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Transformational Leadership and Work-Related Attitudes: The Moderating Effects of Collective and Self-Efficacy Across Cultures

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In this study, we examined how collective and self-efficacy moderated the influence of transformational leadership on followers' work-related attitudes (i.e., organizational commitment and job satisfaction) using hierarchical linear modeling. Data for this study were collected from 37 bank branches and 644 individuals in China (n = 208), India (n = 194), and the United States (n = 242). Results revealed that transformational leadership and efficacy beliefs were positively related to followers' work-related attitudes. Aggregated collective and self-efficacy moderated the relationship between transformational leadership and followers' work-related attitudes. Limitations of the study and implications of these findings for practice and research are discussed. Key words: Transformational leadership, efficacy beliefs, and work attitudes.

Efficacy beliefs have been a focus of organizational research for nearly three decades (Bandura, 1986, 1997, 2000; Luthans, 2002a, 2002b). Over this time period, efficacy beliefs have been related to a number of important individual, group and organizational outcomes (see Stajkovic & Luthans, 1998; Gully, Incalcaterra, Joshi, & Beaubien, 2002, for reviews). Although the independent effects of leadership and efficacy on important organizational outcomes are each well established, there has been practically no examination of their potential interactive effects.

The purpose of this study was to examine their interactive effects using data collected from China, India, and the United States banking sector.

The theory of charismatic/transformational leadership (e.g., Bass, 1985; Shamir, House, & Arthur, 1993) as well as empirical studies (e.g., Chen & Bliese, 2002; Kark, Shamir, & Chen, 2003; Kirkpatrick & Locke, 1996; Walumbwa, Wang, Lawler, & Shi, 2004) suggest that efficacy beliefs would mediate the relationship between transformational leadership and work-related attitudes, while leaving the interactive effects of these two constructs. To pursue this suggestion, we investigated the role of both collective and self-efficacy in moderating the relationship of transformational leadership with two key work-related attitudes: organizational commitment and job satisfaction.

Social identity theory (Ashforth & Mael, 1989) suggests that individuals categorize themselves and others on the basis of how closely their individual characteristics match their prototype of others. In a leadership situation Shamir et al. (1993) suggests that the decision to follow a leader is an active process, based on the extent to which the leader is perceived as representing the followers' perceptions and values. Such perception of the leader, we argue, can occur only when the values of the followers and the leader are compatible. This view is in line with recent theoretical work by Lord and colleagues (e.g., Lord & Brown, 2001; Lord, Brown, & Freiberg,

1999) and empirical work by Walumbwa, Lawler, and Avolio (2005) who have argued that leadership is most effective when there is a match between the perceptions and values stressed by leaders and the cognitive structures held by followers. We suggest here that efficacy beliefs may moderate the impact of transformational on followers' work-related attitudes. Specifically, when followers' are more efficacious, they are more susceptible to the impact of a transformational leader because such cognitive state is congruent with transformational leadership behavior. Thus, consistent with Jex and Bliese (1999), we view efficacy beliefs as contextual variables impacting the relationship between transformational leadership and followers' work attitudes—a type of analysis that is noticeably missing in leadership research.

Defining Efficacy at Two Levels of Analysis

Self-efficacy represents an individual's belief in his or her capabilities to successfully accomplish a specific task or set of tasks (Bandura, 1986). Bandura (1997) suggests that self-efficacy plays a significant role in task-related performance by influencing an individual's choice, effort, and persistence. The positive effect of self-efficacy on performance has been supported by individual and meta-analytic studies conducted across a wide variety of settings and tasks (see Stajkovic & Luthans, 1998). Indeed, the link between efficacy, effort and performance is perhaps one of the best established relationships in the behavioral sciences.

Riggs, Warka, Babasa, Betancourt, and Hooker (1994) defined collective efficacy as each individual's assessment of their group's collective capability to perform job-related behaviors. Gully et al. (2002) suggested that efficacy perceptions reside within individuals, and therefore must be measured at the individual level and aggregated to the collective or group level. We use this definition recognizing there is still a lack of agreement in terms of how collective efficacy should be operationally defined and measured (Bandura, 1997).

Like self-efficacy, evidence from past research suggests that collective efficacy is positively related to performance, problem solving, and work-related attitudes (Gully et al., 2002). Yet, prior research has not examined the independent and interactive effects of collective and self-efficacy with work-related attitudes. Neither has there been sufficient research linking leadership style to each level of efficacy and/or their combined effects in terms of their relationship to work-related outcomes.

Extending Work Across Cultures

There has been little research that has examined the effects of efficacy beliefs and leadership style on work-related attitudes across different national cultures (Gibson, 1999; Lam, Chen, & Schaubroeck, 2002; Schaubroeck, Lam, & Xie, 2000). Because efficacy has typically been defined as a state versus a trait, it is likely that it can be affected by the context or culture in which an individual is embedded in over time. To the extent that a person's efficacy is moderated by aspects of the cultural context and the individual's cultural orientation, how leadership is moderated by efficacy across cultures is potentially an important issue for generalizing work on efficacy across different cultural settings. In a global business context, determining the best ways to lead a more diverse workforce must take into consideration how both leadership style and motivation are moderated across different cultural settings (Walumbwa & Lawler, 2003). Consequently, understanding the effects of cultural context on individual and group processes is important for understanding the intercultural applicability and impact of collective and self-efficacy to organizations residing across different cultural settings (Gibson, 1999).

Comparisons Across Three Cultures

The U.S. represents a well-developed economy and a culture that is highly individualistic. China is among the world's most rapidly developing economies and is predominantly characterized as a collectivist society (Triandis, 1995). China is now experiencing rapid growth and emerging as a major global economic power that attracts increasing levels of foreign investment. With its

entry into the World Trade Organization, China will become increasingly integrated into the global market and will become attractive to foreign investors interested into the huge potential of the Chinese market and workforce.

