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# A Chinese–Canadian Cross-Cultural Investigation of Transformational Leadership, Autonomous Motivation, and Collectivistic Value

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## Abstract

Synthesizing theories of transformational leadership and self-determination, this research investigated whether transformational leaders (a) promote the autonomous motivation of their subordinates and whether (b) it results in higher autonomous motivation when subordinates hold high collectivistic values. Multilevel data were obtained from work samples in China and Canada. The results showed a positive relation between managers' transformational leadership and subordinates' autonomous motivation cross-culturally. Although higher collectivistic values were related to higher autonomous motivation, collectivist values did not significantly moderate the motivational effect of transformational leadership.

## Keywords

transformational leadership, autonomous motivation, collectivistic value, cross-cultural analysis, self-determination theory

Businesses need management and leadership styles that promote employees' proactive attitudes and behaviors, and transformational leadership is a way to obtain this objective (Bass, 1998). Transformational leadership is especially effective in turbulent environments (Bass & Avolio, 1994). Yet there is evidence suggesting that its effectiveness beyond the Western world is moderated by value orientations (Jung & Avolio, 1999).

Transformational leadership theory was developed by Bass (1985) as an extension of Burns's (1978) concept of "transforming" leadership. The extant research over the past three decades shows positive relations between transformational leadership and positive employee and organizational outcomes (e.g., Bass, Avolio, Jung, & Berson, 2003; Berson & Linton, 2005; Howell & Avolio, 1993; Jung & Avolio, 1999). Meta-analyses across different samples and industries also show the benefits of transformational leadership (DeGroot, Kiker, & Cross, 2000; Dumdum, Lowe, & Avolio, 2002; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996). But there have been few studies that have systematically examined the motivational mechanism that explain these positive relationships (see Piccolo & Colquitt, 2006, for an exception), let alone investigating it across different cultures.

The present study investigated the positive motivational outcomes resulting from transformational leadership behavior in two societal cultures, namely China and Canada.

## Autonomous Motivation

Self-determination theory (Deci & Ryan, 1985, 2000) proposes a multidimensional conceptualization of motivation that includes intrinsic motivation, which is defined as doing an activity out of interest and enjoyment; extrinsic motivation, which is defined as doing an activity for an instrumental reason; and amotivation, which is defined as the absence of motivation (Deci & Ryan, 1985, 2000; Gagné & Deci, 2005). Extrinsic motivation can be differentiated into types that differ in their degree of self-determination, which yields external regulation, introjected regulation, and identified regulation (Deci & Ryan, 1985). External regulation refers to behaviors that are induced by external contingencies. It can be poorly maintained or disappear once external contingencies are gone. For example, when students study in order to obtain a monetary reward, once the reward is removed their motivation to learn diminishes (Deci & Ryan, 1985). Introjected regulation refers to a doing something to enhance or maintain one's ego. Identified regulation refers to doing

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an activity in order to reach a personally meaningful goal or act according to a personally held value. For example, people can exercise regularly because they think it is important to maintain their physical health, which is something they value. People may internalize a behavioral regulation, and then value what underlies it and in doing so, make it one's own (Ryan & Deci, 2000). Internalization explains how extrinsic motivation can become autonomously regulated.

Autonomous motivation is often used as an aggregate bringing together intrinsic motivation and identified regulation (Deci & Ryan, 2000). Controlled motivation is used as an aggregate for bringing together non-self-determined types of motivation, namely external and introjected regulation (Deci & Ryan, 2000). When people are autonomously motivated, they not only show an interest in the task itself, they show more creativity, and more flexibility when encountering difficulties (Deci & Ryan, 1987). Moreover, they feel less pressured compared with people who have controlled motivation. Autonomous motivation increases effort (Sheldon & Elliot, 1998), goal acceptance (Gagné, Koestner, & Zuckerman, 2000), perceived competence (Williams & Deci, 1996), organizational commitment (Gagné, Chemolli, Forest, Koestner, 2009), and psychological well-being (Baard, Deci, & Ryan, 2004; Black & Deci, 2000). Autonomous motivation also predicts lower turnover intentions (Richer, Blanchard, & Vallerand, 2002) and physical health symptoms (Otis & Pelletier, 2005). In short, autonomous work motivation is beneficial for an individual's and organization's outcomes.

