
describe the mechanisms by which authentic leaders exert their influence on followers' attitudes, behaviors, and performance. Recently, empirical studies have also been conducted to uncover some of the dynamics involved in the AL process (e.g., Walumbwa, Luthans, Avey, & Oke, 2011; Walumbwa et al., 2010). In general, this research supports that AL can motivate and influence follower effectiveness. However, better understanding of the followers' personal and contextual factors that may affect the impact of AL on follower performance is needed.

One suggestion is that authentic leaders develop and influence their followers by invigorating them with positive psychological states, which are conducive to their performance (Gardner & Schermerhorn, 2004). To the extent that employees may differ in the degree to which they are receptive to such influence, we would question whether AL can uniformly impact their followers' performance. This line of questioning stems from the perspective of complementary congruity (Grant, Gino, & Hofmann, 2011; Kiesler, 1983). This theory posits that an individual's (e.g., the leader) capabilities can

Study Hypotheses

On the basis of the theoretical foundation discussed so far, we draw from the four categories of authentic leaders' behaviors that have been identified: balanced processing, internalized moral perspective, relational transparency, and self-awareness (Gardner et al., 2005; Illies et al., 2005; Walumbwa et al., 2008). Balanced processing refers to analyzing all relevant information objectively before making a final decision. Internalized moral perspective involves leadership behaviors with internal moral standards and values, rather than with external pressure such as that from peers, as well as organizational and societal pressures (Gardner et al., 2005). Relational transparency refers to personal disclosures, such as openly sharing information and expressing true thoughts and feelings with followers and relevant others (Walumbwa et al., 2010). Finally, self-awareness means the leaders are able to recognize how followers view their leadership, as well as understand their own motives, strengths and weaknesses. Leaders with high self-awareness enhance their authenticity and effectiveness using both self-knowledge and reflected self-image (Walumbwa et al., 2010). These four theoretically related dimensions have been empirically supported and serve as the basis of a validated measure of AL (Walumbwa et al., 2008; Walumbwa et al., 2010)

Authentic leadership and follower performance

We expect AL to have a positive effect on follower performance. Previous theory building has indicated that authentic leaders can infl

absence of complementarity between leaders' capabilities and characteristics of their followers, leaders may be less influential in that aspect because the need for their development is substantially reduced. On the other hand, when leaders

and followers' performance. Specifically, we noted that AL reflects an interactive and authentic relationship that develops between the leader and followers. This relationship can nourish positive social exchanges by virtue of building credibility and winning the respect and trust of followers (Avolio et al., 2004; Illies et al., 2005; Norman, Avolio, & Luthans, 2010). These exchange relationships seem to result in successful follower performance.

Authentic leadership may be able to influence the development and maintenance of exchange relationships with followers. The components of self-awareness, balanced processing, internalized moral perspective, and relational transparency together demonstrate the integrity, respectability, and trustworthiness of authentic leaders (Illies et al., 2005). These characteristics constitute the central elements of high-quality exchange relationships (e.g., Avolio et al., 2004; Blau, 1964; Illies et al., 2005). First, by eliciting diverse viewpoints from followers, authentic leaders are viewed as showing respect for and trust in each of their followers. This gesture is likely to be reciprocated by respect and trust on the part of followers (Avolio et al., 2004; Norman et al., 2010). Second, authentic leaders are true to themselves and display high levels of moral integrity. Such leaders are viewed by followers as honest and morally worthy, and therefore enhancing followers' trust in the leaders and willingness to cooperate with them (e.g., Clapp-Smith, Vogelgesang, & Avey, 2009; Gardner et al., 2005; Norman et al., 2010). Third, authentic leaders share information with their followers in an open and transparent manner, that is, they transparently convey their attributes, values, aspirations, and weakness to followers, and encourage them to do likewise, thus fostering trust and intimacy with followers (Avolio et al., 2004; Norman et al., 2010). Moreover, relational transparency also means accountability in the relationships with followers (Burke & Cooper, 2006; Illies et al., 2005). Such accountability facilitates a shared understanding about future actions and each party's responsibilities, thus leading to high quality of exchange relationships over time (Burke & Cooper, 2006; Graen & Uhl-Bien, 1995). Taken together, authentic leaders are likely to develop positive social exchanges with their followers. We thus propose the following hypothesis:

Hypothesis 3: AL is positively related to followers' LMX.

of support, guidance, and resources are lacking (Bauer, Erdogan, Liden, & Wayne, 2006). We agree but would also argue that followers with high levels of PsyCap may avail themselves of the benefits of their LMX relationships with the leader to a lesser degree than followers with low levels of PsyCap, and the LMX–performance relationship is thus likely to vary accordingly.