Indigenous approaches to management in China involve mainly those of state-owned enterprises and Chinese family owned enterprises (Chen, 1995). Neither of these systems provides a model particularly appealing to multinational companies (MNCs), at least those based in Western countries. State enterprises are highly bureaucratic and also are interlaced by informal social networks and personal connections (i.e., *gaunxi*); private-sector family enterprises are typically paternalistic and autocratic, with *gaunxi* also playing a significant role and giving rise to highly particularistic personnel decisions (Farh & Cheng, 2000). However, Chinese culture is widely believed to be changing, particularly in rapidly growing and more affluent urban areas. Chinese workers, particularly younger ones who have grown up since China began to introduce market reforms in the late 1970s, are said to be more individualistic and less respectful of and deferential to those in positions of authority (Ralston, Holt, Terpstra, & Yu, 1997). Thus, to be effective, the contemporary organizational leader in China may well need to rely on developing approaches such as transformational leadership to earn the respect of his or her subordinates.

India is also considered a predominantly collectivist and hierarchical society (Triandis, 1995). Although its growth rate is somewhat less than China's (currently around 6%), India has been quite successful since significantly opening and working to globalize its economy in the early 1990s. India also presents attractive investment opportunities to multinationals, and not just in low wage industries. India is fast becoming a leader in software development and other aspects of information technology, with high-technology clusters in Bangalore. Many American informational technology companies, such as Intel, Microsoft and Sun Microsystems, have interests in India and an increasing presence of Western multinationals can be expected in coming years. Moreover, with growing foreign direct investment in India, managers of American-based and other

multinationals should also be concerned with the relevance and transferability of leadership styles such as transformational to India.

Transformational Leadership, Self-Efficacy and Work-Related Attitudes

Bass and Avolio (1994) conceptualized transformational leadership as consisting of charisma (idealized influence), inspirational motivation, intellectual stimulation, and individualized consideration. Over nearly 20 years, those leaders rated higher on these transformational leadership components by their followers have been associated with generating higher levels of effort, commitment, satisfaction, and work performance both at individual and collective levels (Avolio, Bass, Walumbwa, & Zhu, 2004; Judge & Piccolo, 2004). The consistency in the pattern of positive results associated with transformational leadership is similar to the results produced over the last three decades examining collective and self-efficacy. Indeed, the meta-analytic results linking transformational leadership to performance outcomes parallels the results that have been reported by Stajkovic and Luthans (1998). Specifically, Stajkovic and Luthans (1998) reported the relationship between self-efficacy and work-related performance collected and aggregated across 114 studies produced a strong positive relationship between self-efficacy and work-related performance ($r = .38$). Subsequent meta-analyses focusing on experimental interventions where self-efficacy was manipulated and performance was used as a dependent variable replicated earlier findings (Chen, Casper, & Cortina, 2001).

Determinants of Self-Efficacy

Bandura (1986) has posited four categories of the determinants of self-efficacy, including enactive mastery (actual performance or beliefs about performance), modeling (vicarious experience), verbal persuasion, and physiological (emotional) arousal. Although these determinants of self-efficacy generally parallel the qualities of transformational leadership, to date there has been no conclusive empirical evidence supporting the interactive effects of transformational leadership with self-

efficacy on followers' work-related outcomes. Nonetheless, we draw on existing empirical studies and self-concept theory (Pratt, 1998) to support potential positive interaction effects between leadership and self-efficacy on performance outcomes.

An assumption underlying self-concept theory is that employees who view their work environment (i.e., leadership style) as self-congruent will be more motivated, satisfied and will perform better (Bono & Judge, 2003). Research on transformational leadership (e.g., Bass, Avolio, Jung, & Berson, 2003; Dvir, Eden, Avolio, & Shamir, 2002) and self-efficacy (e.g., Stajkovic & Luthans, 1998) indicates that employees working with transformational leaders and who are high on self-efficacy are more committed, motivated, satisfied, and perform much better. This preliminary evidence indicates that we might gain a better understanding of the effects of transformational leadership by considering its interactive effect with self-efficacy. Specifically, we suggest that transformational leadership is likely more effective when followers' self-concepts are linked to the identity stressed by transformational leader, assuming that the identity created by the leader links to effective strategies and their implementation (Lord et al., 1999).

We expect groups of individuals with higher levels of self-efficacy to more readily embrace visionary statements, set higher performance expectations, and to express greater confidence in their abilities to contribute to the mission and goals of the organization. Alternatively, those who are low on self-efficacy might have become disillusioned with leaders who emphasize high vision and communicate high performance expectations. Specifically, by expressing the importance and values associated with desired outcomes in ways that are easily understood and at the same time communicating higher levels of expectation to their followers (Avolio, 1999), a group of followers higher on self-efficacy are more likely to demonstrate higher levels of organizational commitment and job satisfaction. We hypothesize:

Hypothesis 1: The impact of transformational leadership on organizational commitment and job satisfaction is moderated by self-efficacy: When self-efficacy is higher,

transformational leadership has a stronger positive impact on followers' work-related attitudes than when self-efficacy is low.

Transformational Leadership, Collective Efficacy and Work-Related Attitudes

Collective efficacy can influence followers' attitudes in a number of ways (Gully et al., 2002). Bandura (2000) argues that when faced with obstacles, people higher on collective efficacy are more likely to persist in trying to solve problems. There is also research that suggests that collective efficacy is positively related to satisfaction, high performance, shared goals and group goal commitment (see Gully et al., 2002). Like self-efficacy, the majority of research has focused on outcomes of collective efficacy, whereas noticeably less attention has been given to the interactive effects of collective efficacy with leadership in terms of their combined influence on work-related attitudes.

