableness

Practitioner Points:

- Organizations should consider using career adaptability as an important tool to select high-potential job candidates, provided that other more important selection criteria have been met, since employees with a higher level of career adaptability are more capable of building high-quality relationships with their supervisors and receiving positive recommendations from them.
- Organizations should also help employees to recognize the important role of agreeableness in their work, in order to maximize the potential benefits of career adaptability on employees' career development; otherwise employees' career prospects will be constrained even if they have a high level of career adaptability.

According to career construction theory (Savickas, 2005, 2013), career adaptability, defined as the psychosocial resources that enable individuals to cope with the predictable and unpredictable challenges in their career development (Savickas, 1997), plays a pivotal role in helping individuals garner adaptive career outcomes. Indeed, empirical studies have revealed that career adaptability predicts desirable career-related outcomes, such as university graduates' job search success (e.g., Guan et al., 2013), employees' performance (Zacher, 2014), salary and career satisfaction (Guan, Zhou, Ye, Jiang, & Zhou, 2015), and supervisor-rated promotability (Sibunruang, Garcia, & Tolentino, 2016; See Rudolph, Lavigne, & Zacher, 2017 for a recent meta-analytical review). To understand the mechanisms underpinning these effects, most extant research draws upon a self-regulation perspective and reveals that the psychosocial resources associated with career adaptability lead to more adaptive responses, such as individuals' job search self-efficacy (e.g., Guan et al., 2013), career decision-making self-efficacy and work volition (e.g., Duffy, Douglass, & Autin, 2015), occupational self-efficacy and career planning (e.g., Hirschi, Herrmann, & Keller, 2015), which in turn enable individuals to achieve desirable outcomes (Rudolph et al., 2017).

While previous research offers important evidence for the self-regulation mechanisms suggested by career construction theory, not much work has been done to understand the relational mechanisms that may account for the effects of career adaptability on career outcomes (see Sibunruang et al., 2016 for a possible exception). This seems problematic given that career construction theory also emphasizes that career adaptability "shapes self-extension into the social

environment as individuals connect with society and regulate their own vocational behavior" (Savickas, 2013, p. 157-158). In other words, career adaptability not only gives rise to a high level of self-regulation strengths to overcome developmental challenges, but also enables individuals to obtain valuable social resources that can make meaningful contributions to their career success (Grant, 2007; Grant & Parker, 2009; Hirschi, 2012; Savickas, 2013; Wayne, Liden, Kraimer, & Graf, 1999). Surprisingly, to the best of our knowledge, there is only one study (i.e., Sibunruang et al., 2016) that has focused on such relational mechanisms and found that the positive relationship between employees' career adaptability and supervisor-rated promotability was mediated by ingratiation. Building on these fundamental premises in career construction theory (Savickas, 2005, 2013) and integrating them with contentions from leader-member exchange (LMX) theory (Graen & Uhl-Bien, 1995), we propose that as modern job design is becoming increasingly relational, the mutual trust, respect and obligation between employees and their supervisors captured by the concept of LMX (Graen & Uhl-Bien, 1995) would also play an important role in linking employees' career adaptability to positive career outcomes. This new mechanism cannot be captured by the self-regulation processes (Rudolph et al., 2017) or impression management tactics such as ingratiation (Sibunruang et al., 2016), and extends the findings from a family context such that parents' career adaptability can facilitate interpersonal role-modeling for the next generation (Garcia, Restubog, Ocampo, Wang, & Tang, 2019). To examine this prediction, we test the mediating role of LMX on the relationship between employees' career adaptability and supervisor-rated career prospects (i.e., individuals'

potential for career development and advancement, Jans, 1989).

While previous work generally supports the positive effects of career adaptability on career-related outcomes, the effects vary from small to moderate (Rudolph et al., 2017), and there is evidence showing the existence of important boundary conditions in strengthening or weakening these effects (e.g., Guan et al., 2014, 2015; Sibunruang et al., 2016; Zacher & Griffin, 2015). As indicated by Savickas and Porfeli (2012), a high level of adaptive outcomes is more likely to be achieved "for those who are willing (adaptive) and able (adaptability) to perform behaviors that address changing conditions (adapting)" (p. 663). This contention implies an interactive effect between adaptive readiness (e.g., indicted by the Big Five personality traits, Perera & McIlveen, 2017) and career adaptability on career outcomes.

Following this argument, we propose that the effects of career adaptability on LMX and career prospects would be strengthened when employees are willing to be concerned with others' interests, needs and well-being (De Dreu & Nauta, 2009; Meglino & Korsgaard, 2004). To examine this idea, we choose agreeableness as an important individual difference moderator for the above relations since agreeableness is the only dimension in the Big Five personality model that represents the tendency to be cooperative and accommodating to others with a positive attitude (Costa & McCrae, 1988). We argue that the positive effects of career adaptability on LMX and career prospects will be stronger when employees have a higher level of agreeableness since it will orient employees towards utilizing advantageous resources to make extra contributions to their organizations and thus put them in better positions to receive supervisors'

positive affect, trust, respect and evaluations (Grant & Wrzesniewski, 2010; Sears & Hackett, 2011) (see Figure 1 for the theoretical model).

Insert Figure 1 about here

By investigating the ways in which career adaptability may affect LMX and career prospects, our study aims to make several meaningful contributions to the literature. First, to address the relatively understudied relational mechanisms of career adaptability and career development, our research examines LMX as a mediator linking career adaptability and career prospects. In doing so, we not only advance the current incomplete knowledge of how career adaptability could affect career outcomes through the level of exchange quality with one's supervisor, but also respond to the recent call for research to examine the role of LMX in the career development of employees (Ocampo, Restubog, Liwag, Wang, & Petelczyc, 2018). Second, besides the relational mediating process, we also examine the moderating role of individuals' agreeableness in this process, which adds to the previous literature by showing how individuals' willingness to be concerned about others could enhance the positive effects of career adaptability. Third, by adopting a cross-lagged panel design in Study 2, we also respond to calls to adopt more rigorous methods examining the antecedents and consequences of career adaptability (Rudolph et al., 2017) and LMX (Dulebohn, Bommer, Liden, Brouer & Ferris, 2012).

Theoretical Background and Hypotheses

Career Adaptability, LMX and Career Prospects

Career construction theory postulates that human development is driven by continuous adaptation to the changes of social environment with the goal of person-environment integration (Savickas, 2005, 2013). Since career adaptability reflects the psychosocial resources that help individuals cope with challenges associated with development tasks, occupational transitions and work traumas (Savickas, 1997), it was proposed as the key factor that enables individuals to display adaptive responses in their career development, which in turn lead to adaptive outcomes (Savickas, 2005, 2013). Building on career construction theory, the career construction model of adaption (Rudolph et al., 2017; Savickas, 2013; Savickas & Porfeli, 2012) was further proposed to depict that individuals who are willing (adaptive readiness) and able (career adaptability) to perform adequate adaptive behaviors (adapting responses) will attain better career outcomes, such as better fit between the person and the environment, and both subjective and objective career success (adaptation results).

Drawing upon career construction theory (Savickas, 2005, 2013) and LMX theory (Graen & Uhl-Bien, 1995), we predict that employees' career adaptability affects their career prospects through the mediation of LMX. Rudolph et al. (2017) pointed out that adaptive outcomes can be indicated by "the goodness of fit between the person and the environment, as well as indicators such as development, satisfaction, commitment, and work success" (p. 20). The current research focuses on employees' career prospects as an outcome, which refers to the probability of career

development and advancements (Jans, 1989). Career prospects are observable by others (e.g., supervisors) and usually perceived as individuals' potential for objective career success such as rewards, salary increases or promotions (Ng, Eby, Sorensen, & Feldman, 2005; Spurk, Hirschi, & Dries, 2019). Therefore, supervisor-rated career prospects, as external judgments about aforementioned outcomes from the supervisor, represent an indicator of adaptive outcomes (Spurk et al., 2019).

LMX theory suggests that leaders tend to develop differential relationships with their followers through a series of work-related exchanges (Graen & Uhl-Bien, 1995). A high level of LMX represents mutual understanding, trust and support between employees and their supervisors (Dienesch & Liden, 1986; Dulebohn et al., 2012). In the dyadic exchange between leader and follower, each party has expectations about how he or she can benefit from the other party, and one party will try to reciprocate what the other party contributes. When the expectations of both parties are met, high-quality relationships are developed (Graen & Scandura, 1987; Graen & Uhl-Bien, 1995). Previous research has suggested that LMX can lead to positive adaption results, such as increased employees' person-supervisor fit (Van Vianen, Shen, & Chuang, 2011) and elevated person-environment integration (Kristof-Brown, Zimmerman, & Johnson, 2005).

Employees with high career adaptability possess psychosocial resources that make them more adept in managing work demands, mobilizing resources and fitting into the work environment (Rudolph et al., 2017; Savickas, 2013; Tolentino, Sedoglavich, Lu, Garcia, &

Restubog, 2014). In this vein, career adaptability propels self-extension into the social environment as individuals initiate connections with society and adapt their own vocational behaviors. It follows that career adaptability may enable individuals to initiate intrapersonal and interpersonal processes to achieve adaptive outcomes (Savickas & Porfeli, 2012). Thus, based on the perspective of career construction theory (Savickas, 2005, 2013), we propose that LMX represents an important process linking adaptive responses and adaptive outcomes, as it is theoretically driven by the behavioral reactions to career adaptability, and can lead to subsequent career outcomes. On the one hand, employees with a higher level of career adaptability are likely to regulate themselves towards their role expectations and achieve high in-role performance (Ohme & Zacher, 2015). Moreover, as self-regulating agents, besides fulfilling formal role expectations, career-adaptable employees will initiate changes and perform proactive work behaviors going beyond their prescribed job duties, such as setting challenging goals, developing skills, and networking (Taber & Blankemeyer, 2015; Zacher, 2015). As a result, supervisors should be interested in reciprocating with more work-related information and opportunities (Janssen & Van Yperen, 2004; Yang et al., 2015), as well as support, recognition and trust (Graen & Uhl-Bien, 1995). Taken together, we propose that:

Hypothesis 1: Career adaptability is positively related to LMX.

