A MULTI-LEVEL INVESTIGATION OF LEADERSHIP AND TURNOVER BEHAVIOR

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ABSTRACT

This study extends the sparse research on the connection between leadership and follower turnover by investigating the effects of group-level transformational leadership on the withdrawal process. Through an examination of 375 Chinese employees from 96 work groups, we used hierarchical generalized linear modeling (HGLM) analyses to test our proposed model. Findings reveal that, even when we control for the effects of leader-member exchange and contingent reward leadership, transformational leadership predicts turnover through quit intentions. Additionally, our test of cross-level moderation reveals that transformational leadership can weaken the effect of quit intentions on turnover. Thus, employees are less likely to carry out quit intentions when they have transformational leaders.

Key Words: employee turnover, transformational leadership, hierarchical generalized linear modeling
The loss of employees with vital skills or talents can incur sizeable personnel costs (Peterson & Luthans, 2006) and imperil organizational effectiveness, such as decreased customer service (Shaw, Duffy, Johnson, & Lockhart, 2005). Indeed, a one standard deviation increase in turnover rates can depress financial performance by as much as 27% according to a recent estimate (Park & Shaw, 2011). Although currently high unemployment rates are discouraging employees from quitting, forward-looking companies nonetheless are preparing for the eventual pent-up turnover that will arise as the economy recovers (Allen, Bryant, & Vardaman, 2010). By contrast, U.S. multinationals struggle to retain host-country personnel, who increasingly predominate their workforces, especially in countries where talent shortages are acute, such as China and India (Hom, 2011; Wessel, 2011). Given that turnover is an ongoing concern during much of the 20th century as well as the present, it is not surprising that a large body of research (exceeding 1,000 studies) has accumulated on this topic and will continue to do so for the foreseeable future (Griffeth, Hom, & Gaertner, 2000; Holtom, Mitchell, Lee, & Eberly, 2008; Maltarich, Nyberg, & Reilly, 2010).

All the same, the voluminous inquiry into why employees quit has largely dealt with “push-to-leave” forces, such as job dissatisfaction or negative workplace “shocks”—events prompting thoughts of leaving (Lee & Mitchell, 1994); or alternatively, “pull-to-leave” forces, such as job alternatives (Burton, Holtom, Sablynski, Mitchell, & Lee, 2010). Reflecting March and Simon’s (1958) seminal perspective that turnover hinges on movement desirability and ease, this preoccupation nevertheless neglects “pull-to-stay” forces that can induce staying. To more fully understand organizational participation, or why members participate in as well as withdraw from organizations (March & Simon, 1958), contemporary scholars increasingly focus on the motives and psychology of staying that differ from those of leaving (Hom, Mitchell, Lee, &
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Griffeth, 2012; Mitchell & Lee, 2001; Steel & Lounsbury, 2009). This emerging research reveals that pull-to-stay forces can explain unique variance in turnover beyond that of job satisfaction and job alternatives and can even counteract leaving forces (Burton et al., 2010; Mitchell, Holtom, Lee, Sablynski, & Erez, 2001; Ramesh & Gelfand, 2010; Smith, Holtom, & Mitchell, 2011).

Addressing the call to recognize leadership as a “pull-to-stay” force (Harris, Wheeler, Kacmar, 2011; Mitchell et al., 2001), we build on this emerging thinking by examining how transformational leadership may affect the turnover process. Despite the popular adage that “people quit bosses, not jobs” (Buckingham & Coffman, 1999), turnover and embeddedness scholars have paid surprisingly scant attention to leadership antecedents, relative to predictors such as job attitudes and job characteristics (Griffeth et al., 2000; Holtom et al., 2008). Indeed, prevailing turnover theories either omit leadership causes (Hulin, Roznowski, & Hachiya, 1985; Lee & Mitchell, 1994; Mobley, 1977; Price & Mueller, 1981; Rusbult & Farrell, 1983; Steers & Mowday, 1981) or relegate them to distal antecedents (Mobley, Griffeth, Hand, & Meglino, 1979; Steers & Mowday, 1981) reflecting March and Simon’s (1958) enduring legacy. Yet immediate superiors are not only proximal “environmental” cues, but are also chiefly responsible for working conditions highlighted in many theories that impel quit behavior, such as role conflict or low pay (Hom & Griffeth, 1995). Indeed, when asked, leavers often cite unfair or abusive supervision as a prime reason for leaving (Bhattacharya, 2008; Campion, 1991; Holtom, Mitchell, Lee, & Inderrieden, 2005; Tepper, 2000).

Moreover, available turnover scholarship on leadership effects has shown how subordinates’ dyadic relationships with superiors may induce them to stay, although leadership theorists have long conceived a wider array of potential pull-to-stay forces, such as idealized
influence and inspiration (Avey, Hughes, Norman, & Luthans, 2008; Bass, 1985). By comparison, most studies have centered narrowly on how leader-member exchange (LMX), attitudes toward supervisors, or perceived supervisory support sustain loyalty (Dulebohn, Bommer, Liden, Brouer, & Ferris, in press; Griffeth et al., 2000; Harris, Kacmar, & Witt, 2005; Harris et al., 2011; Holtom et al., 2008; Hom, 2011; Maertz & Griffeth, 2004; Vandenberghe, Bentein, & Stinglhamber, 2004). Further, turnover researchers have primarily conceptualized and measured leadership influences on leaving at individual levels of analysis, neglecting potential unit-level leadership effects (Bass & Riggio, 2006; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996).