### *Transformational Leadership as Autonomy Supportive Behavior*

Self-determination theory states that an individual's social contexts satisfy an individual's psychological needs for competence, autonomy, and relatedness. Hence, these contexts can facilitate or inhibit the adoption of autonomous motivation (Baard, 2002). Positive social contexts have been labeled autonomy supportive because they facilitate not only intrinsic motivation but also the internalization of extrinsic motivation (Baard et al., 2004; Deci et al., 2001).

Autonomy supportive behavior on the part of leaders include providing a meaningful rationale for action, acknowledging task difficulties, providing choice for how to do a task, encouraging personal initiation, and conveying confidence in an employee's ability to accomplish a task (Deci et al., 2001; Gagné, 2003; Gagné et al., 2000). Autonomy supportive behaviors have been found to lead to greater internalization of extrinsic motivation even when tasks are relatively uninteresting (Deci, Eghrari, Patrick, & Leone, 1994), to increase acceptance of organizational change (Gagné et al., 2000), to lower employee voluntary turnover (Gagné, 2003), to increase trust in the organization, and to increase the positive affect in the workplace (Deci, Connell, & Ryan, 1989). In addition, a leader's autonomy supportive behavior

has been shown to influence job performance, engagement, and well-being (Baard et al., 2004; Deci et al., 2001; Lynch, Plant, & Ryan, 2005).

Many parallels exist between transformational leadership and autonomy supportive behavior in the workplace. For example, transformational leaders motivate their followers by articulating a vision, clearly communicating expectations, instilling pride, and gaining the trust of followers (Bass, 1985). Just as transformational leaders demonstrate individualized consideration (Bass, 1985), autonomy supportive leaders find opportunities to coach and mentor in order to meet subordinates' needs and recognize their subordinates' perspective (Baard, 2002). As transformational leaders stimulate the creativity of subordinates (Bass & Avolio, 1994), autonomy supportive managers encourage self-initiation (Baard, 1994, 2002). On the basis of these similarities between autonomy supportive behavior and transformational leadership behavior, the following hypothesis was tested.

*Hypothesis 1: Managers' transformational leadership is positively related to subordinates' autonomous motivation in Chinese and Canadian employees.*

### *Collectivistic Value*

Bass (1997) argued that transformational leadership is applicable cross-culturally. Others beg to differ (Hofstede, 1980; Jogulu, 2010; Walumbwa, Lawler, & Avolio, 2007). The second goal of the present study was to investigate how an employee's collectivistic values affect the positive relation between transformational leadership and subordinate's autonomous motivation in China and Canada.

Although there have been some cross-cultural comparisons of the effectiveness of transformational leadership (Jogulu, 2010; Walumbwa et al., 2007) as well as comparisons of how autonomy-supportive behaviors affect employee motivation in different cultures (Deci et al., 2001), little is known about the moderating effect of cultural values on the motivational power of transformational leadership. Collectivists tend to value their group's goals over their own and they often demonstrate higher loyalty and commitment toward their leaders and in-group members (Jung, Bass, & Sosik, 1995; Triandis, 1995) than do individualists. Hence, collectivistic followers typically more readily internalize their leaders' beliefs and vision (Hofstede, 1985; Triandis, 1995), which may lead to higher levels of autonomous motivation as the result of such internalization.

The first experimental cross-cultural comparison of transformational and transactional leadership styles was done by Jung and Avolio (1999) using Asian and Caucasian students. They found that collectivists performed better with transformational leaders, while individualists performed better with transactional leaders. A more recent

cross-cultural leadership study was conducted in an international banking corporation, collectivism positively moderated the relation between transformational leadership job satisfaction and organizational commitments in three societal cultures, namely China, India, and Kenya (Walumbwa & Lawler, 2003). Another study found that although an individual's values had such an effect, the country where the leadership behavior occurred did not affect the positive relation between transformational leadership and work-related attitudes (Walumbwa, Lawler, Avolio, Wang, & Shi, 2005). For this reason, the present study focused on individual-level values and took into account the country in which the data were collected.

China is a traditional collectivistic country, whereas Canada has a long history of individualistic traditions. However, cultural values are not static; they change with technological, economic, political, and religious shifts in societies (Rokeach, 1973). Economic globalization, mobilization of the workforce, and technology advancements play a key role on value shifts (Whally, 2008), which makes national culture no longer a potent barrier when managing in today's world. To test these ideas, the following hypotheses are proposed.

*Hypothesis 2:* When controlling for country, an individual's collectivistic values are related to autonomous work motivation in both China and Canada.

*Hypothesis 3:* In both Canada and China, an individual's collectivistic values positively moderate the relation between transformational leadership and autonomous motivation, such that the relation is enhanced when subordinates hold collectivistic values.