LMX represents an important relational resource for employees' career development (Hirschi, 2012). Specifically, high-quality LMX can be translated into greater individualized attention and benefits (e.g., more training and development opportunities) from the supervisor

(Gerstner & Day, 1997; Liden, Sparrowe, & Wayne, 1997). In addition, high-quality LMX can boost employees' motivation to reciprocate by working hard and taking on extra tasks that are beneficial for career development in the long run (Kamdar & Van Dyne, 2007; Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016). Supporting these delineations, prior research has found significant relationships between LMX and employees' career advancement, such as higher salary progression and more promotions (Wayne et al., 1999). Therefore, we propose that employees who have higher career adaptability will be able to secure higher levels of LMX, and would ultimately attain higher levels of supervisor-perceived career prospects. This relational mediation process is consistent with career construction theory's proposal that individuals with higher career adaptability will be able to attain more desirable adaption results via adaptive responses (Rudolph et al., 2017). In sum, we propose:

Hypothesis 2: LMX mediates the positive relationship between career adaptability and career prospects.

The Moderating Role of Agreeableness

Although career adaptability generally results in positive career outcomes, research has also revealed that its effects are not particularly strong (Rudolph et al., 2017) and there is also evidence suggesting that sometimes career adaptability leads to unintended negative consequences, such as employees' perceived overqualification (Yang et al., 2015). These findings suggest it is necessary to take a fine-grained look at the boundary conditions that may strengthen or weaken the effects of career adaptability. Indeed, previous research has found that

the positive effects of career adaptability are stronger when individuals have a clearer future work self (Guan et al., 2014), experience a higher level of organizational career management (Guan et al., 2015), receive high career sponsorship from the supervisors (Sibunruang et al., 2016), and are relatively young within the cohort of older workers (Zacher & Griffin, 2015). From a career construction perspective (Savickas & Porfeli, 2012), the positive effect of career adaptability also depends on one's willingness to orient adaptive resources towards behaviors that facilitate one's person-environment integration. Following this argument, we propose that the relational benefits associated with career adaptability would be strengthened when employees have a high level of agreeableness (Costa & McCrae, 1988). One of the Big Five personality dimensions, agreeableness reflects the extent to which individuals are concerned about others' interests, needs and well-being (De Dreu & Nauta, 2009; Grant & Wrzesniewski, 2010; Meglino & Korsgaard, 2004). Agreeableness may affect the way employees respond to their capabilities, thus moderating the effects of career adaptability on LMX and career prospects (Graziano, Jensen-Campbell, & Hair, 1996; Graziano & Tobin, 2002; Ilies, Scott, & Judge, 2006; Jensen-Campbell & Graziano, 2001).

First, highly agreeable individuals are characterized by modesty, warmth, good-naturedness, and caring (Costa & McCrae, 1988; Graziano, Habashi, Sheese, & Tobin, 2007). They tend to be greatly concerned about others' feelings and strive to maintain positive relations with other people (Graziano & Tobin, 2002). Since individuals have a tendency to be attracted by those who convey interpersonal warmth and concern (e.g., Newcombe & Ashkanasy, 2002;

Tjosvold, 1984), we suggest that employees with high agreeableness, combined with career adaptability, are in better positions to receive supervisors' positive affect, trust and respect (Sears & Hackett, 2011), thereby leading to high levels of LMX. Second, agreeableness could guide employees' career adaptability towards investing extra effort toward benefiting others (Graziano et al., 2007). That is, besides fulfilling their own work responsibilities and duties, agreeableness encourages employees with high career adaptability to expend effort to help colleagues. As the quality of LMX depends not only on employees' own competence but also on the way they treat others (Dulebohn et al., 2012), we thus expect that employees who simultaneously have a high level of career adaptability and agreeableness will demonstrate high-quality relationships with supervisors.

In contrast, as employees with a lower level of agreeableness are less prone to cooperate with others, they may be more reluctant to initiate tasks with their peers, which will suffocate their performance and reputation (Grant & Wrzesniewski, 2010). Further, employees with low agreeableness might utilize their career adaptability to focus on activities that are associated with their personal interests, and may be less willing to extend support to others, which may leave a negative impression on their supervisors (Graziano et al., 2007). This implies that career-adaptable employees with low agreeableness are likely to aim at seeking good outcomes for themselves without considering others, which may decrease the positive interpersonal effects of career adaptability and lead to lower LMX. To sum up, we propose that:

Hypothesis 3: Agreeableness positively moderates the relationship between career adaptability and LMX such that this relationship is stronger among employees with higher agreeableness.

Given the mediating role of LMX between career adaptability and career prospects (i.e., Hypothesis 2) and the moderating role of agreeableness on the relationship between career adaptability and LMX (i.e., Hypothesis 3), we also predict that agreeableness moderates the indirect effect of career adaptability on career prospects via LMX, thereby demonstrating a pattern of moderated mediation. Thus, we propose:

Hypothesis 4: Agreeableness positively moderates the indirect effects of career adaptability on career prospects such that when agreeableness is higher, the indirect effect is stronger.

Overview of Studies

To test the above hypotheses, in Study 1, we aim to establish the link between career adaptability and LMX (i.e., Hypothesis 1) and test the mediating role of LMX (i.e., Hypothesis 2) using time-lagged (separated by one month) multi-source data (i.e., 252 employees and their 69 supervisors). In Study 2, we surveyed 149 employees and 47 supervisors at two time points (4-month time lag) with two purposes. First, we sought to replicate Study 1 findings for Hypotheses 1 and 2 with a more rigorous cross-lagged design, which allows more insight into the causal relations between the variables. Second, we aimed to examine the moderating role of agreeableness and moderated mediation effects (i.e., Hypotheses 3 and 4).

Study 1 Method

Procedures and Participants

We collected data by contacting employees and their supervisors working in a company in Beijing, China. Participants were informed that we would use the data for research purposes only and their personal information would be kept confidential. After completing the surveys, each participant received a brief report through email about the implications of career adaptability for their career development as a reward for their participation. Responses were recorded through online surveys. At Time 1, employees answered questions on demographics and career adaptability. At Time 2 (one month later), supervisors were asked to rate their LMX with employees and employees' career prospects. Given that the original scales were developed in English, we used standard back-translation procedures to ensure the face validity of the Chinese versions (Brislin, Lonner, & Thorndike, 1973). The final matched sample consisted of 252 employees and 69 supervisors. Among the employees (127 males and 125 females), 11.5% were from 21 to 25 years old, 23% were from 26 to 30, 16.7% were from 31 to 35, 12.3% were from 36 to 40, 15.1% were from 41 to 45, 10.7% were from 46 to 50, 8.3% were from 51 to 55, and 2.4% were from 55 to 60 years old; regarding education, 8.7% had senior high school diploma, 24.2% had specialized postsecondary college degree, 56.8% had bachelor's degree, 7.9% had master's degree and 2.4% had doctor's degree; the average organizational tenure was 10.8 years.

Measures

All variables were measured on a Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

Career adaptability (employee ratings at Time 1). Career adaptability was measured with the 24-item Career Adapt-Abilities Scale (Hou, Leung, Li, Li, & Xu, 2012). It has four dimensions (i.e., career concern, career control, career curiosity and career confidence), with 6 items measuring each dimension. A sample item for career concern was "Realizing that today's choices shape my future"; a sample item for career control was "Taking responsibility for my actions"; a sample item for career curiosity was "Investigating options before making a choice"; a sample item for career confidence was "Performing tasks efficiently". The Cronbach's alpha coefficient for the overall measure was .95.

LMX (supervisor ratings at Time 2). LMX was measured using the 5-item LMX scale (Chen & Tjosvold, 2006). A sample item was "He/she and I are inclined to pool our available resources to solve the problems in his/her work". The Cronbach's alpha coefficient was .90.

Career prospects (supervisor ratings at Time 2). Career prospects were measured with two items developed by Bedeian, Kemery and Pizzolatto (1991). The two items were "He/she will attain his/her career goals in this organization" and "He/she is likely to gain growth and development in this organization". The Cronbach's alpha coefficient was .88.

Control variables (employee ratings at Time 1). Prior research suggested that subordinates' demographic characteristics such as age, gender, education and organizational tenure might be related to their LMX (Phillips & Bedeian, 1994) and career prospects (Ng et al.,

2005). Thus, we controlled for these variables in the analysis.

Study 1 Results

Descriptive Statistics

The descriptive statistics and correlations among variables are presented in Table 1. Notably, career adaptability was significantly correlated with LMX (r = .28, p < .01) and career prospects (r = .20, p < .01); LMX was significantly correlated with career prospects (r = .71, p < .01). These results provided preliminary support for positive relations among career adaptability, LMX and career prospects.

Insert Table 1 about here

Testing the Mediating Role of LMX

Because most supervisors evaluated LMX and career prospects of more than one subordinate, we first computed the intraclass correlation coefficient (i.e., ICC(1)) for LMX and career prospects to take the issue of non-independence into consideration (Bliese, 2002). Results revealed that 41% (ICC(1) = .41) of the total variance of LMX, and 42% (ICC(1) = .42) of the total variances of career prospects were due to group membership (i.e., rated by the same supervisor). Thus, we decided to conduct hierarchical linear modeling analysis in HLM 7 (Raudenbush, Bryk, Cheong, Congdon, & Du Toit, 2011) to test our hypothesized relationships (Hofmann, 1997). HLM explicitly accounts for the nested nature of the data and can

simultaneously estimate the impact of predictors at different levels on outcomes (Bryk & Raudenbush, 1992).