Moving beyond these limitations, our investigation contributes to both turnover and leadership literatures in the following ways. First, we ascertain whether unit-level leadership antecedents are related to turnover intentions and subsequent turnover. Improving upon prior attrition tests on dyadic leader-follower relationships (Dulebohn et al., in press; Griffeth et al., 2000), we examine whether unit-level transformational leadership predicts follower actual turnover via quit intentions, while controlling for effects of LMX, a prime embodiment of dyadic leadership influences (Ballinger, Lehman, & Schoorman, 2010; Harris et al., 2011). In so doing, we extend transformational leadership research, which has dealt predominantly with how transformational leadership drives follower performance per se (e.g., Judge & Piccolo, 2004). Ideally, effective organizations (and leaders) should induce individuals to both remain employed with the firm and contribute to its success (March & Simon, 1958).

Second, we demonstrate how leaders may disrupt the translation of followers’ quit intentions into actual turnover behavior. Recent research documents that pull-to-stay forces, such as job embeddedness, not only reduces turnover but also prevents “shocks” from evolving into
quitting behavior (Burton et al., 2010; Trevor & Nyberg, 2008). Shocks are critical events, such as pregnancy or disruptive organizational change, that prompt deliberations about leaving according to the unfolding model (Lee & Mitchell, 1994). Across multiple samples and studies, accumulated evidence reveals that shocks precipitate turnover more than does dissatisfaction, typically accounting for over 60 percent of all quitting behavior (Weller, Holtom, Matiaske, & Mellewigt, 2009). While transformational leadership behavior cannot block all shocks from occurring, many of which are beyond leaders’ control (e.g., spousal relocations; Lee, Mitchell, Wise, & Fireman, 1996), leadership actions may still moderate how quit intentions impact actual subsequent turnover. Our study thus extends the scant inquiry into factors moderating the imperfect relationship between quit intentions and turnover (Allen, Weeks, & Moffitt, 2006) by considering leadership as a moderator. Figure 1 displays the model guiding our research, portraying transformational leadership as a unit-level determinant associated with actual turnover via quit intentions. Further, this model depicts interactive effects, in which transformational leadership moderates the relationship between quit intentions and turnover.

Transformational Leadership as a Unit-level Leadership Antecedent

Mitchell et al. (2001: 1116) recognized that supervisors represent a vital mechanism that can potentially deter followers from forming quit intentions or acting on those intentions. They asserted that “having a great boss may be hard to give up”, although the proliferating work on job embeddedness has neglected leadership influences (Felps, Mitchell, Hekman, Lee, Holtom, & Harman, 2009; Holtom, Burton, & Crossley, 2012; Jiang, Liu, McKay, Lee, & Mitchell, in
Remarkably, the capacity of transformational leadership to reduce turnover has long been overlooked, despite its well-established potent effects on individual and group performance (Judge & Piccolo, 2004; Lowe et al., 1996). Transformational leaders arouse greater follower motivation by displaying individualized consideration toward followers’ developmental needs, eliciting creative ideas for problem-solving through intellectual stimulation, and inspiring followers (by communicating compelling visions) to put the needs of the greater collective ahead of their own (Bass, Avolio, Jung, & Berson, 2003). With that said, the nature of the relationship between transformational leadership and turnover is yet to be described theoretically and tested empirically.

Specifically, transformational leadership may embed followers via greater job fit and links (Mitchell & Lee, 2001) and induce relational identification (Sluss & Ashforth, 2008). For example, transformational leadership theory (Bass, 1985; Bass & Avolio, 1994) posits that through idealized influence, followers identify with leaders’ values and goals. Greater value congruency between followers and leaders promote person-job fit, and thus, staying behavior (Mitchell & Lee, 2001). Moreover, transformational leaders help forge stronger links to the organization by expressing individualized consideration toward followers, who then feel more trust and loyalty to leaders. Quite likely, transformational leaders uniformly show individualized consideration across members of an entire collective. By way of attributed charisma, followers also develop higher admiration and trust for leaders (Judge & Piccolo, 2004), forming stronger relational identification (Sluss & Ashforth, 2007).

Such relational identification can, in turn, generalize to organizational identification since followers are likely to view transformational leaders as corporate representatives (Sluss & Ashforth, 2008). Specifically, these leaders encourage entire collectives of individuals to
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internalize and pursue corporate objectives, direction, and vision (Kozlowski & Ilgen 2006). They inspire followers to subordinate personal goals by instilling a collective sense of mission or purpose with which they can identify, and thus, adopt group or organizational goals as their own. This inspiration is strengthened by leaders’ espousal of attractive visions that appeal to followers’ values (Shamir, House, & Arthur, 1993). Greater person-organizational fit in terms of goals and values should, in turn, reinforce staying (Kristof-Brown, Zimmerman, & Johnson, 2005; Mitchell & Lee, 2001).

In support of this notion, Waldman, Siegel, and Javidan (2006) showed how transformational leaders promote firms’ corporate social responsibility, which enhances firms’ reputations in the eyes of followers and appeal to followers’ values, thereby promoting organizational identification (Carmeli, Gilat, & Waldman, 2007). Given this leader-to-firm identity generalization (Sluss & Ashforth, 2008), we thus suggest that transformational leaders may induce their collective of followers to have strong personal links to both them and the organizations that they represent. Accordingly, followers should be less likely to form quit intentions, and subsequently engage in quit behavior. Consequently, we predict:

Hypothesis 1: Transformational leadership will predict voluntary turnover via quit intentions.