Social identification theory suggests that an individual's belief about a group or organization becomes self-referential or self-defining over time (Pratt, 1998). According to this theory, there are a number of ways transformational leadership can interact with collective efficacy to influence followers' work-related attitudes. For example, by emphasizing the group mission, stressing shared values and ideologies, connecting followers' individual and group interests, transformational leaders provide followers with more opportunities to appreciate group accomplishments and other group members' contributions. In addition, a transformational leader who emphasizes sacrificing for the benefit of the group and demonstrating high ethical standards, which Pratt (1998) has called the 'assumed' and 'transcendent we', is able to uplift the followers' self perspective to engage the higher collective group interests. By providing emotional explanations through such behaviors as making personal sacrifices for the common good, transformational leaders are able to link follower's individual identities to their group's collective identities (Kark & Shamir, 2002), and to demonstrate their beliefs through sacrifice that whatever the mission requires is worth the

effort. We therefore expect individuals who are higher on collective efficacy to respond more positively to transformational leadership because such leaders encourage the common goal for the betterment of the group or organization. On the other hand, those who are lower on collective efficacy may view a transformational leader's efforts to move followers to support the group's initiatives as contradicting their personal interests.

Linking Collective Efficacy to Attribution Theory

According to attribution theory (Martinko, 1995), people make two types of attribution: dispositional and situational. Dispositional attributions ascribe a person's behavior to internal factors such as personality traits or ability, while situational attribution ascribes a person's behavior to external factors such as social influence (i.e., leadership). Martinko and Gardner (1987) described how leaders and followers frequently adopt a causal schema that differs, resulting in different estimates of covariation between the context and dispositions in terms of explaining the cause of events. This dynamic of social influence and dispositions provide a unique opportunity for transformational leaders to highlight how individual qualities integrated together can reinforce higher levels of collective efficacy.

Transformational leaders point out what each individual can contribute to the potential of their group, and by doing so they show how the individual's strengths can be collectively applied to achieve higher levels of performance. For example, by encouraging collaboration and expressing confidence in collective effort, transformational leaders provide those already higher on self-efficacy to value and appreciate one another's unique capabilities and contributions, which should also boost levels of collective efficacy (Avolio & Bass, 1995). As noted above, transformational leaders also work to shift the emphasis from the pursuit of individual interests to fostering cooperation within the group for the good of the group (Bass, 1998). We expect those individuals higher on collective efficacy to view transformational leadership as reinforcing their individual

capabilities and how those capabilities contribute to their collective capacity. We hypothesize:

Hypothesis 2: The impact of transformational leadership on organizational commitment and job satisfaction is moderated by collective efficacy: When collective efficacy is higher, transformational leadership has a stronger positive impact on work-related attitudes than when collective efficacy is low.

Methods

Sample and Data Collection

This study was carried out in 37 different bank branches in China, India, and the U.S., and involved collecting ratings of leadership of unit supervisors, as well as ratings of efficacy beliefs, organizational commitment, and job satisfaction. To complete the questionnaire, an employee must have worked for the branch for not less than 3 months. This was done to ensure sufficient acquaintance of raters with the leadership patterns of their unit supervisors.

In China and India, the survey was administered on-site individually in 23 branches. A senior manager was asked to assist in the initial distribution of the survey; however, the completed surveys were collected by one of the research team members (86% response rate). For China, the survey, which was developed in English, was translated into Chinese using the procedure described by Brislin (1980). A bilingual speaker (the local language and English) performed the initial translation. After this, the questionnaire was given to another bilingual translator, who then back-translated it into English. Any concerns that were raised were resolved.

In the U.S., the survey was sent to potential participants in 14 bank branches in the Midwest through the bank's internal mailing systems. Respondents were provided with confidential envelopes to seal their responses and were asked to return completed surveys directly to the first author (91% response rate). As part of the promise to these respective companies for participation, we reported only aggregated data results to each organization. All participants in this study were informed that completion of the survey was voluntary and that their responses would remain anonymous.

The total number of respondents obtained was 208 in China, 194 in India, and 242 in the U.S. Average age of participants was 34.88 years (China = 32.32, India = 34.12, U.S. = 37.81), and 53% were women (China = 39%, India = 55%, U.S. = 62%). Participants in all three countries were well educated, with more than 95% having completed some college or university degree, with an average organization tenure of 8.29 years (China = 7.56, India = 9.35, U.S. = 8.07).

Measures

Transformational Leadership

Twenty items from the Multifactor Leadership Questionnaire Form 5x (Bass & Avolio, 1995) were used to measure transformational leadership ($\alpha = .95$). Because our hypotheses made no distinction between the component factors of transformational leadership, we combined the four dimensions of transformational leadership into one single factor (Bass, 1998). This combination was further justified by a confirmatory factor analysis (loading items on the four dimensions and the four dimensions on a single factor), which demonstrated a reasonable fit for the data (GFI = .95, CFI = .98, RMSEA = .03). Ratings were completed on a 0-to-4 scale, with 0 representing "Not at all" and 4 representing "Frequently, if not always." Sample item: "Articulates a compelling vision of the future."

Efficacy Beliefs

Efficacy beliefs were measured using items adapted from Riggs et al. (1994). Seven items were used to measure collective efficacy ($\alpha = .79$). Sample item: "The members of this branch have excellent work skills." Self-efficacy was measured using ten items ($\alpha = .77$). Sample item: "I have confidence in my ability to do my job." Responses were made on a 6-point scale (1 = "Very inaccurate" to 6 = "Very accurate").

Organizational Commitment

Organizational commitment ($\alpha = .90$) was measured using 10 items adapted from Mowday, Steers, and Porter (1979). Sample item: "This organization has a great deal of personal meaning for me." Responses were made on a 5-

point scale, with 1 representing "Strongly disagree" and 5 representing "Strongly agree."

Job Satisfaction

We used nine items taken from Smith, Kendall, and Hulin's (1969) Job Descriptive Index (JDI) to measure satisfaction with work in general ($\alpha = .89$). Respondents were asked to circle "yes" (3) if the item described their supervisor or their work, "no" (1) if the item did not, and "?" (2) if they could not decide. Sample item: "My work is fascinating."