Given that our conceptual model posits relationships solely at the subordinate level, we applied group mean centering on all predictors (career adaptability and LMX), and then used 1-(1)-1 model to estimate the mediating effect of LMX (Zhang, Zyphur, & Preacher, 2009). Following Zhang et al. (2009), we report within-level (i.e., subordinate level) coefficients of all the predictors and estimate the mediating effect of LMX only at the subordinate level. To test the mediation effect, we adopted the criteria and procedures proposed by Preacher and Hayes (2008): first, the independent variable (career adaptability) should be significantly related to the mediator (LMX); second, after controlling for the effect of the independent variable, the relationship between the mediator (LMX) and dependent variable (career prospects) should be significant; finally, the indirect effect of independent variable on dependent variable should be significant.

Table 2 presents the results of the multilevel mediation analyses in HLM 7. Specifically, the results show that career adaptability was positively associated with LMX ($\beta = .22$, $p < .01$), after controlling for employees' age, gender, education and organizational tenure as well as level 2 residual variances of the intercepts. Therefore, Hypothesis 1 was supported. In addition, we found that LMX was positively related to career prospects ($\beta = .66$, $p < .01$), after controlling career adaptability and control variables. Indirect effects were calculated with bootstrapping analyses with 5,000 bootstrap samples (Hayes, 2012). The indirect effect was significant

(estimated indirect effect = .15, with 95% CI ranging from .08 to .22), supporting Hypothesis 2. Because age and organizational tenure were correlated with each other, we also tested the two hypotheses when controlling only one of these two variables, and the key findings as well as the conclusions did not change.

Insert Table 2 about here

Study 2 Method

Procedures and Participants

Data were collected in a different large company from Beijing, China. We distributed the study invitations and questionnaires at two time points (separated by 4 months). At Time 1, employees answered questions on career adaptability and agreeableness; their supervisors rated their LMX with them. At Time 2, employees were asked to rate their own career adaptability again; supervisors also assessed their LMX with subordinates again. In addition, supervisors provided ratings on subordinates' career prospects. After matching the data, the final sample consisted of 149 employees (40.9% retention rate from Time 1) and 47 supervisors (65.3% retention rate). Among the participants, 75% were male, 25% were female; eleven percent of them aged from 21 to 25 years old, 19% were from 26 to 30, 22% were from 31 to 35, 12% were from 36 to 40, 12% were from 41 to 45, 14% were from 46 to 50, 9% were from 51 to 55, and 1% were from 56 to 60; three percent of them had a junior high school diploma, 4% had senior

high school diploma, 32% had specialized postsecondary college degree, 56% had bachelor's degree, and 5% had master's degree; the average organizational tenure was 6 years.

Measures

All measures were scored on a Likert scale ranging from 1 = *strongly disagree* to 5 = *strongly agree.*

Career adaptability (employee ratings at both Time 1 and Time 2). Again, career adaptability was measured with the 24-item Career Adapt-Abilities Scale (Hou et al., 2012). The Cronbach's alpha for career adaptability at Time 1 and Time 2 were .80 and .92, respectively.

LMX (supervisor ratings at both Time 1 and Time 2). We used the same 5-item measure as in Study 1 for LMX (Chen & Tjosvold, 2006). The Cronbach's alpha for LMX at Time 1 and Time 2 were .86 and .77, respectively.

Agreeableness (employee ratings at Time 1). We assessed agreeableness using three items from the short-form Big Five inventory (BFI-S; Hahn, Gottschling, & Spinath, 2012; Li et al., 2015). A sample item was "I am considerate and kind to others". The Cronbach's alpha for agreeableness was .64, which was comparable to previous research (Li et al., 2015).

Career prospects (supervisor ratings at Time 2). We used the same measure in Study 1 for career prospects. The Cronbach's alpha for career prospects was .76.

Control variables (employee ratings at Time 1). Similar to Study 1, we controlled age, gender, education and organizational tenure which might affect LMX (Phillips & Bedeian, 1994) and career prospects (Ng et al., 2005).

Study 2 Results

Descriptive Statistics

Table 3 shows the descriptive statistics, reliabilities, and correlations among the variables. Notably, career adaptability at Time 1 was positively correlated with LMX at Time 2 ($r = .41$, $p < .01$); LMX at Time 1 was positively correlated with career adaptability at Time 2 ($r = .20$, $p < .05$); and LMX at Time 2 was positively related to career prospects ($r = .63$, $p < .01$).

Insert Table 3 about here

Hypothesis Testing

Similar to Study 1, because every supervisor rated multiple employees' LMX and career prospects, these ratings may lack independence (Bliese, 2002). To account for this non-independence and to avoid inflated effect sizes and spurious findings, we tested all hypotheses using multilevel structural equation modeling (MSEM) with Mplus 7.0 (Muthén & Muthén, 2012). Before testing our model, we again calculated ICC(1) for LMX and career prospects to justify the use of multilevel modeling. Because all ICC(1)s are within the range of .53 to .78, it was appropriate to use multilevel modeling in the analyses. MSEM is capable of addressing the nested nature of the data, and assessing the within and between effects separately to provide more accurate estimations of the proposed relationships (Preacher, Zhang, & Zyphur, 2011; Preacher, Zyphur, & Zhang, 2010). Because all the variables were conceptualized and assessed

at the subordinate level, while employees were nested in supervisors, we followed the recommendations by Preacher et al. (2010) and examined the within effects (i.e., subordinate level) while accounting for possible effects from the supervisor level by including random intercept models in testing our models. This analytical approach has been widely adopted in recent management research with similar data structure (e.g., Deng et al., 2018; Hu & Liden, 2015).

We followed the approach by Martens and Haase (2006) to test the unidirectional effect from career adaptability to LMX (vs. null effect between these two, unidirectional effect from LMX to career adaptability, and bidirectional effects between these two constructs). Specifically, according to Martens and Haase (2006), for a cross-lagged design, we need to test and compare four structural equation models (SEM) progressively: 1) the autoregressive model (Model 1); 2) a model with autoregressive effects and LMX at Time 1 to career adaptability at Time 2 (Model 2); 3) a model with autoregressive effects and career adaptability at Time 1 to LMX at Time 2 (Model 3), and 4) a fully cross-lagged model with the autoregressive effects and both career adaptability and LMX at Time 1 predicting each other at Time 2 (Model 4). The comparisons of the four models were shown in Table 4.

Insert Table 4 about here

Results indicated that among Models 1, 2 and 3, Model 3 had the best fit: lowest χ^2,

RMSEA, SRMR, AIC, BIC and higher CFI and TLI. In addition, the χ^2 tests showed that Model 3 had a significantly better fit than Model 1 ($\triangle df$=1, $\triangle\chi^2$ =12.30, $p < .05$) and Model 2 ($\triangle df$= 0 while Model 3 has lower χ^2). Then we compared Model 3 with Model 4 (the fully cross-lagged model). The results showed that Model 4 did not provide a significantly better fit to the data than did Model 3 ($\triangle df$=1, $\triangle\chi^2$ =1.28, *n.s.*). We also presented standardized parameter estimates for this model in Figure 2. As shown in Figure 2, in Model 4, the path from career adaptability at Time 1 to LMX at Time 2 was significant (β = .33, $p < .01$), but the path from LMX at Time 1 to career adaptability at Time 2 was not significant (β = .14, *n.s.*). Because Model 3 was more parsimonious than the fully-cross-lagged model but with similar model fit, we chose this model as the final model. As the path from career adaptability at Time 1 to LMX at Time 2 in Model 3 (β = .34, $p < .01$) was significant, but the paths from LMX at Time 1 to career adaptability at Time 2 in Model 2 and Model 4 were both non-significant, we concluded that career adaptability leads to greater LMX, but LMX does not lead to career adaptability.

Insert Figure 2 about here

Then, we tested hypotheses. First, we tested a direct effect model wherein career adaptability and control variables were linked to LMX: in this model, career adaptability (T1) was positively related to LMX (T2, β = .41, $p < .01$), supporting Hypothesis 1. Then, we used the same procedures as in Study 1 to test the mediation hypothesis (i.e., Hypothesis 2). The results

with career prospects as the dependent variable (See Table 5) indicated that LMX (T2) was positively related to career prospects (T2, β = .42, p < .05; Step 2) and the indirect effect was also significant (indirect effect estimate = .17, 95% CI = [.01, .36]; Step 3). Combined with the support for Hypothesis 1 (Step 1), we thus also found support for Hypothesis 2, indicating that LMX (T2) mediated the relationship between career adaptability (T1) and career prospects (T2). Figure 3 presents the mediation effects in Study 1 and the moderated mediation effects in Study 2.

Regarding the interaction effects of career adaptability and agreeableness predicting LMX, the results revealed that the interaction term was positively related to LMX (β = .63, p <.01), supporting Hypothesis 3. Simple slope tests revealed that the relationship (β = .36, p < .05) between career adaptability and LMX was positive and significant when agreeableness was high (1SD above the mean) but was not significant (β = -.25, *n.s.*) when agreeableness was low (1SD below the mean). We illustrate the interaction effect in Figure 4.

Further, we estimated the moderated mediation effects. As shown in Table 5, the relationship between career adaptability and LMX was moderated by agreeableness (β = .63, p < .01; Step 1), and the relationship between LMX and career prospects was significantly positive (β = .42, p < .05; Step 2). With 5,000 bootstrapped samples, the indirect effect of career adaptability on career prospects via LMX was positive and significant when agreeableness was high (indirect effect = .15, 95% CI = [.01, .36]) but was not significant when agreeableness was low (indirect effect = -.11, 95% CI = [-.30, .02]), and the difference was significant (△indirect

effect = .26, 95% CI = [.03, .49]). Therefore, we concluded that the moderated mediation model we proposed in Hypothesis 4 was supported. Because age and organizational tenure were correlated with each other, we also tested our hypotheses with controlling only one of these two variables, and the key findings as well as the conclusions did not change.