Transformational Leadership as a Moderator of Intention-Turnover Relationships

Despite pull forces to stay that transformational leadership exerts, we note that other work and non-work factors may concurrently act to increase turnover intentions and subsequent turnover behavior. That is, regardless of relational attachment to leaders or collective identification that transformational leaders engender, common well-documented push-and-pull forces to leave, such as job dissatisfaction or job alternatives (March & Simon, 1958), can still trigger turnover intentions, and thus, actual turnover (Griffeth et al., 2000; Maltarich et al., 2010;
Mitchell & Lee, 2001). Nevertheless, quit intentions do not inevitably translate into higher quit behavior. While deemed by virtually all turnover models as the most proximal antecedent of leaving (Hom & Griffeth, 1995), quit intentions typically account for only 14 percent of the variance in actual turnover behavior (Griffeth et al., 2000). To explain such modest intention-behavior congruence, some investigators have documented how unemployment (Hom, Caranikis-Walker, Prussia, & Griffeth, 1992) and personality traits, such as risk aversion (Allen et al., 2006), can dissuade prospective leavers from enacting their intentions. Such moderator research remains sparse and, to date, centered on conditions outside of employers’ control, or unavoidable turnover (Barrick & Zimmerman, 2005). To deepen our insight into why quit intentions do not necessarily culminate in actual quits, we thus explore how transformational leadership can moderate the intention-turnover relationship.

Toward this end, we use a multi-level approach to examine whether unit-focused transformational leadership can deter individual followers who form quit intentions (irrespective of how they originated) from exiting. That is, these leadership processes may buffer against push- or pull-forces for leaving that initiate cognitions about leaving. Wang and Walumbwa (2007) reported that strong transformational leadership can weaken the effects of work-family conflict, which can drive work withdrawal behaviors by inducing job dissatisfaction (Hom & Kinicki, 2001). Albeit suggestive, their findings illustrate the potential for leaders to ameliorate the influence of dissatisfying or “shocking” work conditions on actual turnover behavior.

To clarify how this process may unfold, as already noted, followers often encounter various workplace events or conditions that can activate turnover intentions, potentially leading to subsequent turnover behavior. Turnover research reveals that negative job characteristics (e.g., routine job tasks), unfair reward systems, employment alternatives, and workplace change can
trigger deliberations about leaving (Burton et al., 2010; Holtom et al., 2005). Independent of the pull-to-stay effects of leadership, such push-to-leave forces can prompt follower quit intentions. To illustrate, Nishii and Mayer (2009) found that age diversity within departments still increased group turnover, although the average LMX within departments lessened turnover.

Transformational leaders might reframe how followers interpret or make sense of push-to-leave forces. Through inspirational appeals, transformational leaders might talk optimistically and confidently about the unit’s future, despite the disaffection and turnover intentions that these forces can precipitate. Additionally, strong attachment to both the leader and firm that transformational leadership foments could weaken the effects of quit intentions on actual quits. Thus, even if quit intentions arise due to push-to-leave forces, transformational leaders may assuage employees’ concerns and persuade them to give up their plans to exit. In support of this notion, collective sense-making studies have suggested that positive cues from the social environment can promote loyalty. Specifically, employees apparently “readily infer good things are happening in the organization” (Liu, Mitchell, Lee, Holtom, & Hinkin, in press) when observing or conversing with coworkers who express favorable views about the job or participate in, rather than withdraw from, the organization (Felps et al., 2009).

In sum, the aforementioned discussion explains how push-to-leave forces can engender quit intentions among followers, even though they may have transformational leaders. Our goal is not to catalogue the myriad of causes that can precipitate turnover cognitions. Rather, we suggest that transformational leadership can lessen the chances that quit intentions will progress into actual leaving, regardless of how such intentions emerge. We contend that unit-level transformational leadership may reduce the prospects of turnover actually materializing as a result of initial turnover intentions. In sum, our arguments suggest that:
Hypothesis 2: Transformational leadership will attenuate the relationship between quit intentions and voluntary turnover.

METHOD

Participants and Procedures

We collected data from a large hospitality organization in the People’s Republic of China. We invited all groups in the organization to participate in a survey process and distributed confidential questionnaires to participants (i.e., group members). All completed surveys were sent directly to one of the authors in postage-paid envelopes. Participants reported on supervisors’ transformational leadership, contingent reward, LMX, and their own organizational commitment and quit intentions, along with their demographic information.

In the organization, the average group size was 5.22, ranging from 3 to 14 group members per supervisor. We obtained usable data from 375 subordinates (response rate = 72%) in 96 out of 100 groups in the organization. On average, 3.91 subordinates (SD = .83) completed the survey per group, ranging from 3 to 6 members. Given that the average group size in the organization was 5.22, the within-group response rate was estimated to be 75% (i.e., 3.91/5.22). Among our participants, the average age was 26.97 (ranging from 17 to 48); average organizational tenure was 2.0 years (ranging from .08 to 5); 38% were male; 46% held a high school diploma, 46% held an associate’s degree, and 9% had a bachelor’s degree. To check sample representativeness, we compared the demographic data of respondents with those of the overall workforce. There were no significant differences in age, gender, education, and organizational tenure.

Measures

Study respondents used a 7-point Likert scale ranging from 1 (strongly disagree) to 7
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(Strongly agree) to answer questions assessing quit intentions, organizational commitment, and LMX. A 5-point scale ranging from 0 (not at all) to 4 (frequently, if not always) was used to answer questions assessing transformational leadership and contingent reward. We presented items in both English and Chinese. A Chinese version of the Multi-Factor Leadership Questionnaire (MLQ) Form 5X (Avolio & Bass, 2004) was obtained from Mind Garden, Inc., which owns the copyright. For the rest of the study’s measures, the method of back-translation (Brislin, 1980) was used to translate items from English to Chinese.