According to previous research (e.g., Bauer et al., 2006; Erdogan & Enders, 2007), the positive association between LMX and performance is due, in part, to the tangible and intangible benefits that followers can gain from a high quality of LMX. These benefits include leaders' behaviors of providing followers job feedback information (Graen & Scandura, 1987), defending them against negative impact and mobilizing task relevant resources for them (Kraimer, Wayne, & Jaworski, 2001). Other benefits of high-quality LMX to followers have been found to be exposing them to valuable social connections or favorable assignments (Sparrowe & Liden, 2005), protecting them from unfairness, encouraging them to take on challenging tasks, or providing them friendliness and affective intimacy (Graen & Uhl-Bien, 1995; Sparrowe & Liden, 1997). In other words, through high or low quality of exchange relationships, leaders create positive or less positive conditions (whether physical or psychological) for followers' functioning (Erdogan & Enders, 2007; Wang et al., 2005), which in turn results in high or low levels of individual performance.

As discussed earlier, PsyCap represents a set of positive psychological resources, which contribute to one's motivational propensity to accomplish tasks and goals. For example, both experimental (Luthans, Avey, Avolio, & Peterson, 2010) and longitudinal (Peterson, Luthans, Avolio, Walumbwa, & Zheng, 2011) studies have

own psychological resources than on the leader and/or the LMX relationship to achieve high levels of performance. Thus, we propose our final study hypothesis as follows:

H pothesis 5b: The mediation of LMX underlies the overall moderating effect of PsyCap on the relationship between AL and follower performance in such a way that AL is positively related to LMX, and the relationship between LMX and follower performance is stronger among followers with low rather than high levels of PsyCap.

Method

Sample and procedure

A total of 801 followers and their immediate leaders from a Chinese logistics firm located in the capital city Beijing were invited to participate in our survey. The company has been established for 18 years, and its business is to collect and deliver parcels for customers. They were told about the objectives and procedures of the survey, and anonymity and confidentiality were assured. Leaders were given the link to get on the website and each received a randomly generated code. This code was used to match the responses of the leaders with their corresponding followers. All 49 leaders and 794 of their followers responded after several rounds of follow-up reminders, yielding very high response rates. In addition to the reminders, the high response rates also occurred because of company sponsorship and the use of work time to complete the survey.

Among the leaders, 69.2 percent of them were male. The mean age was 39 years (ranging from 25 to 54 years old). On average, leaders had 17 years of organizational tenure (ranging from 4 to 36 years). Among the followers, 71.3 percent were male and the mean age was 35 years (ranging from 18 to 56 years old). The average dyadic tenure with their current leaders was 3.3 years ($SD = 3.7$), and on average, they had 7 years of organizational tenure (ranging from 1 to 36 years).

In terms of procedures, the leaders were asked to rate their followers' job performance. Followers, on the other hand, were asked to confidentially rate their leader's AL, LMX, and their own PsyCap.

Measures

Authentic leadership

Authentic leadership was measured using the 16-item Authentic Leadership Questionnaire of Walumbwa et al. (2008), which has been further validated and translated by Walumbwa et al. (2010) for the Chinese context. These analyses confirmed four theoretically related substantive factors including balanced processing (three items), internalized moral perspective (four items), relational transparency (five items), and self-awareness (four items) and when combined indicate a core higher order AL construct. Sample items include "Solicits views that challenge his or her deeply held positions" (balanced processing), "Makes decisions based on his/her core beliefs" (internalized moral perspective), "Is willing to admit mistakes when they are made" (relational transparency), and "Is eager to receive feedback to improve interactions with others" (self-awareness). Responses were based on a 7-point scale ranging from 1 (*total disagree*) to 7 (*total agree*). The coefficient alpha for the current study was .88.

LMX

Leader-member exchange was measured by a 16-item scale initially developed by Liden and Maslyn (1998) and

Table 1. Comparison of measurement models.

Model	Factors	χ^2	<i>df</i>	$\Delta\chi^2$	<i>RMSEA</i>	<i>CFI</i>	<i>TFI</i>
Null		8551.91	120				
Baseline	Four factors	528.89	98		0.07	0.95	0.94
Alternatives							
Model 1	Three factors. Authentic leadership and LMX were combined into one factor	941.01	101	413.12**	0.10	0.90	0.88
Model 2	Three factors. LMX and PsyCap were combined into one factor	1312.13	101	783.24**	0.12	0.86	0.83
Model 3	Two factors. Authentic, LMX, and PsyCap were combined into one factor	1624.81	103	1095.92**	0.14	0.82	0.79

Note: ***p* < .01.
 LMX, leader–member exchange; PsyCap, psychological capital.

Vliert, and Oosterhof (2003), we tested our hypotheses twice. First, we used regular regression analyses, and second, we used hierarchical linear modeling, to examine whether the statistical dependence in AL would affect our results. These analyses generated similar results. Because of space limitations, we only report the results of the regular regression analysis, but the HML data can be provided upon request from the first author.