Insert Table 5 and Figures 3&4 about here

Discussion

Drawing on career construction theory and LMX theory, the current study examined the effect of career adaptability on LMX, and the indirect effect of career adaptability on career prospects via LMX. The results supported these effects. Moreover, we also found that these effects are stronger among employees with a higher level of agreeableness. The cross-lagged design of Study 2 provided strong evidence for the unidirectional effect from career adaptability to LMX, but not vice versa. Our findings have both theoretical and practical implications.

Theoretical Implications

First, by establishing LMX as a relational mechanism linking career adaptability and career prospects, we contribute to the literature by making a further step to explain how career adaptability links to individual career development. Although the self-regulation mechanisms proposed by career construction theory have received much empirical support in extant studies (e.g., Duffy et al., 2015; Hirschi et al., 2015; Rudolph et al., 2017), not much attention has been

paid to relational mechanisms, even though employees' career development is viewed as a process co-constructed by themselves and the external environments (Hirschi, 2012; Savickas, 2013). Career construction theory describes the self as being built from outside in, rather than inside out (Savickas, 2013). It emphasizes the influences of particular social activities and relationships that could help individuals in furthering self-construction and social adaption. Therefore, building on career construction and LMX perspectives, findings of this research address this research gap and demonstrate the importance of LMX in explaining the effect of career adaptability on employees' career prospects. In other words, findings of this research offer a novel view on how employees achieve adaptive outcomes through interpersonal processes, in contrast to previous findings that career is self-constructed by employees' self-regulation strengths. A higher level of career adaptability is conducive to individuals' career prospects in terms of establishing social exchanges, mutual trust and respect with their leader, thus extending a line of career adaptability research that has not been fully considered previously.

It is worth noting that we did not find a directional link from LMX to career adaptability. However, according to career construction theory (Savickas, 2005), besides individual factors (e.g., proactivity, core self-evaluations, Hirschi et al., 2015), contextual factors (e.g., social support, Creed, Fallon, & Hood, 2009; parental support, Guan et al., 2016; perceived organizational support and spousal support, Ocampo et al., 2018) also play important roles in predicting individuals' career adaptability. Being in a high-quality LMX relationship endows employees with many advantages, such as promotion and salary progression (Graen & Uhl-Bien,

1995). These advantages may motivate them to take future career possibilities into consideration and prepare for future careers (Autin, Douglass, Duffy, England, & Allan, 2017), thus promoting career concern, one of the key components of career adaptability (Savicaks, 2005). Moreover, high levels of LMX also result in empowerment in career decision making (Aryee & Chen, 2006; Liden, Wayne, & Sparrowe, 2000), thus enhancing employees' feelings of responsibility for self-governing their career, as captured by career control. In addition, high LMX could increase employees' access to various information and job opportunities due to higher performance ratings from supervisors (Harris, Kacmar, & Witt, 2005), thus increasing their career curiosity. Finally, employees with a high LMX relationship receive support from supervisors and opportunities for mastery skills, which could then give employees self-efficacy and a feeling of competence during their career development (Aryee & Chen, 2006), thus improving career confidence. In summary, it could also be possible that employees in high-quality LMX relationships with their supervisors may experience higher levels of career adaptability, which would be demonstrated in a pattern of bidirectional relationships between career adaptability and LMX.

However, we did not find such a pattern in our cross-lagged analyses. One possible explanation is that, in contrast to previous studies on the social contextual antecedents of career adaptability, which utilized single-source student-reported cross-sectional (Creed et al., 2009; Ocampo et al., 2018) or time-lagged data (Guan et al., 2016), our more rigorous cross-lagged multi-source design using both employee and supervisor ratings allowed us to account for

autoregressive effects (e.g., the effects of career adaptability at Time 1 on career adaptability at Time 2) in examining the bidirectional relationships, and to more effectively reduce the negative impacts of potential bias introduced by the same report sources. Our time lag (i.e., 4 months) though, is shorter than the 18-month lag employed by Guan et al. (2016), which might not be lengthy enough to capture the changes in career adaptability over time (Johnston, 2018). Future studies could use more sophisticated longitudinal cross-lagged designs (e.g., measuring both career adaptability and LMX at multiple [>2] time points) to provide evidence for the robustness of our findings.

Second, this relational perspective also paves the way for more fruitful research in understanding how career adaptability impacts various career outcomes, particularly future career success (e.g., career prospects). In the current research, we considered theoretically-derived supervisor-rated career prospects as the outcome, which acts as an indicator of objective career success (Spurk et al., 2019). Future studies might replicate and extend our findings by considering subjective career success (e.g., career satisfaction, career commitment, Ng & Feldman, 2014). Furthermore, as employees are not only working with their supervisors, but also their peers or subordinates, future research should continue to examine how career adaptability may influence employees' social acceptance from these parties (Deng et al., 2018). Since high career adaptability has been documented to lead to better job performance and a more successful career (Rudolph et al., 2017), it is likely that employees with high career adaptability often outperform their colleagues and obtain more rewards, promotions and salary raises---all typical

forms of objective success, which can result in various social consequences. It has been found that high performers can be admired by their peers as they offer outstanding contributions to the team and set up a good role model for the peers to follow (e.g., Campbell, Liao, Chuang, Zhou, & Dong, 2017); in the meantime, research also reveals that high performers also receive negative social responses such as jealousy or even undermining arising from the unfavorable social comparison processes held by their peers (e.g., Kim & Glomb, 2014). Therefore, future research should continue to examine how this relational perspective helps to understand the complicated effects of career adaptability.

Besides the mediating process discussed above, we also investigated the boundary condition on the effects of career adaptability. Specifically, we found that employees' agreeableness could moderate the indirect effect of career adaptability on career prospects through LMX. As agreeable individuals usually pay great attention to others' needs and feelings (Costa & McCrae, 1988; Graziano et al., 2007; Graziano & Tobin, 2002), they are more prone to take advantage of their career adaptability to make additional efforts toward benefiting others (Grant & Wrzesniewski, 2010; Graziano et al., 2007), thereby leading to higher levels of LMX. Previous meta-analytical findings suggest that agreeableness is negatively associated with objective career success (Ng et al., 2005), but positively related to LMX (Dulebohn et al., 2012). However, agreeableness is not significantly correlated with LMX or career prospects in our sample, and our results generally show the facilitative role of agreeableness in predicting LMX and career prospects when a high level of career adaptability is also present. Our findings thus

highlight the importance of taking an interactionist perspective to understand the unstable effects of agreeableness on LMX and career-related outcomes. Results of our Study 2 suggest that without a high level of career adaptability, agreeable employees may have difficulty building high-quality social exchange with their supervisors due to inability to meet challenges in their career (Savickas & Porfeli, 2012). We encourage future research to examine the individual and contextual factors that moderate the effects of agreeableness on career-related outcomes.

Building on our findings, it would be meaningful to further explore other personal and situational moderators, such as leaders' narcissism (an aggrandized self-concept, Chatterjee & Hambrick, 2007). It is possible that high career adaptability may lead to negative responses from narcissistic leaders since their self-views can be easily threatened by their subordinates' outstanding performance (Chatterjee & Hambrick, 2007; Chatterjee & Pollock, 2017). Under such situations, employees' agreeableness and social skills may be particularly important in weakening the potential negative effects of career adaptability on LMX. In light of this, future research could benefit from explicating other variables which would significantly impact the relationships discussed in this research.

Practical Implications

The findings of this research also carry several significant implications for practice. Most essentially, our research indicates that employees' career adaptability could invite social benefits such as high-quality relationships with leaders. To maximize the career benefits for employees, organizations should pay attention to employees' career adaptability and use selection

procedures to identify qualified job candidates with high career adaptability provided that more important criteria have been met, as employees with low career adaptability may not only lack the ability to manage their own tasks, but also have difficulties in establishing positive relations with their supervisors, which will lead to negative career development consequences. As career adaptability can be promoted by training and learning experiences (Savickas, 2013), organizations may also consider adopting relevant intervention schemes to enhance employees' adaptabilities. Training programs targeted at individuals' knowledge of the self and the environment, and the integration of the self-concept into the occupational environment, may be adopted to provide the resources needed to enhance their adaptability (Koen, Klehe, & Van Vianen, 2012). For example, as goal orientation and social support can enhance career adaptability (Creed et al., 2009), managers could consider providing employees with specific workshops on how to set and manage individual goals. In addition, managers might also offer useful resources, such as mentoring programs, as ways to improve employees' perceived social support, in order to improve their career adaptability.

Furthermore, our findings show that a high level of agreeableness is more likely to activate the indirect beneficial effects of career adaptability for employees' career development. Organizations should also utilize necessary HRM practices to select employees with high agreeableness (provided that other more important selection criteria have been met), and to help employees be aware of the value of being concerned for others in maximizing the potential advantages of career adaptability.

Limitations and Future Research

Our study is not without limitations. First, while the mediator we examined was based on the theoretical perspectives we adopted, there could be other mediators that may also be relevant in understanding the relational mechanisms of how career adaptability affects career development. For example, team-member exchange (TMX, Seers, 1989) could be another such mechanism, as employees high in career adaptability are more likely to be perceived as important resources by their peers, thus forming high quality exchange relationships. High TMX will likely further trigger employees' exceptional career development. Therefore, further research should continue to explore other theory-driven mediators. In addition, future research should also attempt to integrate different perspectives in examining the underpinning mechanisms in a more theoretically coherent way.

Second, our data were collected in China, which has a collectivist culture, emphasizing the importance of role-based obligations and relationships (Buchtel et al., 2018). LMX theory suggests that employees' responses (i.e., attitudes and behaviors) depend on leader treatment/interpersonal relationships (Graen & Uhl-Bien, 1995). As Dulebohn et al. (2012) and Rockstuhl, Dulebohn, Ang and Shore (2012) suggested, in a collectivistic culture, employees' responses are not only based on relationships but also role-based obligations, while in an individualistic culture, employees' responses are particularly based on leader treatment/interpersonal relationships. Hence, stronger relationships are expected between LMX and outcomes in individualistic cultures (Rockstuhl et al., 2012). As a result, LMX may not be as

effective for personal career development in a collectivist culture as for individualistic culture. In addition, elicited by the interdependent view of the self (Chen & Miller, 2011), individuals in a collectivistic culture have a stronger need for LMX, thus their overall LMX level may depend on not only their own agency (i.e., career adaptability) but also their need for LMX; in contrast, due to a weaker need for LMX, in an individualistic culture, the link between career adaptability and LMX may be stronger. Therefore, future research should further investigate the generalizability of the mediating role of LMX by replicating our models in multiple cultural contexts.