**Transformational leadership.** Transformational leadership was assessed with the MLQ-5X (Avolio & Bass, 2004). We used a referent-shift consensus composition approach to modify the original scale items (Chan, 1998; Sch riesheim, Wu, & Scandura, 2009). The 20-item transformational leadership measure includes items, such as “Our supervisor emphasizes the importance of having a collective sense of mission” and “Our supervisor talks optimistically about the future of our work group.” The dimensions and coefficient alphas for the measure were idealized attribution (.78), idealized behavior (.80), inspirational motivation (.81), intellectual stimulation (.78), and individualized consideration (.84).

Because transformational leadership is multidimensional, we conducted a confirmatory factor analysis (CFA) to test whether a second-order factor underlies the sub-dimensions. In this test, we specified the 20 items to load on the respective five dimensions of transformational leadership and treated the five dimensions as latent indicators of a higher-order leadership factor. CFA results showed that the fit indices fell within an acceptable range ($\chi^2 = 366.86$, $df = 149$, CFI = .95, RMSEA = .06, SRMR = .03), suggesting that the data were consistent with a higher-order factor structure. All factor loadings of the five dimensions on the higher-order factor were significant ($p < .01$). As such, there is statistical justification for treating transformational
leadership as a global construct, and our results accord with earlier studies (Kirkman, Chen, Farh, Chen, & Lowe, 2009; Wang, Law, Hackett, Wang, & Chen, 2005). Coefficient alpha was .89.

**Quit intentions.** In line with the Chinese cultural emphasis on maintaining harmony and avoiding confrontation (Gelfand, Nishii, Holcombe, Dyer, Ohbuchi, & Fukuno, 2001; Liu, Friedman, & Chi, 2005), our survey included items assessing intentions to stay rather than quit intentions. We used Tsui, Egan, and O Reilly’s (1992) questions “I desire and intend to remain at my organization” and “I intend to continue working at my organization for the rest of my career or until retirement.” To be consistent with our hypotheses and prior research (Griffeth et al., 2000), we reverse-scored items so that higher scale scores reflect higher quit intentions ($\alpha = .75$).

**Voluntary turnover.** Nine months after survey completion, we obtained turnover information from the organization’s Human Resources Department. In line with Abelson’s (1987) model, and because voluntary, avoidable turnover is a superior criterion for testing prevailing turnover models that emphasize pull-to-stay forces (Hom & Griffeth, 1995; Mitchell & Lee, 2001; Tharenou & Caulfield, 2010), we focused on voluntary, avoidable turnover (cf. Barrick & Zimmerman, 2005). We coded 1 for voluntary, avoidable turnover and 0 for all others.

Of the 375 study participants, 46 (12%) had left the organization for voluntary, avoidable reasons (i.e., better pay or job/career development elsewhere) nine months after survey administration. We repeated our tests with an additional 11 unavoidable turnover cases (e.g., spouse relocation). Findings revealed that both sets of results were comparable. Therefore, findings reported in the Results section are from analyses using voluntary, avoidable turnover.

Of the 96 groups included in the data, three supervisors left the organization nine months after survey completion. Because researchers have suggested that leadership succession may
impact employee turnover intentions (e.g., Ballinger et al., 2010), we tested our hypotheses using the data including these three groups, as well as the data excluding these three groups. The two sets of results were comparable. To preserve all data points, test results reported in the Method and Results sections are from analyses using the data with 375 subordinates in 96 groups.

**Control variables.** We included several potentially relevant control variables in our analyses. First, research has established that organizational commitment is associated with intentions to quit and actual turnover (Griffeth et al., 2000; Mathieu & Zajac, 1990). We therefore controlled organizational commitment, which was measured by using the shortened organizational commitment scale developed by Mowday, Steers, and Porter (1979). The 6-item scale contains such sample items as “I really care about the fate of my organization,” and “I am willing to put in a great deal of effort beyond that normally expected in order to help my organization to be successful.” Coefficient alpha was .88.

Second, scholars have argued that transformational leadership builds upon the foundation of transactional leadership, and that this augmentation effect should be separately examined (Bass, 1999; Judge & Piccolo, 2004; Waldman, Bass, & Yammarino, 1990). Furthermore, in the case of turnover, transactional leaders who form clear exchanges with followers, in terms of what they can receive for their efforts, may be able to reduce turnover intentions (Bycio, Hackett, & Allen, 1995). Therefore, we investigated an augmentation effect of transformational leadership by controlling the more positive aspect of transactional leadership, contingent reward, at the group level (cf. Judge & Piccolo, 2004). Contingent reward was measured with four items from the MLQ-5X (Avolio & Bass, 2004). We used a referent-shift consensus composition approach to modify the original scale items (Chan, 1998; Schriesheim et al., 2009). Sample items are “Our supervisor provides members with assistance in exchange for our efforts” and “Our supervisor
expresses satisfaction when our work group meets expectations.” Coefficient alpha was .76.

Third, LMX scholars have long promulgated that high LMX employees are likely to become attached to their organization because they are integrated within the leader’s personal network (Sparrowe & Liden, 2005), receive higher support, and experience greater growth opportunities in their organizations (Liden, Wayne, & Sparrowe, 2000). Thus, given greater career and performance outcomes, these members should be less prone to form quit intentions (Bauer, Erdogan, Liden, & Wayne, 2006; Harris et al., 2011). In addition to individual-level studies, Nishii and Mayer (2009) found that high average LMX within work groups diminishes retention and the deleterious impact of demographic diversity (a source of conflict and disunity) on retention. Given such effects, we also controlled group-level LMX.