Measurement Equivalence Issues

Before conducting our analyses, we examined two major aspects of our data. First, we conducted a confirmatory factor analysis to ensure equality of factor structures across the three samples. Each instrument was examined separately using AMOS maximum likelihood estimation (Arbuckle & Wothke, 1999). The fit indices for restricted models were: GFI = .93, CFI = .96 and RMSEA = .03 for transformational leadership, GFI = .91, CFI = .93, and RMSEA = .04 for self-efficacy, and GFI = .90, CFI = .91, and RMSEA = .05 for collective efficacy, providing evidence for the validity and independence of our measures. Second, we examined the relationship between followers' demographics—age, sex, and organization tenure—and transformational leadership and efficacy beliefs. No significant relationships were found. More specific information regarding these analyses is available from the first author.

Level of Analysis

Organizational commitment and job satisfaction were examined as individual-level variables, because we were interested on how leadership and efficacy beliefs interact to influence their origination, not their emergence to the group-level. Transformational leadership, collective and self-efficacy were treated as group-level variables, because we were primarily interested in examining the aggregated level of individual beliefs across branches—behaviors captured at group-level (see also Bono & Judge, 2003; Kark et al., 2003).

To justify the suitability of aggregating leadership and efficacy at the branch level, we calculated both r_{wg} (James, Demaree, & Wolf,

1993) and intra-class correlations (ICCs) (Bliese, 2000). Average $r_{wg(j)}$ across groups was .91 for transformational leadership, .79 for collective efficacy, and .69 for self-efficacy. The ICC(1) was .40 and ICC(2) = .92 ($F = 4.39, p < .001$) for transformational leadership, ICC(1) = .17 and ICC(2) = .78 ($F = 4.54, p < .001$) for collective efficacy, and ICC(1) = .09 and ICC(2) = .68 ($F = 2.77, p < .001$) for self-efficacy, providing sufficient evidence for both within-group agreement and between-group reliability.

Results

Table 1 summarizes the individual-level means, standard deviations, coefficient alphas, and correlations for all variables investigated in this study. The U.S. means were significantly

higher than the combined means of China and India on self-efficacy ($t = 7.88, p < .0001$), collective efficacy ($t = 5.60, p < .0001$), and job satisfaction ($t = 3.30, p < .001$). There was no significant difference in the means of transformational leadership ($t = .81, p > .10$) and organizational commitment ($t = .73, p > .10$) between the U.S. means and the combined means of China and India. Table 1 also shows that transformational leadership was positively related to self-efficacy and outcome variables in all three samples; the relationship between transformational leadership and collective efficacy was marginally significant in Chinese and Indian samples and insignificant in the U.S. sample. Self-efficacy was positively related to

Table 1: Means, Standard Deviations, and Correlations^a

Variable	Mean	s.d.	α	1	2	3	4
<i>United States (n = 242)</i>							
1. Transformational leadership	2.46	.61	.94				
2. Self-efficacy	4.90	.50	.81	.40**			
3. Collective efficacy	4.89	.72	.81	.08	.24**		
4. Organizational commitment	3.47	.81	.92	.41**	.41**	.15*	
5. Job satisfaction	2.39	.78	.91	.27**	.33**	.10†	.55**
<i>China (n = 208)</i>							
1. Transformational leadership	1.85	.72	.93				
2. Self-efficacy	4.23	.88	.77	.27**			
3. Collective efficacy	4.60	.74	.73	.09†	.07		
4. Organizational commitment	3.26	.64	.87	.42**	.38**	.21**	
5. Job satisfaction	2.06	.60	.88	.47**	.28**	.18*	.56**
<i>India (n = 194)</i>							
1. Transformational leadership	2.95	.67	.90				
2. Self-efficacy	4.40	.88	.77	.27**			
3. Collective efficacy	4.60	.70	.73	.10†	.35**		
4. Organizational commitment	3.60	.81	.85	.33**	.38**	.34**	
5. Job satisfaction	2.40	.55	.85	.37**	.21**	.12*	.42**
<i>China and India Combined (n = 402)</i>							
1. Transformational leadership	2.52	.99	.96				
2. Self-efficacy	4.32	.88	.74	.26**			
3. Collective efficacy	4.55	.72	.74	.10†	.19**		
4. Organizational commitment	3.42	.68	.87	.43**	.39**	.24**	
5. Job satisfaction	2.23	.60	.87	.49**	.27**	.11*	.53**

^aCorrelations are group mean from 37 groups assigned back to individuals. † $P < .10$; * $p < .05$; ** $p < .01$.

organizational commitment and job satisfaction in all samples, whereas collective efficacy was significantly related to organizational commitment and job satisfaction for the Chinese

and Indian samples, and marginally related to job satisfaction in the U.S. sample.

Tests of Hypotheses

We used hierarchical linear modeling (HLM) to analyze our data (see Raundenbush & Bryk, 2002). Country (dummy-coded) was used in all the analyses as a control variable. Any variable used as a component of an interaction term was grand mean-centered, and tests for normality demonstrated no violations for regression assumptions.

Hypotheses 1 and 2 predicted that collective and self-efficacy beliefs will moderate the relationship between transformational leadership and work-related attitudes. As can be seen, Hypothesis 1 was supported. Self-efficacy moderated the relation between transformational

leadership and organizational commitment ($B = .382, p < .03$) and the relationship between transformational leadership and job satisfaction ($B = .257, p < .05$). Hypothesis 2 was also supported. Collective efficacy moderated the relation between transformational leadership and organizational commitment ($B = .242, p < .05$), but marginally moderated the relationship between transformational leadership and job satisfaction ($B = .226, p < .09$). Overall, the inclusion of both the transformational—self-efficacy and transformational—collective efficacy interactions into the equation explained a significant amount of additional variance for organizational commitment ($\Delta R^2 = .08, p < .05$) and job satisfaction ($\Delta R^2 = .06, p = .05$).