Third, because the mediator (i.e., LMX) and the outcome (i.e., career prospects) were measured at the same time point from the same source, they were highly correlated in both studies. Hence, there are concerns regarding common method bias between them (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and we could not make causal conclusions with regards to the hypothesized relationships in our model. For example, it is also possible that employees' career prospects can lead to high LMX, and it can be explained using signaling theory (Connelly, Certo, Ireland, & Reutzel, 2011; Spence, 2002). Signaling theory suggests that employee's visible career prospects might signal to the supervisors that this employee is worth paying individualized attention to and should be allocated more resources to (Wayne et al., 1999), thus implying the causal effect from career prospects to LMX. To test this possibility, we should have measured supervisor-rated career prospects at Time 1, as suggested by Cole and Maxwell (2003). Future research should adopt a more rigorous design (e.g., cross-lagged panel design or experimental design) to offer more insights on the causal relationship between LMX and career

prospects (Cole & Maxwell, 2003).

Conclusion

Drawing on career construction theory and LMX theory, our studies found that career adaptability facilitated employees' career prospects through LMX , especially when they possess high agreeableness. The findings advanced our understanding of the link between career adaptability and career development by uncovering the underlying relational mechanism and delineating the boundary condition. The current research encourages future investigations to examine more fine-grained mechanisms and boundary conditions for the effects of career adaptability on career-related outcomes.

References

Autin, K. L., Douglass, R. P., Duffy, R. D., England, J. W., & Allan, B. A. (2017). Subjective social status, work volition, and career adaptability: A longitudinal study. *Journal of Vocational Behavior*, *99*, 1-10. https://doi.org/10.1016/j.jvb.2016.11.007

Aryee, S., & Chen, Z. X. (2006). Leader-member exchange in a Chinese context: Antecedents, the mediating role of psychological empowerment and outcomes. *Journal of Business Research, 59*(7), 793-801. http://dx.doi.org/10.1016/j.jbusres.2005.03.003

Bedeian, A. G., Kemery, E. R., & Pizzolatto, A. B. (1991). Career commitment and expected utility of present job as predictors of turnover intentions and turnover behavior. *Journal of Vocational Behavior, 39*, 331-343. http://dx.doi.org/10.1016/0001-8791(91)90042-K

Bliese, P. D. (2002). Multilevel random coefficient modeling in organizational research: Examples using SAS and S-Plus. In F. Drasgow & N. Schmitt (Eds.), *Measuring and analyzing behavior in organizations: Advances in measurement and data analysis* (pp. 401-445). San Francisco, CA: Jossey-Bass.

Brislin, R. W., Lonner, W., & Thorndike, R. (1973). *Cross-cultural research methods.* New York: Wiley.

Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods.* Newbury Park: Sage.

Buchtel, E. E., Ng, L. C. Y., Norenzayan, A., Heine, S. J., Biesanz, J. C., Chen, S. X., … Su, Y. (2018). A sense of obligation: Cultural differences in the experience of obligation. *Personality and Social Psychology Bulletin*. *44*, 1545-1566. https://doi.org/10.1177/0146167218769610

Campbell, E. M., Liao, H., Chuang, A., Zhou, J., & Dong, Y. (2017). Hot shots and cool

reception? An expanded view of social consequences for high performers. *Journal of Applied Psychology, 102,* 845-866. http://dx.doi.org/10.1037/apl0000183

Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly, 52,* 351-386. https://doi.org/10.2189/asqu.52.3.351

Chatterjee, A., & Pollock, T. G. (2017). Master of puppets: How narcissistic CEOs construct their professional worlds. *Academy of Management Review, 42,* 703-725. http://dx.doi.org/10.5465/amr.2015.0224

Chen, Y. F., & Tjosvold, D. (2006). Participative leadership by American and Chinese managers in China: The role of relationships. *Journal of Management Studies, 43,* 1727-1752. http://dx.doi.org/10.1111/j.1467-6486.2006.00657.x

Chen, M. J., & Miller, D. (2011). The relational perspective as a business mindset: Managerial implications for East and West. *Academy of Management Perspectives, 25,* 6-18. http://dx.doi.org/10.5465/AMP.2011.63886526

Cole, D. A., & Maxwell, S. E. (2003). Testing mediational models with longitudinal data: questions and tips in the use of structural equation modeling. *Journal of Abnormal Psychology, 112*(4), 558-577. http://dx.doi.org/10.1037/0021-843X.112.4.558

Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory: A review and assessment. *Journal of Management, 37*(1), 39-67. https://doi.org/10.1177/0149206310388419

Costa, P. T., & McCrae, R. R. (1988). Personality in adulthood: A six-year longitudinal study of self-reports and spouse ratings on the NEO Personality Inventory. *Journal of Personality and Social Psychology, 54,* 853-863. http://dx.doi.org/10.1037/0022-3514.54.5.853

Creed, P. A., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person and situation variables, and career concerns in young adults. *Journal of Vocational Behavior, 74*(2), 219-229. https://doi.org/10.1016/j.jvb.2008.12.004

De Dreu, C. K., & Nauta, A. (2009). Self-interest and other-orientation in organizational behavior: Implications for job performance, prosocial behavior, and personal initiative. *Journal of Applied Psychology, 94*, 913-926. http://dx.doi.org/10.1037/a0014494

Deng, H., Guan, Y., Wu, C. H., Erdogan, B, Bauer., T. &, Yao, X. (2018). A relational model of overqualification: The role of interpersonal influence on overqualified employees' social acceptance and performance. *Journal of Management, 44*, 3288-3310. http://journals.sagepub.com/doi/full/10.1177/0149206316668237

Dienesch, R. M., & Liden, R. C. (1986). Leader-member exchange model of leadership: A critique and further development. *Academy of Management Review, 11*, 618-634. http://dx.doi.org/10.5465/amr.1986.4306242

Duffy, R. D., Douglass, R. P., & Autin, K. L. (2015). Career adaptability and academic satisfaction: Examining work volition and self-efficacy as mediators. *Journal of Vocational Behavior, 90*, 46-54. https://doi.org/10.1016/j.jvb.2015.07.007

Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2012). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management, 38*, 1715-1759. http://dx.doi.org/10.1177/0149206311415280

Garcia, P. R. J. M., Restubog, S. L. D., Ocampo, A. C., Wang, L., & Tang, R. L. (2019). Role modeling as a socialization mechanism in the transmission of career adaptability across

generations. *Journal of Vocational Behavior*, *111*, 39-48. https://doi.org/10.1016/j.jvb.2018.12.002

Gerstner, C. R., & Day, D. V. (1997). Meta-Analytic review of leader-member exchange theory: Correlates and construct issues. *Journal of Applied Psychology*, *82*, 827-844. http://dx.doi.org/10.1037/0021-9010.82.6.827

Graen G., & Scandura T. (1987). Toward a psychology of dyadic organizing. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior* (pp. 175-208). Greenwich. CT: JAI Press.

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly*, *6*, 219-247. http://dx.doi.org/10.1016/1048-9843(95)90036-5

Grant, A. M. (2007). Relational job design and the motivation to make a prosocial difference. *Academy of Management Review*, *32*, 393-417. http://dx.doi.org/10.5465/amr.2007.24351328

Grant, A. M., & Parker, S. K. (2009). Redesigning work design theories: The rise of relational and proactive perspectives. *Academy of Management Annals*, *3*, 317-375. http://dx.doi.org/10.5465/19416520903047327

Grant, A. M., & Wrzesniewski, A. (2010). I won't let you down… or will I? Core self-evaluations, other-orientation, anticipated guilt and gratitude, and job performance. *Journal of Applied Psychology*, *95*, 108-121. http://dx.doi.org/10.1037/a0017974

Graziano, W. G., Jensen-Campbell, L. A., & Hair, E. C. (1996). Perceiving interpersonal conflict and reacting to it: The case for agreeableness. *Journal of Personality and Social Psychology, 70*, 820-835. http://dx.doi.org/10.1037/0022-3514.70.4.820

Graziano, W. G., & Tobin, R. M. (2002). Agreeableness: Dimension of personality or social desirability artifact? *Journal of Personality, 70*, 695-728. https://doi.org/10.1111/1467-6494.05021

Graziano, W. G., Habashi, M. M., Sheese, B. E., & Tobin, R. M. (2007). Agreeableness, empathy, and helping: A person × situation perspective. *Journal of Personality and Social Psychology, 93*, 583. http://dx.doi.org/10.1037/0022-3514.93.4.583

Guan, P., Capezio, A., Restubog, S. L. D., Read, S., Lajom, J. A. L., & Li, M. (2016). The role of traditionality in the relationships among parental support, career decision-making self-efficacy and career adaptability. *Journal of Vocational Behavior, 94*, 114-123. https://doi.org/10.1016/j.jvb.2016.02.018

Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., ... & Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior, 83*, 561-570. http://dx.doi.org/10.1016/j.jvb.2013.09.003

Guan, Y., Guo, Y., Bond, M. H., Cai, Z., Zhou, X., Xu, J., ... & Wang, Y. (2014). New job market entrants' future work self, career adaptability and job search outcomes: Examining mediating and moderating models. *Journal of Vocational Behavior, 85*, 136-145. https://doi.org/10.1016/j.jvb.2014.05.003