Accordingly, LMX was collected using Liden and Maslyn’s (1998) 12-item, LMX-multidimensional scale (LMX-MDM). Examples of LMX-MDM are “My supervisor would defend me to others in the organization if I made an honest mistake” and “I do not mind working my hardest for my supervisor.” The LMX-MDM dimensions (and respective coefficient alphas) were affect (.70), loyalty (.77), contribution (.70), and professional respect (.78). We conducted a CFA to test whether the four LMX-MDM dimensions reflect a common higher-order factor. CFA results showed that all fit indices fell within an acceptable range ($\chi^2 = 72.95$, $df = 46$, CFI = .95, RMSEA = .04, SRMR = .04), sustaining a second-order factor model. All four dimensions also significantly loaded on the higher-order factor ($p < .01$). As such, LMX was treated as a global construct, as in some previous studies (e.g., Erdogan & Enders, 2007; Kamdar & van Dyne, 2007). Coefficient alpha was .84.

We also tested the discriminant validity between transformational leadership and LMX. That is, we compared a second-order factor model in which the covariance between two higher-
order factors (i.e., transformational leadership and LMX) was fixed to unity to a model in which their covariance was freely estimated. The chi-square difference test revealed that the former model fit the data significantly worse than the latter model, upholding two distinct leadership constructs ($\Delta \chi^2 = 184.69, \Delta df = 1, p < .001$). All factor loadings of the respective first-order factors on the higher-order factors were significant ($p < .01$).

Fourth, because previous research has shown that employee age, organizational tenure, and gender predict turnover intentions and actual turnover (Griffeth et al., 2000; Hom, Roberson, & Ellis, 2008), we also controlled these demographic attributes.

**Validation of Multilevel Data Structure**

To assess the appropriateness of aggregating individual scores for transformational leadership, contingent reward, and LMX to the group level, we examined intraclass correlations (i.e., ICC(1) and ICC(2)) and within-group agreement (i.e., $r_{WG(j)}$). For transformational leadership, ICC(1) was .64 and ICC(2) was .87. For contingent reward, ICC(1) was .27 and ICC(2) was .60. For LMX, ICC(1) was .50 and ICC(2) was .80. With regard to contingent reward, although the ICC(2) was lower than desired, the ICC(1) was well above the recommended median of .12 (cf. Kirkman et al., 2009). The low ICC(2) for contingent reward may be due in part to the small group sizes in the sample (Bliese, 2000; Bliese, Halverson, & Schriesheim, 2002).

Further, we found very strong within-group agreement for transformational leadership (mean $r_{WG(j)} = .99$), contingent reward (mean $r_{WG(j)} = .98$), and LMX (mean $r_{WG(j)} = .98$) when a rectangular (uniform) null distribution was assumed (LeBreton & Senter, 2008). Given that the rectangular (uniform) distribution is known to yield an upper bound estimate, we also computed a lower bound estimate using an alternative null distribution (James, Demaree, & Wolf, 1984).
We selected a slightly skewed distribution ($\sigma^2 = 2.9$), given that a positive leniency of participant responses could be expected. Results continued to suggest strong agreement for transformational leadership (mean $r_{WG(j)} = .99$), contingent reward (mean $r_{WG(j)} = .97$), and LMX (mean $r_{WG(j)} = .97$). In total, we demonstrated sufficient statistical justification for aggregation of the transformational leadership, contingent reward, and LMX measures.

**Data Analyses**

Given the multi-level nature of our data, we tested our proposed model using hierarchical linear modeling (HLM) analyses with the HLM 6.0 program (Raudenbush & Bryk, 2002). Because voluntary turnover is a binary variable, when appropriate, we tested our hypotheses using hierarchical generalized linear modeling (HGLM; Raudenbush & Bryk, 2002). The HGLM procedure offers a coherent modeling framework for binary outcomes with a Bernoulli distribution and logit link (Raudenbush & Bryk, 2002). Prior to analyses, we grand-mean centered the group-level independent variables and group-mean centered the individual-level independent variables (Hofmann & Gavin, 1998).

To test multilevel mediation, we used Zhang, Zyphur, and Preacher’s (2009) CWC(M) procedure (i.e., centered within context and reintroduced subtracted means at Level 2) to examine the mediation effects for the 2-1-1 model (i.e., Hypothesis 1). This approach increases the precision of testing multi-level mediation because one can avoid confounding between-group and within-group mediation effects (Zhang et al., 2009). A mediated model is fully supported if the indirect effect (i.e., average CWC(M) Sobel statistic) is statistically significant (Sobel, 1982; Zhang et al., 2009). To test interaction effects (i.e., Hypothesis 2), we followed the approach of Liao, Liu, and Loi (2010). To avoid confounding cross-level and between-group interactive effects, we included the group-level interaction between transformational leadership and group-
mean quit intentions (Hofmann & Gavin, 1998).

**RESULTS**

Table 1 presents the means, standard deviations, coefficient alphas, and intercorrelations among study variables. Two descriptive findings are worth noting. First, the quit rate of 12% (or an annualized 16% quit rate) is within the range recommended by Griffeth et al. (2000). Second, group-level transformational leadership, contingent reward, and LMX show negative correlations with quit intentions and actual turnover.