Table 2: Results of Moderation Analyses ^a

Variable	Parameter estimate	SE	t-ratio	df	p-value
<i>Organizational Commitment</i>					
Step 1					
Intercept	3.44	.031	110.600	31	.000
Country—China	.135	.141	.963	31	.343
Country—India	.133	.083	1.622	31	.117
Transformational leadership	.563	.133	4.249	31	.000
Self-efficacy	.359	.107	3.348	31	.003
Collective efficacy	.205	.077	2.656	31	.013
Step 2					
Intercept	3.435	.030	115.740	29	.000
Country—China	.216	.139	1.533	29	.131
Country—India	.079	.078	1.009	29	.322
Transformational leadership	.582	.129	4.531	29	.000
Self-efficacy	.257	.107	2.410	29	.023
Collective efficacy	.222	.112	1.991	29	.054
Transformational leadership x self-efficacy	.382	.169	2.263	29	.031
Transformational leadership x collective efficacy	.242	.120	2.017	29	.051
<i>Job Satisfaction</i>					
Step 1					
Intercept	2.284	.026	87.797	31	.000
Country—China	.081	.108	.749	31	.459
Country—India	.153	.138	1.105	31	.270
Transformational leadership	.377	.124	3.047	31	.005
Self-efficacy	.205	.082	2.499	31	.018
Collective efficacy	.257	.123	2.084	31	.046
Step 2					
Intercept	2.284	.025	89.596	29	.000
Country—China	.101	.108	.399	29	.693
Country—India	-.009	.076	-.130	29	.898
Transformational leadership	.390	.129	3.028	29	.006
Self-efficacy	.132	.067	1.972	29	.048
Collective efficacy	.132	.073	1.816	29	.069
Transformational leadership x self-efficacy	.257	.126	2.049	29	.049
Transformational leadership x collective efficacy	.226	.135	1.673	29	.094

^a Transformational leadership, self- and collective efficacy are mean-centered.

To further explore these moderating effects, we plotted regression lines for those scores one standard deviation above and below the mean on self (collective) efficacy beliefs. Results are

shown in Figure 1a for organizational commitment and Figure 1b for job satisfaction. The plots of the interaction terms indicated the relationships of transformational leadership with

both organizational commitment and job satisfaction was each more positive as the level of both collective and self-efficacy increased. Thus, the plotted interaction effects provided further support for Hypotheses 1 and 2.

Results from descriptive statistics revealed that the means of collective and self-efficacy differed significantly for the U.S. and the combined Chinese and Indian samples. This added to the fact that these countries represent two distinct cultures (Hofstede, 1980), we performed further analyses to examine whether the U.S. and the combined Chinese and Indian sample differed significantly regarding the effect of transformational leadership—efficacy beliefs interaction. To do this, we conducted a three-way interaction where we added country dummy. A result from the three-way interaction involving transformational leadership, self-efficacy and country dummy was not significant ($\Delta R^2 = .00$, n.s.). Similarly, the interaction involving transformational leadership, collective efficacy, and country dummy was not significant ($\Delta R^2 = .00$, n.s.). These findings suggest that, in the present study, country had little influence on our results; however, we can not completely rule out the influence of national culture.

Discussion

Although both transformational leadership and efficacy beliefs have been independently linked to positive organizational outcomes in a variety of settings (Avolio et al., 2004; Gully et al., 2002; Stajkovic & Luthans, 1998; Judge & Piccolo, 2004), previous research has not fully considered their interaction effects on followers' work-related outcomes. Our study integrated these two important concepts to identify both their independent and joint effects in predicting followers' work-related attitudes. These results extend the literature on leadership and motivation by showing that transformational leadership and efficacy beliefs are contingently, rather than independently, related to followers' work-related attitudes. That is, collective and self-efficacy are collectively important to explaining the relationships between transformational leadership and followers' work-related outcomes. Additionally, the findings suggest that, although conceptually unique (Bandura, 1997), collective and self-

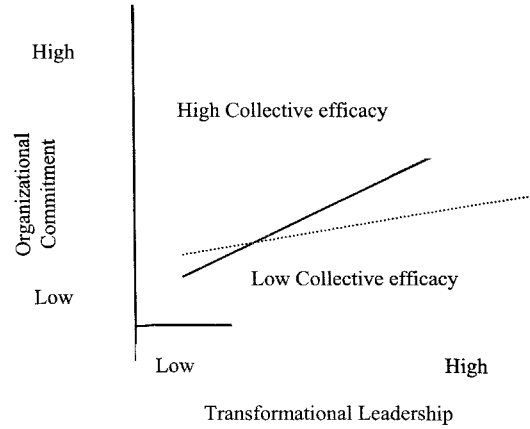
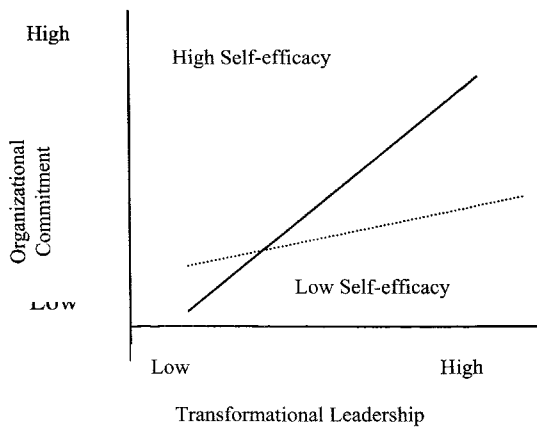
efficacy may be affected by each other over time in terms of their combined impact on performance outcomes.

Results from analyses examining the moderating effects of collective and self-efficacy showed that both variables had modest relationships with transformational leadership—work-related attitudes. Specifically, both collective and self-efficacy moderated the relationship between transformational leadership and organizational commitment and between transformational leadership and job satisfaction. As shown in Figure 1, for respondents who reported higher levels of collective and self-efficacy, transformational leadership was more positively related to both organizational commitment and job satisfaction. Perhaps this can be explained by the fact that transformational leaders are more challenging and demanding in terms of their expectations of followers (Avolio, 1999; Bass, 1998). Thus, the effects of such leadership would be expected to be magnified for those followers at the highest levels of collective and self-efficacy. At the very least, these findings indicate that the starting point for transformational leadership may differ depending on the levels of collective and self-efficacy in the units they lead. This may help explain some of the variation in transformational leadership and performance outcome relationships noted in prior meta-analyses of the transformational leadership literature (Dumdum, Lowe, & Avolio, 2002).