## Method

### Participants

The Chinese sample was collected in a medium size private high-tech company in China (335 participants were invited, and 94% responded) in October 2010. The final sample consisted of 288 employees for 60 managers (with 2-6 employees per manager). The employees were mostly customer service/sales representatives, computer programmers, systems engineers, and support staff. The average age of the participants was 25.13 years ( $SD = 3.54$ ) and 52% of the survey participants were women. The average organizational tenure of the participants was 1.01 years ( $SD = 0.85$ ), and more than 80% of them had completed some college or university education. Average tenure was short because the company was established only 3 years prior to conducting this study.

The Canadian sample was collected in a government agency in the province of Quebec (256 participants were

invited, and 78% responded) in October, 2010. The final sample consisted of 155 employees for 21 managers (with 2-6 employees per manager). Participants were mostly clerks, secretaries, and government agents. The average age of the participants was 41.65 years ( $SD = 16.05$ ) and 41% of the survey participants were women. The average organizational tenure of the participants was 3.3 years ( $SD = 1.25$ ), and more than 75% of them had completed some college or university education.

### Materials and Procedures

Data were collected through online surveys. An invitation e-mail containing the individualized web link to the online questionnaire was sent to each potential participant. A Chinese-language version of the survey was used in China, and a French-language version of survey was used in Canada. All questionnaires were originally developed in English, except for the revised motivation at work scale, which was simultaneously developed in French and English. Bilingual translators performed each initial translation. After this step was completed, the questionnaire was given to another bilingual translator, who then back-translated all questions into English in order to control for the quality of the translation (Brislin, 1980).

*Transformational leadership.* Twenty items from the Multifactor Leadership Questionnaire<sup>1</sup> Form 5x were completed by subordinates to measure the transformational leadership behavior of their direct supervisor (Bass & Avolio, 1995). Specifically, the participants were asked to evaluate how frequently their manager engages in transformational leadership behaviors. Items were rated on a 0 (*not at all*) to 4 (*frequently, if not always*) Likert-type scale. Although there have been criticisms regarding the dimensionality of the Multifactor Leadership Questionnaire (Yukl, 1998), subsequent empirical evidence supports the convergent and discriminant validity of this instrument (Avolio, Bass, & Jung, 1999). Because the hypotheses make no distinction between the component factors of transformational leadership, we combined the four dimensions of transformational leadership into a single transformational leadership factor (overall combined  $\alpha = .96$ ; China  $\alpha = .93$ ; Canada  $\alpha = .95$ ; Bass, 1998; Walumbwa & Lawler, 2003).

*Autonomous motivation.* Autonomous motivation was measured using the revised Motivation at Work Scale (Gagné et al., 2011). This scale contains 19 items that participants rate to describe why they put effort into their job. Only subscales for identified regulation (three items, e.g., "Because I personally consider it important to put effort in this job"; combined  $\alpha = .77$ ; China  $\alpha = .85$ ; Canada  $\alpha = .65$ ) and intrinsic motivation (three items, e.g., "Because the work I do is interesting"; combined  $\alpha = .90$ ; China  $\alpha = .87$ ; Canada  $\alpha = .94$ ) were used and averaged into an autonomous motivation score (Gagné et al., 2011). Items were

**Table 1.** Means, Standard Deviations, and Correlations (Canada and China)

Variables	Mean	SD	1	2	3	4	5
1. Age (years)	30.96	13.17					
2. Gender	1.44	.51	.01				
3. Country	1.58	.49	-.58**	-.06			
4. Transformational leadership	2.82	1.11	.32**	-.00	-.72**		
5. Autonomous motivation	4.87	1.14	-.01	.03	-.21**	.42**	
6. Collectivistic values	5.10	.79	-.11*	.02	.08	.08	.32**

Note.  $N = 446$ .

\* $p < .001$  (two-tailed). \*\* $p < .05$  (two-tailed).

rated on a 1 (*not at all for this reason*) to 7 (*exactly for this reason*) Likert-type scale.