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Insert Table 1 about here
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To test our proposed model involving mediation and moderation, as shown in Table 2, we first entered all the control variables in Models 1 and 3 for the respective outcome variables (i.e., quit intentions and voluntary turnover). Following Zhang et al.’s (2009) CWC(M) approach, we then entered transformational leadership (TFL) in Models 2 and 4, as well as quit intentions (QI), TFL, and group-level quit intentions (GQI) in Model 5. In addition, similar to Liao et al.’s (2010) approach, we entered the between-group interaction (i.e., TFL*GQI) and the cross-level interaction (i.e., TFL*QI) in Model 5 (Hofmann & Gavin, 1998). To examine the robustness of our results, we also included the between-group interaction between LMX and group-mean quit intentions (i.e., LMX*GQI), as well as the cross-level interaction between LMX and quit intentions (i.e., LMX *QI) in Model 5.¹

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Insert Table 2 about here
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Indirect Effects of Transformational Leadership on Turnover via Quit Intentions

Hypothesis 1 proposes that transformational leadership predicts voluntary turnover via quit intentions. As shown in Table 2, results from testing Model 2 indicate that the relationship between TFL and QI is negative ($\gamma = -0.60, p < .001$). Further, the Model 4 test reveals that the relationship between TFL and voluntary turnover is negative ($\gamma = -1.12, p < .05$). As shown by the results of Model 5, both individual-level QI ($\gamma = 4.30, p < .001$) and group-level QI ($\gamma = 2.85, p < .001$) are related to voluntary turnover. However, TFL ($\gamma = -0.26, p > .05$) is not associated with voluntary turnover. The average CWC(M) Sobel tests also indicate that the indirect effect of transformational leadership on voluntary turnover (via QI) is significant ($z = 2.89, p < .01$).

Therefore, Hypothesis 1 is supported. It is noteworthy that: (a) age is negatively related to QI as shown in Models 1-2; (b) there are negative relationships between organizational commitment with QI and voluntary turnover as shown in Models 1-4; (c) contingent reward is negatively related to voluntary turnover as shown in Model 3; and (d) LMX is negatively related to QI and voluntary turnover as shown in Models 1 and 3.

Moderating Effects of LMX and Transformational Leadership

Hypothesis 2 proposes that transformational leadership moderates the relationship between quit intentions and voluntary turnover. As shown in Table 2, the results of Model 5 indicate that the cross-level interaction between TFL and QI is significant ($\gamma = -4.69, p < .05$), affirming Hypothesis 2. We included between-group interactions (TFL*GQI; $\gamma = 1.09, p > .05$) to control for potential confounding effects on the substantive cross-level interactive effects (Hofmann & Gavin, 1998). As shown further by Model 5 results in Table 2, the proportional reduction in Level 1 error variance is .46, indicating that, compared to a fully unconstrained model, our model explained 46% additional variance in voluntary turnover (Luke, 2004). It is
noteworthy that, as shown in Model 5, the between-group interaction between LMX and group-mean quit intentions (i.e., LMX*GQI) is negative ($\gamma = -3.69, p < .05$), implying that the positive relationship between group-mean quit intentions and voluntary turnover is reduced when group-level LMX is high.

As a supplemental analysis, we tested a model that omitted transformational leadership’s between-group (i.e., TFL*GQI) and cross-level interactions (i.e., TFL*QI) from Model 5. This model test reveals significant variance in the Level 1 slopes relating quit intentions to voluntary turnover ($\tau = .09, p < .05$), as opposed to that in Model 5 ($\tau = .06, p > .05$). The proportional reduction in variance for the slopes relating quit intentions to voluntary turnover is .34 (i.e., [.09-.06]/.09), indicating that transformational leadership explains 34% of the slope variability (Raudenbush & Bryk, 2002).

To further interpret moderating effects, we plotted voluntary turnover probability against quit intentions for high and low levels of transformational leadership (i.e., one standard deviation above and below zero; Aiken & West, 1991). Figure 2 shows that the relationship between quit intentions and voluntary turnover changes as a function of transformational leadership, such that the relationship is weaker when transformational leadership is high. Taken together, our findings confirm Hypothesis 2.

DISCUSSION

We extend prior research pertaining to leadership and turnover behavior by demonstrating how group-level transformational leadership is related to both quit intentions and
behavior, even after controlling group-level contingent reward leadership and LMX. Thus, the augmentation effect of transformational leadership on follower performance (cf., Waldman et al., 1990) generalizes to follower retention. We further add to both turnover and transformational leadership literatures by showing that turnover intentions mediate the group-level effects of transformational leadership on actual individual-level turnover.

Our investigation confirms Mitchell and colleagues’ (2001) longstanding speculation that leadership can be an important link that embeds employees. But beyond the achieving of high quality relationships with followers, transformational leadership may reinforce workforce retention via other processes. This finding is important because Ballinger et al. (2010) recently established that followers having high LMX relationships may actually quit if their leaders leave. Conceivably, even if transformational leaders were to exit the organization (or move to another unit), their departure may not necessarily prompt followers to quit, given that such leaders may promote intense on-the-job ties among followers (cf. Carmeli, Ben-Hador, Waldman, & Rupp, 2009), identification with the collective mission, and optimistic expectations about their future prospects in the organization (Liu et al., in press). At this point, we concede that our explanation is speculative, but is nevertheless consonant with our evidence that transformational leadership enhances loyalty, even when LMX is controlled.

We further demonstrated a cross-level moderating effect on the part of transformational leadership that attenuated the relationship between followers’ quit intentions and actual turnover. Such moderation suggests that prospective leavers are less liable to quit when supervisors display transformational leadership toward their unit. Despite the direct loyalty-sustaining effect of supervisory behavior (i.e., transformational leadership), we recognize that followers are still vulnerable to other push and pull forces for leaving. Nonetheless, we found that transformational
leaders can lessen the likelihood that such push- and pull-to-leave factors will actually translate into higher turnover. We speculate that enhanced commitment to the corporate mission and goals, bonding social capital (Carmeli et al., 2009), and positive social cues (Liu et al., in press) that are fostered by transformational leadership may discourage prospective leavers from following through on initial intentions to quit that might arise from push- and pull-to-leave factors.