Guan, Y., Zhou, W., Ye, L., Jiang, P., & Zhou, Y. (2015). Perceived organizational career management and career adaptability as predictors of success and turnover intention

among Chinese employees. *Journal of Vocational Behavior, 88*, 230-237. http://dx.doi.org/10.1016/j.jvb.2015.04.002

Hahn, E., Gottschling, J., & Spinath, F. M. (2012). Short measurements of personality–Validity and reliability of the GSOEP Big Five Inventory (BFI-S). *Journal of Research in Personality, 46*, 355-359. https://doi.org/10.1016/j.jrp.2012.03.008

Harris, K. J., Kacmar, K. M., & Witt, L. A. (2005). An examination of the curvilinear relationship between leader-member exchange and intent to turnover. *Journal of Organizational Behavior, 26*(4), 363-378. https://doi.org/10.1002/job.314

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling*. White paper. Retrieved from http://www.afhayes.com/public/process2012.pdf

Hirschi, A. (2012). The career resources model: An integrative framework for career counsellors. *British Journal of Guidance & Counselling, 40*(4), 369-383. http://dx.doi.org/10.1080/03069885.2012.700506

Hirschi, A., Herrmann, A., & Keller, A. C. (2015). Career adaptivity, adaptability, and adapting: A conceptual and empirical investigation. *Journal of Vocational Behavior, 87*, 1-10. http://dx.doi.org/10.1016/j.jvb.2014.11.008

Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management, 23*, 723-744. http://dx.doi.org/10.1177/014920639702300602

Hou, Z. J., Leung, S. A., Li, X., Li, X., & Xu, H. (2012). Career adapt-abilities scale—China form: Construction and initial validation. *Journal of Vocational Behavior, 80*, 686-691. http://dx.doi.org/10.1016/j.jvb.2012.01.006

Hu, J., & Liden, R. C. (2015). Making a difference in the teamwork: Linking team prosocial

motivation to team processes and effectiveness. *Academy of Management Journal, 58*(4), 1102-1127. https://doi.org/10.5465/amj.2012.1142

Ilies, R., Scott, B. A., & Judge, T. A. (2006). The interactive effects of personal traits and experienced states on intraindividual patterns of citizenship behavior. *Academy of Management Journal, 49*, 561-575. http://dx.doi.org/10.5465/amj.2006.21794672

Jans, N. A. (1989). Organizational commitment, career factors and career/life stage. *Journal of Organizational Behavior*, *10*, 247-266. http://dx.doi.org/10.1002/job.4030100305

Janssen, O., & Van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal, 47*, 368-384. http://dx.doi.org/10.5465/20159587

Jensen-Campbell, L. A., & Graziano, W. G. (2001). Agreeableness as a moderator of interpersonal conflict. *Journal of Personality*, *69*(2), 323-362. http://dx.doi.org/10.1111/1467-6494.00148

Johnston, C. S. (2018). A systematic review of the career adaptability literature and future outlook. *Journal of Career Assessment*, *26*(1), 3-30. https://doi.org/10.1177/1069072716679921

Kamdar, D., & Van Dyne, L. (2007). The joint effects of personality and workplace social exchange relationships in predicting task performance and citizenship performance. *Journal of Applied Psychology, 92*(5), 1286-1298. http://dx.doi.org/10.1037/0021-9010.92.5.1286

Kim, E., & Glomb, T. M. (2014). Victimization of high performers: The roles of envy and work group identification. *Journal of Applied Psychology*, *99*, 619-634. http://dx.doi.org/10.1037/a0035789

Koen, J., Klehe, U. C., & Van Vianen, A. E. (2012). Training career adaptability to facilitate a successful school-to-work transition. *Journal of Vocational Behavior, 81*, 395-408. https://doi.org/10.1016/j.jvb.2012.10.003

Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, E. C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology, 58*(2), 281-342. https://doi.org/10.1111/j.1744-6570.2005.00672.x

Li, Y., Guan, Y., Wang, F., Zhou, X., Guo, K., Jiang, P., ... & Fang, Z. (2015). Big-five personality and BIS/BAS traits as predictors of career exploration: The mediation role of career adaptability. *Journal of Vocational Behavior, 89*, 39-45. https://doi.org/10.1016/j.jvb.2015.04.006

Liden, R. C., Sparrowe, R. T., & Wayne, S. J. (1997). Leader-member exchange theory: The past and potential for the future. In G. R. Ferris (Ed.), *Research in Personnel and Human Resources Management* (pp. 47-119). Greenwich, CT: Elsevier Science/JAI Press.

Liden, R. C., Wayne, S. J., & Sparrowe, R. T. (2000). An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. *Journal of Applied Psychology, 85*(3), 407-416. http://dx.doi.org/10.1037/0021-9010.85.3.407

Martens, M. P., & Haase, R. F. (2006). Advanced applications of structural equation modeling in counseling psychology research. *The Counseling Psychologist, 34*, 878-911. http://dx.doi.org/10.1177/0011000005283395

Martin, R., Guillaume, Y., Thomas, G., Lee, A., & Epitropaki, O. (2016). Leader-member exchange (LMX) and performance: A meta-analytic review. *Personnel Psychology,*

69(1), 67-121. http://dx.doi.org/10.1111/peps.12100

Meglino, B. M., & Korsgaard, A. (2004). Considering rational self-interest as a disposition: Organizational implications of other orientation. *Journal of Applied Psychology, 89*, 946-959. http://dx.doi.org/10.1037/0021-9010.89.6.946

Muthén, L. K., & Muthén, B. O. (2012). *Mplus Version 7 user's guide*. Los Angeles, CA: Muthén & Muthén.

Nahrgang, J. D., Morgeson, F. P., & Ilies, R. (2009). The development of leader–member exchanges: Exploring how personality and performance influence leader and member relationships over time. *Organizational Behavior and Human Decision Processes*, *108*, 256-266. https://doi.org/10.1016/j.obhdp.2008.09.002

Newcombe, M. J., & Ashkanasy, N. M. (2002). The role of affect and affective congruence in perceptions of leaders: An experimental study. *Leadership Quarterly, 13*, 601-614. http://dx.doi.org/10.1016/S1048-9843(02)00146-7

Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, *58*, 367-408. http://dx.doi.org/10.1111/j.1744-6570.2005.00515.x

Ng, T. W. H., & Feldman, D. C. (2014). Subjective career success: A meta-analytic review. *Journal of Vocational Behavior*, *85*(2), 169-179. https://doi.org/10.1016/j.jvb.2014.06.001

Ocampo, A. C. G., Restubog, S. L. D., Liwag, M. E., Wang, L., & Petelczyc, C. (2018). My spouse is my strength: Interactive effects of perceived organizational and spousal support in predicting career adaptability and career outcomes. *Journal of Vocational Behavior*, *108*, 165-177. https://doi.org/10.1016/j.jvb.2018.08.001

Ohme, M., & Zacher, H. (2015). Job performance ratings: The relative importance of mental ability, conscientiousness, and career adaptability. *Journal of Vocational Behavior, 87,* 161-170. http://dx.doi.org/10.1016/j.jvb.2015.01.003

Perera, H. N., & McIlveen, P. (2017). Profiles of career adaptivity and their relations with adaptability, adapting, and adaptation. *Journal of Vocational Behavior, 98,* 70-84. https://doi.org/10.1016/j.jvb.2016.10.001

Phillips, A. S., & Bedeian, A. G. (1994). Leader-follower exchange quality: The role of personal and interpersonal attributes. *Academy of Management Journal, 37,* 990-1001. https://doi.org/10.5465/256608

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88,* 879-903. http://dx.doi.org/10.1037/0021-9010.88.5.879

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40,* 879-891. http://dx.doi.org/10.3758/BRM.40.3.879

Preacher, K. J., Zhang, Z., & Zyphur, M. J. (2011). Alternative methods for assessing mediation in multilevel data: The advantages of multilevel SEM. *Structural Equation Modeling, 18*(2), 161-182. https://doi.org/10.1080/10705511.2011.557329

Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods, 15*(3), 209-233. https://doi.org/10.1037/a0020141

Raudenbush, S. W., Bryk, A. S., Cheong, Y. F., Congdon, R., & Du Toit, M. (2011).

Hierarchical linear and nonlinear modeling (HLM7). Lincolnwood, IL: Scientific Software International.

Rockstuhl, T., Dulebohn, J. H., Ang, S., & Shore, L. M. (2012). Leader-member exchange (LMX) and culture: A meta-analysis of correlates of LMX across 23 countries. *Journal of Applied Psychology, 97,* 1097-1130. http://dx.doi.org/10.1037/a0029978

Rudolph, C. W., Lavigne, K. N., & Zacher, H. (2017). Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results. *Journal of Vocational Behavior, 98*, 17-34. http://dx.doi.org/10.1016/j.jvb.2016.09.002

Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *Career Development Quarterly, 45,* 247-259. http://dx.doi.org/10.1002/j.2161-0045.1997.tb00469.x

Savickas, M. L. (2005). The theory and practice of career construction. In R. W. Lent & S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 42-70). Hoboken, New Jersey: John Wiley & Sons.

Savickas, M. L., & Porfeli, E. J. (2012). Career adaptabilities scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior, 80,* 661-673. http://dx.doi.org/10.1016/j.jvb.2012.01.011

Savickas, M. L. (2013). Career construction theory and practice. In R. W. Lent & S. D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 147-183) (2nd ed.). Hoboken, New Jersey: John Wiley & Sons.