**Cultural values.** Values were measured using the 14-item reduced version of the Horizontal and Vertical Individualism and Collectivism Scale (overall combined  $\alpha = .67$ ; Sivadas, Bruvold, & Nelson, 2008). This scale was developed and validated originally by Triandis and Gelfand (1998). Participants were asked to judge how properly the scale items describe them (e.g., “the well-being of my coworker is important to me” and “I usually sacrifice my self-interest for the benefit of my group”) on a 1 (*totally agree*) to 7 (*totally disagree*) Likert-type scale. We used the mean of the 8 items measuring horizontal and vertical collectivism to form a single factor for collectivistic value orientation at the individual level (combined  $\alpha = .72$ ;  $\alpha = .69$  in Canada sample;  $\alpha = .77$  in China sample; Triandis & Gelfand, 1998). The overall correlation between horizontal and vertical collectivistic values was  $r = .49$ ,  $p < .001$  (in China,  $r = .50$ ,  $p < .001$ ; in Canada,  $r = .43$ ,  $p < .001$ ).

**Control variables.** We controlled for age and gender in all analyses. Previous research on gender and transformational leadership has found that subordinates usually evaluate the transformational leadership of managers of both genders equally (Careless, 1998). However, other research has found that women tend to be more collectivistic than men. Age has also been positively related to collectivism (Triandis, 1993).

### Measurement Equivalence

To test the measurement equivalence of our scales across the Chinese and Canadian samples (Cheung & Rensvold, 2000; Little, Lindenberger, & Nesselroade, 1999), maximum likelihood estimation for multigroup confirmatory factor analysis was conducted (Cheung & Rensvold, 2002; Little, 1997) using Lisrel 8.08 (Jöreskog & Sörbom, 2001). We followed the guidelines proposed by Little (1997, 2000) and Cheung and Rensvold (2002) and examined differences in the fit indices, such as the comparative fit index (CFI), nonnormed fit index (NNFI), and root mean square

error of approximation (RMSEA) for the constrained versus the unconstrained models, rather than using the change in chi-square because it is overly sensitive to the number of constraints (see also Marsh, Balla, & McDonald, 1988). If the fit of the measurement model is good (NNFI  $> .90$ , CFI  $> .90$ , and RMSEA  $\leq .10$ ) when no constraints are imposed, a difference of less than .01 between the values of the fit indices for the constrained versus unconstrained models indicate equivalence of the measurement models across the samples.

Fit indices supported measurement invariance for autonomous motivation (RMSEA = .09, CFI = .99, NNFI = .97 for the restricted model), individual collectivistic values (RMSEA = .09, CFI = .96, NNFI = .91 for the restricted model), and transformational leadership (RMSEA = .10, CFI = .95, NNFI = .95 for the restricted model) across the Chinese and Canadian samples.

### Results

Table 1 presents means, standard deviations, and zero-order correlations among the variables from the combined samples from China and Canada. Gender and country were coded as dummy variables (*woman* = 1; *man* = 2; and *Canada* = 1; *China* = 2). Independent  $t$  tests were conducted to examine sample differences in variable means (see Table 2). Results demonstrated that all variables (perception of managerial transformational leadership,  $t = 20.16$ ,  $p < .001$ ; autonomous work motivation,  $t = 3.15$ ,  $p < .002$ ; and collectivism value,  $t = -2.26$ ,  $p < .05$ ) differed significantly in the Chinese and Canadian samples. Chinese participants reported perceiving lower transformational leadership behaviors in their manager and reported lower autonomous work motivation than their Canadian counterparts. Chinese participants also reported holding higher collectivistic values than their Canadian counterparts.

There were no significant correlations between gender and other variables. In the combined sample, the older the employees, the more they perceived their manager to be



**Table 2.** Group Statistics for Independent Sample t test

Variables	N	Mean	SD
1. Transformational leadership			
China	273	2.17	0.67
Canada	157	3.71	0.92
2. Autonomous motivation			
China	273	4.66	1.07
Canada	157	5.01	1.13
3. Collectivistic value			
China	273	5.15	1.15
Canada	157	4.97	9.87

**Table 3.** Hierarchical Linear Modeling Results in Chinese Sample

Predictor	Autonomous work motivation		
	Coefficient	SE	<i>p</i>
Intercept $\gamma_{00}$	4.56	0.07	.00
TFL $\gamma_{10}$	0.43	0.11	.00

Note: TFL = transformational leadership;  $N = 228$  subordinates nested within 60 managers. The gammas ( $\gamma$ ) are unstandardized and centered on the grand mean, and the standard errors (SE) are robust. Level 1 equation: Autonomous motivation =  $\beta_0 + \beta_1$  (perception of managers' TFL) +  $r$ ; Level 2 equations:  $\beta_0 = \gamma_{00} + u_0$  and  $\beta_1 = \gamma_{10} + u_1$ .

transformational (since average age was lower in the Chinese sample, this was consistent with the fact that transformational leadership ratings were lower in the Chinese sample). Age was negatively related to collectivistic values, probably because the Chinese sample was significantly younger than the Canadian sample.