H hypotheses testing

Table 2 presents the means and standard deviations for all study variables, as well as the inter-correlations between them. Most of the coefficients are moderate in magnitude and well below their reliabilities, providing supportive evidence for their discriminant validity. As shown in Table 2, AL is significantly and positively correlated with LMX (.78, *p* < .01) and performance (.11, *p* < .01), and LMX is significantly correlated with performance (.17, *p* < .01). PsyCap is significantly and positively correlated with AL (.48, *p* < .01), LMX (.48, *p* < .01), and performance (.12, *p* < .01).

We tested Hypothesis 1, 2, 3, and 5a using multiple regression. Table 3 summarizes the results of regression analysis for testing Hypothesis 1 (AL is positively related to follower performance), Hypothesis 2 (followers’ PsyCap negatively moderates this relationship), Hypothesis 3 (AL is positively related to follower LMX), and Hypothesis 5a (followers’ PsyCap negatively moderates the relationship between LMX and performance). We mean

Table 2. Means, standard deviations, and correlations^a.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Gender	0.76	1.27	—							
2. Age	35.53	8.14	-.16**	—						
3. Education	2.14	0.91	.16**	-.31**	—					
4. Tenure	7.03	6.76	-.02	.52**	-.14**	—				
5. AL	5.68	0.95	-.09*	.02	-.07*	-.10**	(.95)			
6. LMX	5.58	1.05	-.07	.02	-.10**	-.08*	.78**	(.96)		
7. PsyCap	4.56	0.61	-.11**	.10**	.00	-.02	.48**	.43**	(.88)	
8. Performance	3.96	0.57	-.06	.10**	-.01	.10**	.11**	.17**	.12**	(.84)

Note: AL; authentic leadership; LMX, leader–member exchange; PsyCap, psychological capital.
^a*n* = 794; reliability coefficients for the scales are in parentheses along the diagonal.
 p* < .05; *p* < .01.

centered the variables that consist of the interaction term in the moderation analysis (Aiken & West, 1996). We entered the control variables (gender, age, education, and organizational tenure) at Step 1, AL at Step 2, and the interaction term between AL and PsyCap at Step 3 in the regression equation with performance as the dependent variable. Model 1 in Table 3 indicates that the R^2 change associated with AL was significant (Step 2, $\beta = .13$, $p < .01$), showing support for Hypothesis 1. The R^2 change was also significant with the addition of the interaction term, indicating the presence of a significant interaction between AL and PsyCap (Step 4, $\beta = -.07$, $p < .05$). Figure 2 illustrates that the pattern of the two-way interaction was consistent with Hypothesis 2, that is, the

with the addition of the interaction term was significant (Step 3, $\beta = -.12$, $p < .01$), showing support for Hypothesis 5a, which hypothesizes that PsyCap moderates the relationship between LMX and performance. To test Hypothesis 3, we entered the control variables at Step 1 and AL at Step 2 with LMX as the dependent variable. Model 3 in Table 3 indicates that the R^2 change associated with AL was signifi

in Figure 3, the relationship between LMX and performance increases as PsyCap decreases, as is hypothesized. Overall, these findings suggest that LMX mediated the relationship between AL and performance, that the relationship between LMX and performance was weakened by the followers' PsyCap, and thus resulted in the hypothesized mediated moderation pattern. In other words, Hypothesis 5b is supported.

As an aside, it should be noted that gender had a significant influence on performance, which is not consistent with previous results. After closely examining the sample in the study, a possible explanation for women getting higher performance evaluations may be because they represented a much smaller proportion (28.7 percent) and/or the women also had on average much longer tenure than their male counterparts.

Discussion

This study examined the role that followers' positive psychological resources (i.e., PsyCap) and relational processes (i.e., LMX), through an integrative, mediated moderation model, may play in the relationship between AL and follower performance. We found that the positive relationship between AL and job performance is moderated by followers' PsyCap. Specifically, the relationship between AL and follower performance is greater among followers

supplementarity approach, wherein the influence of leadership is often potentiated by followers' characteristics, the complementarity perspective offers a neglected insight into the function of leadership and its effectiveness. In addition to personal characteristics such as the PsyCap of followers, future research needs to examine whether work tasks and organizational context may also complement or supplement AL. Such contingency variables

LMX explained additional variance in the dependent variable, beyond what AL explained. Nevertheless, future research could benefit from a longitudinal design and collecting data from multiple sources (e.g., peers or 360-degree feedback).

Another potential limitation is the use of followers' subjective performance ratings obtained from their immediate leaders. For example, Gerstner and Day (1997) reported meta-analytically derived average correlations of .31 between LMX and supervisory ratings of performance, and .11 between LMX and objective measures of employee performance. However, the recent meta-analysis of PsyCap (Avey et al., 2011) did not find a significant difference

moderation analysis showed that AL is positively related to LMX, and consequently followers' performance, to a larger degree among followers who have low rather than high levels of PsyCap. These findings deepen our understanding on the complexities of AL and on how it can be more effectively implemented for followers' improved performance.

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