Seers, A. (1989). Team-member exchange quality: A new construct for role-making research. *Organizational Behavior and Human Decision Processes, 43,* 118-135.

http://dx.doi.org/10.1016/0749-5978(89)90060-5

Sears, G. J., & Hackett, R. D. (2011). The influence of role definition and affect in LMX: A process perspective on the personality-LMX relationship. *Journal of Occupational and Organizational Psychology, 84*, 544-564. http://dx.doi.org/10.1348/096317910X492081

Sibunruang, H., Garcia, P. R. J. M., & Tolentino, L. R. (2016). Ingratiation as an adapting strategy: Its relationship with career adaptability, career sponsorship, and promotability. *Journal of Vocational Behavior, 92*, 135-144. http://dx.doi.org/10.1016/j.jvb.2015.11.011

Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *American Economic Review, 92*(3), 434-459. https://doi.org/10.1257/00028280260136200

Spurk, D., Hirschi, A., & Dries, N. (2019). Antecedents and outcomes of objective versus subjective career success: Competing perspectives and future directions. *Journal of Management, 45*(1), 35-69. https://doi.org/10.1177/0149206318786563

Taber, B. J., & Blankemeyer, M. (2015). Future work self and career adaptability in the prediction of proactive career behaviors. *Journal of Vocational Behavior, 86*, 20-27. http://dx.doi.org/10.1016/j.jvb.2014.10.005

Tjosvold, D. (1984). Effects of leader warmth and directiveness on subordinate performance of a subsequent task. *Journal of Applied Psychology,* 69, 422-427. http://dx.doi.org/10.1037/0021-9010.69.3.422

Tolentino, L. R., Sedoglavich, V., Lu, V. N., Garcia, P. R. J. M., & Restubog, S. L. D. (2014). The role of career adaptability in predicting entrepreneurial intentions: A moderated mediation model. *Journal of Vocational Behavior, 85*(3), 403-412. http://dx.doi.org/10.1016/j.jvb.2014.09.002

Van Vianen, A. E., Shen, C. T., & Chuang, A. (2011). Person–organization and person–supervisor fits: Employee commitments in a Chinese context. *Journal of Organizational Behavior, 32*(6), 906-926. https://doi.org/10.1002/job.726

Wayne, S. J., Liden, R. C., Kraimer, M. L., & Graf, I. K. (1999). The role of human capital, motivation and supervisor sponsorship in predicting career success. *Journal of Organizational Behavior, 20*, 577-595. http://dx.doi.org/10.1002/(SICI)1099-1379(199909)20:5%3C577::AID-JOB958%3E3.0.CO;2-0

Yang, W., Guan, Y., Lai, X., She, Z., & Lockwood, A. J. (2015). Career adaptability and perceived overqualification: Testing a dual-path model among Chinese human resource management professionals. *Journal of Vocational Behavior, 90*, 154-162. http://dx.doi.org/10.1016/j.jvb.2015.08.007

Zacher, H. (2014). Career adaptability predicts subjective career success above and beyond personality traits and core self-evaluations. *Journal of Vocational Behavior, 84*, 21-30. http://dx.doi.org/10.1016/j.jvb.2013.10.002

Zacher, H. (2015). Daily manifestations of career adaptability: Relationships with job and career outcomes. *Journal of Vocational Behavior, 91*, 76-86. https://doi.org/10.1016/j.jvb.2015.09.003

Zacher, H., & Griffin, B. (2015). Older workers' age as a moderator of the relationship between career adaptability and job satisfaction. *Work, Aging and Retirement*, *1*, 227-236. http://dx.doi.org/10.1093/workar/wau009

Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, *12*(4), 695-719. http://dx.doi.org/10.1177/1094428108327450

Table 1

Descriptive Statistics, Reliability Coefficients, and Correlations among Variables in Study 1

	Mean	SD	1	2	3	4	5	6	7
1. Age (T1E)	3.74	1.94	-						
2. Gender (T1E)	1.50	.50	-.04	-					
3. Education (T1E)	4.71	.83	-.47**	-.08	-				
4. Organizational tenure (T1E)	10.82	9.85	.78**	-.03	-.52**	-			
5. Career adaptability (T1E)	3.83	.61	-.11	-.12	.16*	-.05	(.95)		
6. Leader-member exchange (T2S)	4.55	.69	-.17**	-.09	.20**	-.06	.28**	(.90)	
7. Career prospects (T2S)	4.47	.86	-.30**	-.09	.26**	-.19**	.20**	.71**	(.88)

Note. N = 252 employees rated by 69 supervisors. SD = standard deviation; T1E= rated by employee at Time 1; T2S= rated by supervisor at Time 2. Reliabilities are shown in parentheses on the diagonal.
For age (in years): 1 = 21 to 25; 2 = 26 to 30; 3 = 31 to 35; 4 = 36 to 40; 5 = 41 to 45; 6 = 46 to 50; 7 = 51 to 55; 8 =56-60; 9 = 61 or above. For gender: 1= male, 2 = female. For Education: 1 = elementary school; 2 = junior high school; 3 = senior high school; 4 = specialized postsecondary college; 5 = bachelor's degree; 6 =master's degree; 7 = doctor's degree.
*p <.05, **p < .01.

Table 2

Results for the Mediating Effect of LMX in Study 1

Variable	*β*	*s.e.*	*t*
LMX as the Dependent Variable			
Control variables			
Age	-.17*	.09	-2.04*
Gender	-.04	.05	-.83
Education	.12	.06	1.82
Organizational tenure	.17*	.08	2.15*
Independent variable			
Career adaptability	.22**	.05	4.20**
Career Prospects as the Dependent Variable			
Control variables			
Age	-.17**	.06	-2.68**
Gender	-.03	.04	-.65
Education	.04	.06	.62
Organizational tenure	-.02	.07	-.22
Independent variable			
Career adaptability	-.03	.04	-.63
Mediator			
LMX	.66**	.05	13.29**

Note. LMX = Leader-member exchange. *$p < .05$. **$p < .01$.

Table 3

Means, Standard Deviations, and Correlations in Study 2

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Age (T1E)	4.76	1.88	-									
2. Gender (T1E)	1.25	.43	.05	-								
3. Education (T1E)	4.56	.77	-.53**	.12	-							
4. Organizational tenure (T1E)	6.07	5.90	.38**	-.13	-.24**	-						
5. Agreeableness (T1E)	4.04	.66	-.05	.05	-.02	-.13	(.64)					
6. Career adaptability (T1E)	3.99	.45	-.06	.12	.11	.05	.30**	(.80)				
7. Career adaptability (T2E)	3.96	.55	-.10	-.07	.13	-.02	.12	.38**	(.92)			
8. LMX (T1S)	4.23	.57	-.11	-.10	.12	-.03	.06	.25**	.20*	(.86)		
9. LMX (T2S)	4.04	.55	-.04	-.10	.03	.01	.06	.41**	.39**	.47**	(.77)	
10. Career prospects (T2S)	4.00	.65	-.10	-.14	.06	-.11	.08	.27**	.28**	.26**	.63**	(.76)

Note. N = 149 employees rated by 47 supervisors. SD = standard deviation; T1E = rated by employee at Time 1; T1S = rated by supervisor at Time 1; T2E = rated by employee at Time 2; T2S = rated by supervisor at Time 2; LMX = Leader-member exchange; Reliabilities are shown in parentheses on the diagonal.

For age (in years): 1 = under 21; 2 = 21 to 25; 3 = 26 to 30; 4 = 31 to 35; 5 = 36 to 40; 6 = 41 to 45; 7 = 46 to 50; 8 = 51 to 55; 9 = 56-60; 10 = 61 or above. For gender: 1= male, 2 = female. For Education: 1 = elementary school; 2 = junior high school; 3 = senior high school; 4 = specialized postsecondary college; 5 = bachelor's degree; 6 = master's degree; 7 = doctor's degree.

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

Table 4

Test of the Unidirectional Effect from Career Adaptability to LMX in Study 2

	Chi-Square	DF	RMSEA	SRMR	CFI	TLI	AIC	BIC
Autoregressive (Model 1)	136.86	84	0.066	0.078	0.910	0.878	2737.42	2897.79
LMX→T2 CA (Model 2)	133.68	83	0.065	0.072	0.914	0.882	2736.54	2899.88
CA→T2 LMX (Model 3)[a]	124.56	83	0.059	0.066	0.929	0.903	2728.80	2892.14
Fully cross-lagged (Model 4)	123.28	82	0.059	0.061	0.930	0.902	2728.54	2894.85

Note. a = The model with best fit to the data.
N = 149 employees in 47 groups; T1 = Time 1, T2 = Time 2, four months after Time 1; CA = career adaptability;
LMX= leader-member exchange. DF = degree of freedom. CFI = comparative fit index. TLI = Tucker-Lewis index.
RMSEA = root-mean-square error of approximation. SRMR = standardized root-mean-square residual.
AIC = Akaike information criterion. BIC = Bayesian information criterion.
*p <.05, **p < .01.

Table 5

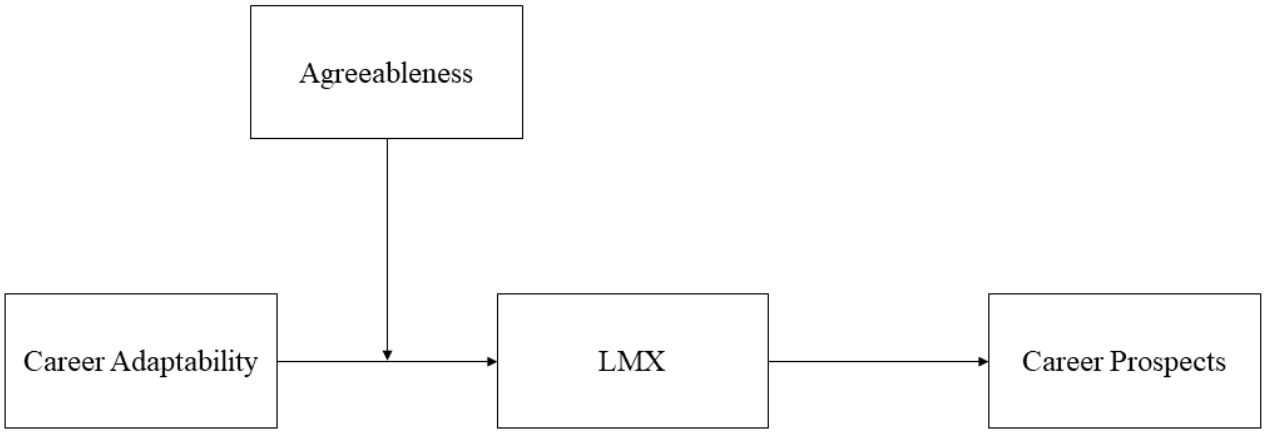
Results for Moderated Mediation in Study 2

Variable	*β*	*s.e.*	*t*
LMX (T2) as the Dependent Variable			
Control variables			
Age	.00	.13	.03
Gender	-.06	.12	-.48
Education	.06	.09	.69
Organizational tenure	.02	.11	.19
Independent variables			
Career adaptability (T1)	.05	.12	.45
Agreeableness	-.47*	.14	-3.45*
Interaction term			
Career adaptability × Agreeableness	.63**	.19	3.24**
Career Prospects (T2) as the Dependent Variable			
Control variables			
Age	.04	.11	.40
Gender	-.10	.10	-.99
Education	.11	.08	1.36
Organizational tenure	-.12	.10	-1.24
Independent variable			
Career adaptability (T1)	.08	.11	.77
Mediator			
LMX (T2)	.42*	.19	2.18*

Note. T1 = Time 1, T2 = Time 2, four months after Time 1; LMX = Leader-member exchange. *$p < .05$. **$p < .01$.