In total, our findings support emerging research that embedding forces can attenuate the loyalty-dissipating effects of events that prompt thoughts of leaving (Burton et al., 2010; Mitchell & Lee, 2001). Mitchell et al. (2001) proposed job embeddedness as an overarching construct that captures various pull-to-stay forces, although omitting or downplaying leadership variables. Our demonstration that transformational leadership moderates the relationship between quit intentions, the immediate consequence of shocks or job dissatisfaction, and actual quitting behavior extends prior evidence that job embeddedness can prevent shocks from engendering turnover intentions and behaviors (Mitchell & Lee, 2001).

Moreover, we advance the sparse research on moderators of quit intention-behavior relationships, which hitherto examined joblessness rates or personality traits (Allen et al., 2006; Hom et al., 1992). Prevailing theoretical views simplistically presume that intentions are the most proximate determinant of turnover (Mobley, 1977; Mobley et al., 1979; Price & Mueller, 1981, 1986; Rusbult & Farrell, 1983). Consequently, these perspectives largely neglected or underspecified factors that can disrupt intention-to-act transmission. To illustrate, Mobley and colleagues (1979) underscored methodological moderators, such as measurement correspondence and time lags between intention and behavioral measures. By identifying a new substantive moderator (i.e., transformational leadership), we thus fill a theoretical void in
deciphering why some prospective leavers ultimately stay, as well as identify a means by which organizations can offset push- and pull-forces for leaving, including those that they may not easily control (Barrick & Zimmerman, 2005). Indeed, our cross-level moderating effect due to transformational leadership is remarkably strong compared to typical moderator effect sizes in field research (e.g., Aguinis, Beaty, Boik, & Pierce, 2005).

**Strengths, Limitations, and Future Research**

Our research has several strengths. Specifically, we used survey methods to assess leadership and turnover intentions, while incorporating an objective index of turnover obtained nine months after survey completion. We also extend past work on leadership and turnover by demonstrating group-level leadership effects. Although both leadership and quit intentions were based on ratings from subordinates, and single-source bias is not fully controlled with an HGLM approach, we analyzed transformational leadership at the group level and quit intentions at the individual level. Moreover, single-source or method bias is less problematic with moderator analyses. Indeed, based on prior work (Evans, 1985; Siemsen, Roth, & Oliveira, 2010), Podsakoff, Mackenzie, and Podsakoff (2012: 564-565) recently concluded that such bias “cannot inflate (but does deflate) quadratic or interaction effects. Consequently, if a study is designed to test hypotheses about quadratic or interaction effects, … then method bias would not be able to account for any statistically significant effects observed.”

With that said, we acknowledge shortcomings that additional research might address. First, we did not directly assess push- and pull-to-leave forces that could induce turnover intentions. Future research might actually model these forces (i.e., both work and non-work phenomena) to pinpoint the effects that leadership processes might best counteract. For example, subsequent research might assess work shocks, such as job stress or pay inequity, or non-work
shocks, such as spousal relocations or unsolicited job offers (Holtom et al., 2008; Lee et al., 1996).

Second, the work of Preacher, Rucker, and Hayes (2007), although focused at a single level of analysis, would imply a potential curvilinear effect for the independent variable in a mediated model (such as ours), whereby it also moderates its indirect effect on a dependent variable. Applied to the current research, a curvilinear, indirect relationship between transformational leadership and turnover through quit intentions may exist. Specifically, at high levels of transformational leadership, its negative effect on turnover (through quit intentions) may be weaker, as compared to lower levels of transformational leadership, where such effects may be stronger. Conceivably, there could be diminishing returns for transformational leadership as the various processes (e.g., collective identification, bonding social capital) that it induces reach their peak. Alternatively, transformational leaders may increase the job performance of followers via expanded developmental opportunities (intellectual stimulation) or mentoring (individualized consideration). As followers develop into high performers and accumulate more ability to make job or career changes (Trevor, 2001), they become more attractive to other employers, and thus, may voluntarily leave (Harris et al., 2005; Sturman, Shao, & Katz, 2012). In sum, following Harris et al.’s (2005) exploration into curvilinear LMX effects, we encourage additional research into potential curvilinear effects of transformational leadership on turnover.²

Third, although our theory suggested additional variables (e.g., identification processes) as potentially mediating relationships between transformational leadership and quit intentions, we did not measure them directly. To more precisely support our theory, future research might model and assess mediating mechanisms between transformational leadership and quit intentions. Along the lines of prior embeddedness research (e.g., Burton et al., 2010; Mitchell &
Lee, 2001), further inquiry might also directly assess job embeddedness and contrast its relative moderating effects against that of leadership as a pull-to-stay force.

Fourth, given that social ties and obligations govern their actions, citizens of collectivist societies (Gelfand, Bhawuk, Nishii, & Bechtold, 2004) may feel greater allegiance to their leader, as compared to individualist nationals (Ramesh & Gelfand, 2010). That is, they are more loyal to people (including leaders) than to faceless institutions. To generalize our Chinese findings to other cultures, we recommend following Ramesh’s (2007) example. Specifically, she recruited matched occupational samples from different cultures to evaluate cross-cultural moderation. As an important feature of her approach, she measured individual differences in cultural values to assess whether moderating effects are consistent within and between countries.

We also recommend examining transformational leadership at higher management levels, which may affect employees’ turnover differently, as compared to such leadership at lower levels of supervision. Conceivably, firms with transformational leaders at the upper echelons may also experience lower, overall workforce attrition. Specifically, executives can make strategic choices or implement strategy in a manner that lessens the impact of potentially threatening organizational events (Finkelstein, Hambrick, & Cannella, 2009). For example, when companies undergo considerable change, upper echelon transformational leaders can position or communicate change in such a way that lower-level employees perceive it as less risky and threatening. In turn, both quit intentions and actual quits may be reduced.