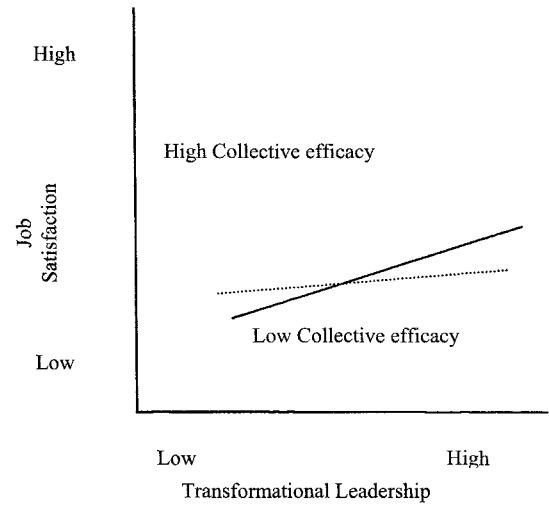
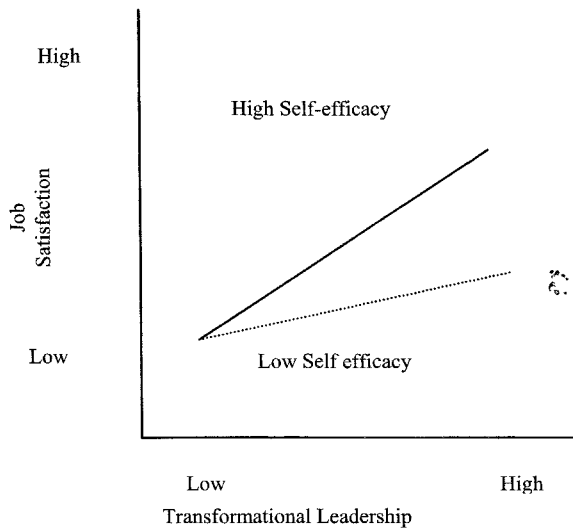
Our results also suggest that efficacy plays a complex, but important role in transformational leadership influence on followers. Specifically, the positive interactions observed between transformational leadership and efficacy beliefs suggest that a combination of efficacy beliefs (self and collective) may engender the greatest level of organizational

Figure 1. Plot of the Interaction between Transformational Leadership and Efficacy Beliefs

1a. Organizational Commitment



1b. Job Satisfaction



commitment and job satisfaction. Individuals with higher levels of collective and self-efficacy, potentially developed by the leader interacting with followers over time would according to transformational leadership theory be expected to make the greatest contribution to worker attitudinal outcomes. An interesting avenue for future research to pursue is to track this impact over time with followers who are initially at lower levels of collective and self-efficacy to see whether the boosts in their efficacies by working with a transformational leader translates into the same effects observed in the current cross-sectional study. One might argue that a more effective route to boosting the self-efficacy of

each follower is to assure that the collective efficacy of his or her peers is sufficiently high enough to boost the individual's self-efficacy. Indeed, the longer units are together, one might expect that the collective efficacy of the group will become more intertwined with the self-efficacy of each individual.

Finally, a closer look at the means of the U.S. and the combined Chinese and Indian sample on the other side revealed that both participants reported higher on transformational leadership. This finding suggests that there are aspects of idealized notions of leadership in China and Indian that are quite compatible with transformational leaderships, thus making

workers presumably receptive to such an approach. Also interesting is the idea that compared to the Chinese and Indian workers, the U.S. workers scored high on both collective and self-efficacy. This finding may suggest that U.S. organizations are increasingly introducing programs oriented toward collective responsibility in order to enrich jobs and develop high committed employees.

Research and Practical Implications

Results of this study have a number of research and practical implications. First, the idea that our findings showed significant interactive effects between transformational leadership and efficacy beliefs, suggests that we may want to include in future theoretical models of leadership the combined effects of individual and group motivation as noted above. Explaining how self-efficacy grows or impacts collective efficacy as a function of different styles of leadership and within different contextual settings, would add considerably to understanding the 'black box' processes that occur between what a leader does and the followers outcomes/performance. Alternatively, developing a group's collective efficacy, potency and cohesion may help accelerate or at least reinforce the development of each individual's self efficacy to perform challenging tasks. Indeed, in certain work contexts, where task performance requires a high degree of cooperation, the impact of collective on self efficacy may be even more pronounced.

From a design perspective, the present findings suggest that future studies might consider using efficacy as a moderating variable, especially where leadership, efficacy and performance data are collected over time (Beehr & Newman, 1978). Our results indicated that the interaction effects accounted for much of the variance in commitment and satisfaction versus the results of previous research which has investigated efficacy as mediators (Saks, 1995; Walumbwa et al., 2004). Moreover, the finding that transformational leadership and efficacy interacted positively extends earlier research in which transformational leadership and efficacy beliefs were studied independently by showing

that both may affect work-related attitudes in combination.

Our findings also indicate that the impact of leadership (in this case transformational leadership) depends at least in part on its relationship to 'internal' processes such as collective and self-efficacy, while also being an integral part of a larger cognitive, social and contextual system in which each is embedded within the other at subsequently higher levels of analysis. Finally, although both collective and self-efficacy are likely to relate to work-related attitudes differently, the fact that our results showed they each positively interacted with transformational leadership in relating to work-related attitudes suggests a need to explore their similarities in future studies (Chen & Bliese, 2002).