Figure 1

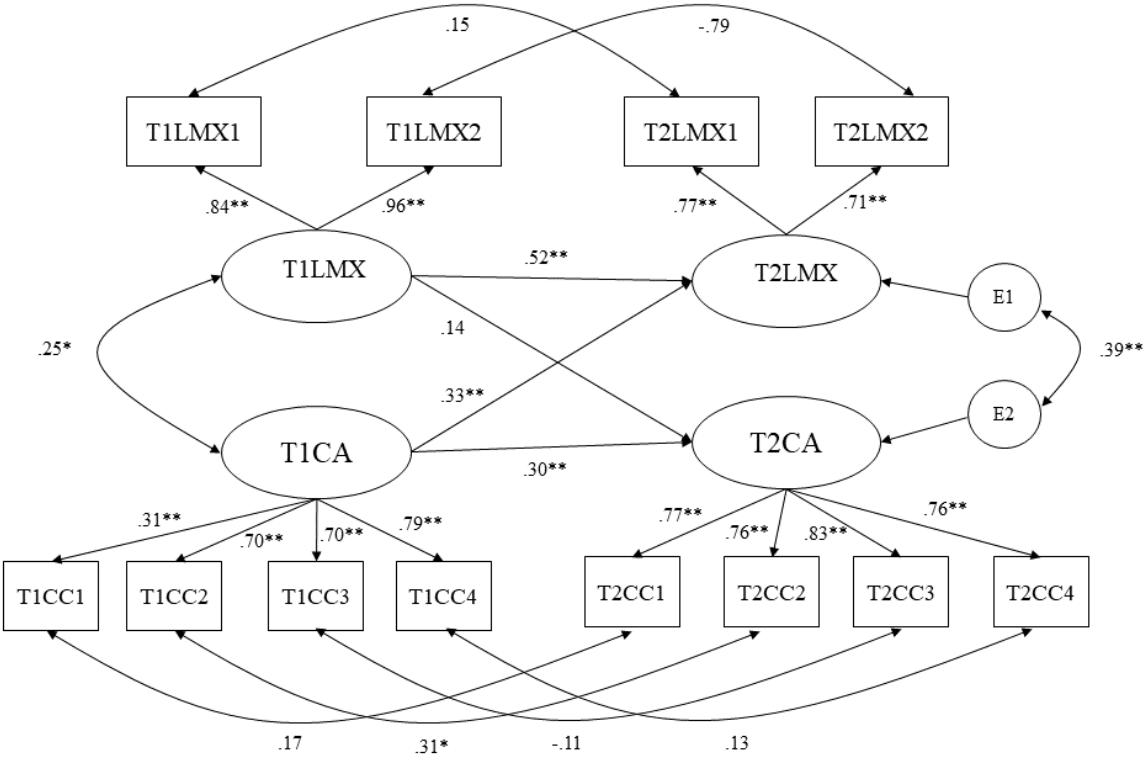
The Proposed Theoretical Model



Note. LMX = Leader-member exchange

Figure 2

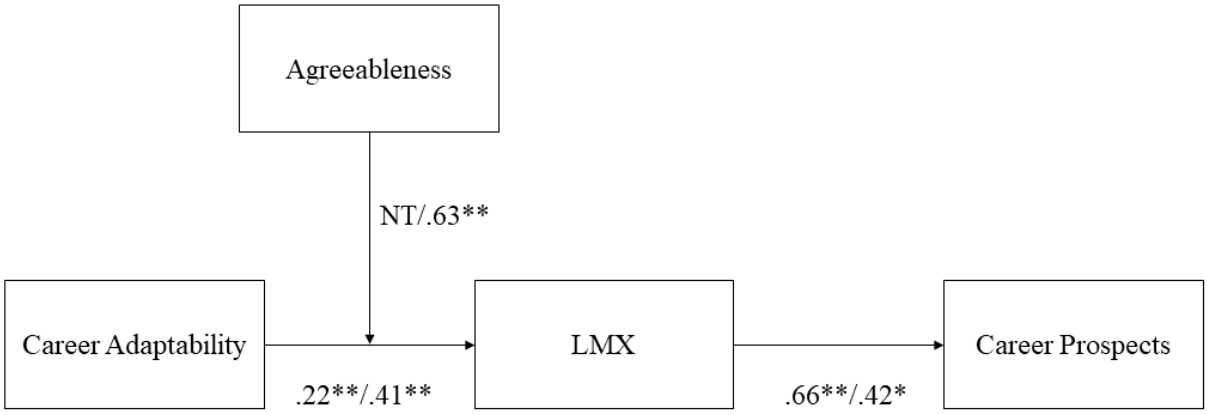
The Unidirectional Relationship Test between Career Adaptability and LMX



Note. N = 149 employees. Standardized path coefficients were reported.
T1 =Time 1, T2 = Time 2, four months after Time 1. CA = Career Adaptability; LMX = leader member exchange. LMX1 = parcel 1 for LMX. LMX2 = parcel 2 for LMX. CC1 = career concern; CC2 = career control; CC3 = career curiosity; CC4 = career confidence.
For the ease of readability, we did not present the path coefficients from the control variables (i.e., age, gender, education, and organizational tenure) in the model.
*p <.05, **p < .01.

Figure 3

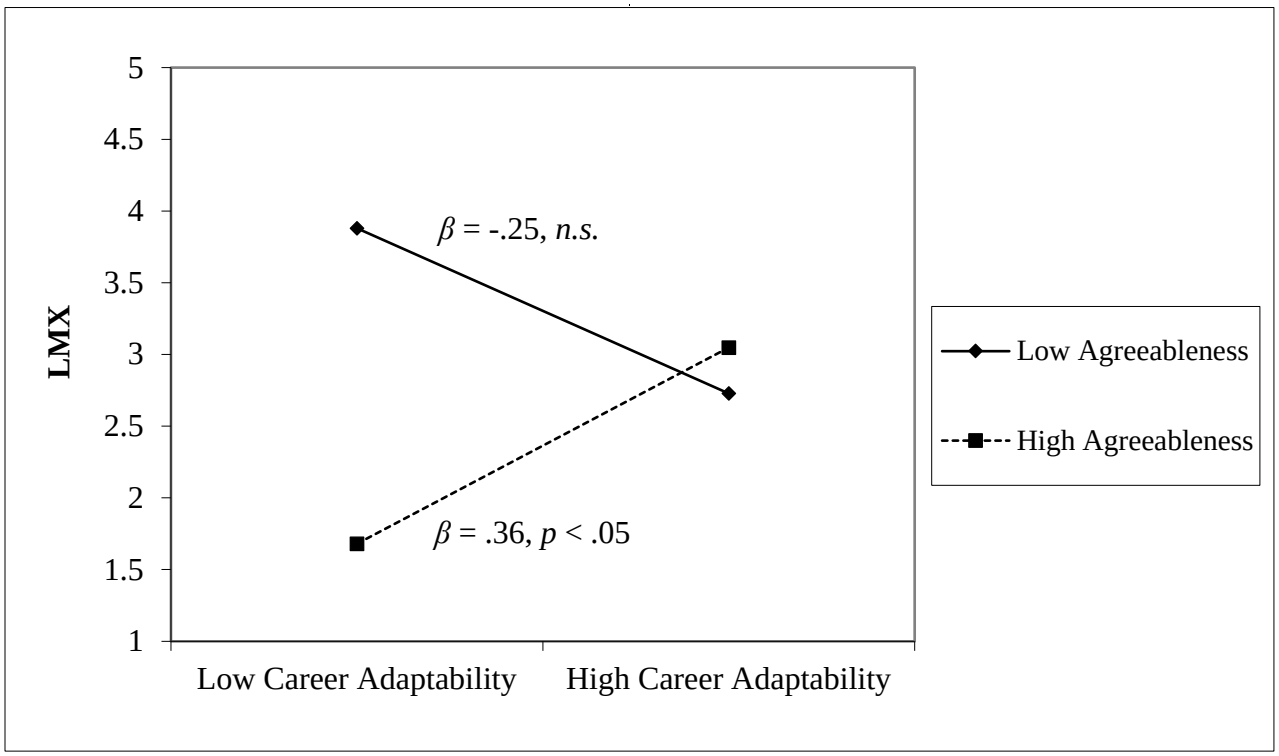
Results of the Mediation Model in Study 1 and Moderated Mediation Model in Study 2



Note. NT = not tested. Path coefficients are reported as "Study 1/Study 2 coefficients".
For the ease of readability, we omitted the path estimates from control variables in the model.
* $p < .05$, ** $p < .01$.

Figure 4

The Interactive Effect of Career Adaptability and Agreeableness onto LMX



Note. LMX = Leader-member exchange.