In closing, our findings add to the leadership literature suggesting the value of selecting and developing transformational leaders, including at lower management levels. Rather than focus on oft-examined, performance outcomes (cf. Judge & Piccolo, 2004), we demonstrated the potential value of transformational leadership in relation to turnover intentions directly, and
actual turnover indirectly. We also found that such leadership can moderate relationships between quit intentions and actual turnover. Thus, we prescribe transformational leadership at lower levels of supervision as a vital pull-to-stay force reinforcing job incumbency. As we have argued, transformational leaders inspire self-sacrificial efforts by followers on behalf of the larger collectivity and give greater meaning to their work lives, thereby sustaining their loyalty. In conclusion, our research demonstrated the direct role of transformational leadership in retaining followers, as well as showing how it can prevent followers who form quit intentions (arising from numerous potential reasons) from actually leaving.
REFERENCES


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Greenwich, CT: JAI Press.

Leadership and turnover


FOOTNOTES

1 We thank an anonymous reviewer for this suggestion.

2 We thank an anonymous reviewer for pointing out this issue to us.
Table 1

Means, Standard Deviations, and Intercorrelations among Study Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M^a$</th>
<th>$SD^c$</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual-level variables $^a$</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Age (years)</td>
<td>26.97</td>
<td>5.86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Organizational tenure (years)</td>
<td>2.00</td>
<td>1.11</td>
<td>.38*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Sex $^b$</td>
<td>.62</td>
<td>.49</td>
<td>.04</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Organizational commitment</td>
<td>5.73</td>
<td>.48</td>
<td>.21**</td>
<td>.06</td>
<td>-.06</td>
<td>(.88)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Quit intentions</td>
<td>2.05</td>
<td>.49</td>
<td>-.21**</td>
<td>-.11*</td>
<td>-.05</td>
<td>-.45**</td>
<td>(.75)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Voluntary turnover</td>
<td>.12</td>
<td>.33</td>
<td>-.02</td>
<td>-.09</td>
<td>-.01</td>
<td>-.19**</td>
<td>-.45**</td>
<td>.19**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Group-level variables $^c$</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Leader-member exchange</td>
<td>5.66</td>
<td>.32</td>
<td>.13*</td>
<td>.13**</td>
<td>.07</td>
<td>.50**</td>
<td>-.39**</td>
<td>-.19**</td>
<td>(.84)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Contingent reward</td>
<td>3.06</td>
<td>.32</td>
<td>.13**</td>
<td>.10</td>
<td>.07</td>
<td>.47**</td>
<td>-.32**</td>
<td>-.20**</td>
<td>-.47**</td>
<td>(.76)</td>
<td></td>
</tr>
<tr>
<td>9. Transformational leadership</td>
<td>3.25</td>
<td>.46</td>
<td>.13*</td>
<td>.14**</td>
<td>.03</td>
<td>.53**</td>
<td>-.52**</td>
<td>-.27**</td>
<td>-.59**</td>
<td>.59**</td>
<td>(.89)</td>
</tr>
</tbody>
</table>

Note. $^a N = 375$ individuals. $^b 0 = male; 1 = female. ^c N = 96 groups.$

Values in parentheses and on the diagonal represent coefficient alphas for the individual-level scales and group-level scales. Scores for group-level variables were calculated as group-level means, assigned back to individuals. Significance levels of zero-order correlations between individual- and group-level variables should be interpreted with caution.

* $p < .05$, ** $p < .01$. Two-tailed tests.
### Table 2

Results of HLM Analyses: Main and Interactive Effects

<table>
<thead>
<tr>
<th>Variables</th>
<th>Quit Intentions (^a)</th>
<th>Voluntary Turnover (^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
<td>Model 2</td>
</tr>
<tr>
<td>Intercept</td>
<td>2.10***</td>
<td>2.10***</td>
</tr>
<tr>
<td><strong>Level 1 variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.01*</td>
<td>-.01*</td>
</tr>
<tr>
<td>Organizational tenure</td>
<td>-.01</td>
<td>-.01</td>
</tr>
<tr>
<td>Sex</td>
<td>-.07</td>
<td>-.07</td>
</tr>
<tr>
<td>Organizational commitment</td>
<td>-.48***</td>
<td>-.48***</td>
</tr>
<tr>
<td>Quit intentions (QI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Level 2 variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingent reward</td>
<td>-.24</td>
<td>-.03</td>
</tr>
<tr>
<td>LMX</td>
<td>-.48**</td>
<td>.03</td>
</tr>
<tr>
<td>TFL</td>
<td>-.60***</td>
<td></td>
</tr>
<tr>
<td>Group-level QI (GQI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Between-group interaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFL * GQI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX * GQI</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cross-level interaction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TFL * QI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LMX * QI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(R^2)</td>
<td>.25</td>
<td>.36</td>
</tr>
</tbody>
</table>

**Note.**  
\(N = 375\) individuals and 96 groups.  
TFL = transformational leadership, LMX = leader-member exchange.

\(^a\)Using hierarchical linear modeling, unstandardized coefficient estimates with robust standard errors are reported.  
\(^b\)Using hierarchical generalized linear modeling, the coefficients are unit-specific estimates with robust standard errors.  
\(^c\)\(R^2\) is the proportional reduction of prediction error for level-1 (compared to a fully unconstrained model; Luke, 2004).

\(^* p < .05, ~** p < .01, ~*** p < .001. \) Two-tailed tests.
Figure 1

Proposed Model

Transformational Leadership

Quit Intentions

Voluntary Turnover
Figure 2

Cross-Level Moderating Effects of Transformational Leadership on the Quit Intentions—Voluntary Turnover Relationship

- High Transformational Leadership
- Low Transformational Leadership