From a practical perspective, our findings suggest that training programs designed to increase transformational leadership, collective and self-efficacy at the same time may prove to be an effective strategy to enhance employee commitment and satisfaction. For example, when designing a mentoring program, it might be helpful to consider a training strategy that includes the development of leadership skills and how those leadership skills and orientation relate to follower collective and self-efficacy in order for the program to have the greatest impact over time. Most leadership training interventions are highly leader-centric. Our results indicate that helping leaders to understand how they may effect self and then collective efficacy of followers, may be a very useful strategy for enhancing the leader's impact on both motivation and performance. Indeed, such training can be based on a causal model that the program is ostensibly attempting to 'bring to life' in a particular context, where the leader is cognizant of the factors that would effect both the followers collective and self-efficacy.

Finally, the present study contributes to the leadership and motivation literature by showing that the effect of transformational leadership on work-related attitudes may differ depending on each individual's level of efficacy (self and collective) belief. These results suggest that managers can enhance employees' work-related

attitudes by providing training and development opportunities for individuals lacking or low on these cognitive skills.

Limitations and Conclusions

As with all research, our study is bound by certain significant limitations that warrant further attention. First, the use of cross-sectional data precludes definitive assertions regarding causality and directionality, in addition to the fact that the statistical procedure used here cannot unequivocally sort out the true direction of relationships. Longitudinal designs are needed in future research to avoid such problems. Second, the fact that all data in this study were collected by self-report measures raises the possibility that our findings may have been confounded by common-method/source variance. Although this likelihood cannot be denied, it can also be argued that it is unlikely that common/source bias is an adequate explanation for the findings in the present study. For example, common-method/source variance cannot explain why certain variables exhibit evidence of group level properties while others do not (Jex & Bliese, 1999). Moreover, since we collected data from a common source and using common methods, one might expect that it would also have been more difficult to find the interaction effects of variables that were each collected in the same survey. Nevertheless, future studies should consider employing multiple sources of data collection with perhaps the main effect variables collected at time 1 and the outcome variables collected at time 2. A final limitation of the present study is the fact that our sample comprised of financial institutions. Although using a single occupation for this study ensured a strong match between samples across cultures, it obviously raises questions about the generalizability of our findings. In the future, it would be useful to replicate these findings in other non financial settings.

In conclusion, the present study makes a contribution to our understanding about the conditions under which transformational leadership may be more effective in motivating followers in terms of the interactive effects of

leadership and efficacy on work related outcomes. It demonstrates that collective and self-efficacy moderates the relationship between transformational leadership and followers' work-related attitudes such that employees with high efficacy beliefs are likely to respond more positively to transformational leadership. For organizations attempting to build a competitive advantage through a highly capable workforce, both efficacy beliefs and transformational leadership appear to be critical. To our knowledge, this is the first study to systematically examine the moderating effects of collective and self-efficacy on the relationships between transformational leadership and work-related attitudes. Therefore, we hope that the results of the current study will stimulate further investigation into potential moderators affecting the relationships between other leadership styles and individual work-related outcomes in a more diverse set of organizations and cultures.

References

- Ashforth, B.E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14, 20-39.
- Arbuckle, J.L., & Wothke, W. (1999). *AMOS 4.0 user's guide*. Chicago: Smallwaters.
- Avolio, B.J. (1999). *Full leadership development: Building the vital forces in organizations*. Newbury Park, CA: Sage.
- Avolio, B.J., & Bass, B.M. (1995). Individual consideration viewed at multiple levels of analysis: A multi-level framework for examining the diffusion of transformational leadership. *Leadership Quarterly*, 6, 199-218.
- Avolio, B.J., Bass, B., Walumbwa, F., & Zhu, W. (2004). *Multifactor Leadership Questionnaire: Manual and sampler test* (3rd ed.). Redwood City, CA: Mind Garden.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive view*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*, 75-78.
- Bass, B.M. (1998). *Transformational leadership: Industry, Military, and educational impact*. Mahwah, NJ: Lawrence Erlbaum.
- Bass, B.M., & Avolio, B.J. (1994). *Transformational leadership: Improving organizational effectiveness*. Thousand Oaks, CA: Sage.
- Bass, B.M., & Avolio, B.J. (1995). *Multifactor leadership questionnaire: Manual leader form, rater, and scoring key for MLQ (Form 5x-Short)*. Redwood City, CA: Mind Garden.
- Bass, B.M., & Avolio, B.J., Jung, D.I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology, 85*, 207-218.
- Beehr, T.A., & Newman, J.E. (1978). Job stress, employee health, and organizational effectiveness: A facet analysis, model, and literature review. *Personnel Psychology, 31*, 665-669.
- Bliese, P.D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analysis. In K.J. Klein & S.W.J. Kozlowski (Eds.), *Multilevel theory, research and methods in organizations: Foundations, extensions, and new directions* (pp. 349-381). San Francisco, CA: Jossey-Bass.
- Bono, J.E., & Judge, T.A. (2003). Self-concordance at work: Toward understanding the motivational effects of transformational leaders. *Academy of Management Journal, 46*, 554-571.
- Brislin, R.W. (1980). Translation and content analysis of oral and written materials. In H.C.
- Chen, M. (1995). *Asian management systems: Chinese, Japanese, and Korean styles of business*. London, UK: International Thomson.
- Chen, G., & Bliese, P.D. (2002). The role of different levels of leadership in predicting self- and collective efficacy: Evidence for discontinuity. *Journal of Applied Psychology, 87*, 549-556.
- Chen, G., Casper, W. J., & Cortina, J. M. (2001). The roles of self-efficacy and task complexity in the relationships among cognitive ability, conscientiousness, and work-related performance: A meta-analytic examination. *Human Performance, 14*, 209-230.
- Dumdum, U.R., Lowe, K.B., & Avolio, B.J. (2002). A meta-analysis of transformational and transactional leadership correlates of effectiveness and satisfaction: An update and extension. In B.J. Avolio & F.J. Yammarino (Eds.), *Transformational and charismatic leadership: The road ahead* (Vol. 2, pp. 35-66). Oxford, U.K: Elsevier Science.
- Dvir, T., Eden, D., Avolio, B.J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal, 45*, 735-744.
- Farh, J.L., & Cheng, B.S. (2000). A cultural analysis of paternalistic leadership in Chinese organizations. In J.T. Li, A. S. Tsui, & E. Weldon (Eds.), *Management and organizations in the Chinese context*. London, UK: Macmillan.
- Gibson, C.B. (1999). Do they what they believe they can? Group-efficacy beliefs and group performance across tasks and cultures. *Academy of Management Journal, 42*, 138-152.
- Gully, S.M., Incalcaterra, K.A., Joshi, A., & Beaubien, J. M. (2002). A meta-analysis of team-efficacy, potency, and performance: Interdependence and level of analysis as a moderators of observed relationships. *Journal of Applied Psychology, 87*, 819-832.
- James, L.J., Demaree, R.G., & Wolf, G. (1993). r_{wg} : An assessment of within-group interrater agreement. *Journal of Applied Psychology, 78*, 306-309.

- Jex, S.M., & Bliese, P.D. (1999). Efficacy beliefs as a moderator of the impact of work-related stressors: A multilevel study. *Journal of Applied Psychology, 84*, 349-361.
- Judge, T.A., & Piccolo, R.F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology, 89*, 755-768.
- Kark, R., & Shamir, B. (2002). The dual effect of transformational leadership: Priming relational and collective selves and further effects on followers. In B.J. Avolio & F.J. Yammarino (Eds.), *Transformational and charismatic leadership: The road ahead* (Vol. 2, pp. 67-91). Oxford, U.K: Elsevier Science.
- Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *Journal of Applied Psychology, 88*, 246-255.
- Kirkpatrick, S.A., & Locke, E.A. (1996). Direct and indirect effects of three core charismatic leadership components on performance and attitudes. *Journal of Applied Psychology, 81*, 36-51.
- Lam, S.S.K., Chen, X., & Schaubroeck, J. (2002). Participative decision making and employee performance in different cultures: The moderating effects of allocentrism/idiocentrism and efficacy. *Academy of Management Journal, 45*, 905-914.
- Lord, R.G., & Brown, D.J. (2001). Leadership, value, and subordinate self-concepts. *Leadership Quarterly, 12*, 133-152.
- Lord, R.G., Brown, D.J., & Freiberg, S.J. (1999). Understanding the dynamics of leadership: The role of follower self-concepts in the leader/follower relationship. *Organizational Behavior and Human Decision Processes, 78*, 167-203.
- Luthans, F. (2002a). Positive organizational behavior: Developing and managing psychological strengths. *Academy of Management Executive, 16*, 57-72.
- Luthans, F. (2002b). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior, 23*, 695-706.
- Martinko, M.J. (1995). *Attribution theory: An organizational perspective*. Delray Beach, FL: St. Lucie Press.
- Martinko, M.J., & Gardner, W.L. (1987). The leader/member attribution process. *Academy of Management Review, 12*, 235-249.
- Mowday, R.T., Steers, R.M., & Porter, L.W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14*, 224-247.
- Pratt, M.G. (1998). To be or not to be: Central questions in organizational identification. In D.A. Whetten & P.C. Godfrey (Eds.), *Identity in organizations: Building theory through conversation* (pp. 171-207). Thousand Oaks, CA: Sage.
- Ralston, D.A., Holt, D.A., Terpstra, R.H., & Yu, K.C. (1997). The impact of national culture and economic ideology on managerial work values: A study of United States, Russia, Japan, and China. *Journal of International Business Studies, 28*, 177-208.
- Raudenbush, S.W., & Bryk, A.S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Thousand Oaks, CA: Sage.
- Riggs, M.L., Warka, J., Babasa, B., Betancourt, R., & Hooker, S. (1994). Development and validation of self-efficacy and outcome expectancy scales for job-related applications. *Educational and Psychological Measurement, 58*, 1017-1034.
- Saks, A.M. (1995). Longitudinal field investigation of the moderating and mediating effects of self-efficacy on the relationship between training and newcomer adjustment. *Journal of Applied Psychology, 80*, 211-225.
- Schaubroeck, J. Lam, S.S.K., & Xie, J.L. (2000). Collective versus individual self-efficacy in coping responses to stressors and control: A cross-cultural study. *Journal of Applied Psychology, 85*, 512-525.

- Shamir, B., House, R.J., & Arthur, M.B. (1993). The motivational effect of charismatic leadership: A self-concept based theory. *Organization Science, 4*, 577-594.
- Smith, P.C., Kendall, L.M., & Hulin, C.L. (1969). *The measurement of satisfaction in work and retirement*. Chicago: Rand-McNally.
- Stajkovic, A.D., & Luthans, F. (1998). Self-efficacy and work related performance: A meta analysis. *Psychological Bulletin, 124*, 240-261.
- Triandis & J.W. Berry (Eds.), *Handbook of cross-cultural psychology* (Vol. 2, pp. 389-444). Boston, MA: Allyn and Bacon.
- Triandis, H.C. (1995). *Individualism and collectivism*. Boulder, CO: Westview Press.
- Walumbwa, F.O., & Lawler, J.J. (2003). Building effective organizations: Transformational leadership, collectivist orientation, work-related attitudes, and withdrawal behaviors in three emerging economies. *International Journal of Human Resource Management, 14*, 1083-1101.
- Walumbwa, F.O., Lawler, J.J. & Avolio, B.J. (2005). *Leadership, individual differences and work attitudes: A cross-culture investigation*. Working Paper, Gallup Leadership Institute, University of Nebraska, Lincoln.
- Walumbwa, F.O., Wang, P., Lawler, J.J., & Shi, K. (2004). The role of collective efficacy in the relations between transformational leadership and work outcomes. *Journal of Organizational and Occupational Psychology, 77*, 515-53.

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