Transformational leadership correlated positively with autonomous work motivation. Autonomous work motivation was correlated positively with subordinates' collectivistic values. Thus, the hypotheses were supported.

Hierarchical linear models were tested using HLM 6.06 (Raudenbush, Bryk, & Richard, 2000), with predictors centered on the grand mean for all equations, and the residual parameter variance for Level 1 coefficient set at zero. The results showed that managers' transformational leadership was positively related to subordinates' autonomous motivation in both China and Canada (see Tables 3 and 4). This finding supports the first hypothesis.

We then tested whether collectivistic values were related to higher autonomous work motivation. Age, gender, and country were entered as control variables (*ns*). The results (Table 5) again showed a significant main effect for manager's transformational leadership ( $\gamma = .38$ ,  $p < .01$ ), and they also showed a significant main effect for an individual's collectivistic values ( $\gamma = .42$ ,  $p < .01$ ). These findings support Hypothesis 2. Finally, the interaction

**Table 4.** Hierarchical Linear Modeling Results in Canadian Sample

Predictor	Autonomous work motivation		
	Coefficient	SE	<i>p</i>
Intercept $\gamma_{00}$	5.07	0.08	.00
TFL $\gamma_{10}$	0.44	0.09	.00

Note: TFL = transformational leadership;  $N = 155$  subordinates nested within 21 managers. The gammas ( $\gamma$ ) are unstandardized and centered on the grand mean, and the standard errors (SE) are robust. Level 1 equation: Autonomous motivation =  $\beta_0 + \beta_1$  (perception of managers' TFL) +  $r$ ; Level 2 equations:  $\beta_0 = \gamma_{00} + u_0$  and  $\beta_1 = \gamma_{10} + u_1$ .

terms were added to test for the moderating effect of an individual's collectivistic values. Not only was a two-way interaction between transformational leadership and individual values tested but a three-way interaction was also tested to include country as a dummy variable. None of these interaction terms were significant. Thus, Hypothesis 3 was rejected.

## Discussion

The present study examined relations between employees' perceptions of transformational leadership behaviors of their manager and their own autonomous work motivation in two countries, namely, China and Canada. Employee perceptions of transformational leadership were related to their own autonomous work motivation both in China and Canada. We argue that this effect can be explained through transformational leadership's effect on the satisfaction of basic psychological needs of employees for autonomy, competence, and relatedness, as proposed by self-determination theory (Deci & Ryan, 2000; Gagné & Deci, 2005).

The present study also investigated the moderating role of an individual's collectivistic values. Holding collectivistic values was positively related to autonomous work motivation. This was found despite the fact that the average autonomous work motivation was lower for the employees in China. However, collectivistic values did not enhance the relation between perceiving one's manager as displaying transformational leadership behaviors and one's autonomous work motivation.

We therefore conclude from the results of the present study that transformational leadership has equivalent effects in collectivistic and individualistic cultures. It is important to note that we also tested individual values while controlling for the country of origin, and the fact that none of the effects were significant replicates past research findings regarding cultural values (Walumbwa et al., 2005; Walumbwa & Lawler, 2003).

**Table 5.** Hierarchical Linear Modeling Results of Moderation of Collectivistic Values on the Relation Between TFL and Autonomous Motivation

Predictor	Autonomous motivation								
	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>	Coefficient	SE	<i>p</i>
Intercept $\gamma_{00}$	4.83	0.06	.00	4.84	0.06	.00	4.84	0.06	.00
Age $\gamma_{10}$	-0.01	0.01	.10	-0.01	0.01	.14	-0.00	0.01	.19
Gender $\gamma_{20}$	0.04	0.08	.59	0.04	0.08	.62	0.04	0.08	.57
Country $\gamma_{30}$	-0.21	0.19	.27	-0.18	0.19	.34	-0.17	0.19	.37
TFL $\gamma_{40}$	0.38	0.07	.00	0.38	0.07	.00	0.38	0.07	.00
CV $\gamma_{50}$	0.42	0.06	.00	0.42	0.06	.00	0.52	0.07	.00
TFL * CV $\gamma_{60}$				-0.09	0.09	.31	-0.07	0.09	.48
TFL * Country $\gamma_{70}$				-0.02	0.07	.74	-0.03	0.07	.63
CV * Country $\gamma_{80}$				0.03	0.06	.56	0.02	0.05	.70
TFL * CV * Country $\gamma_{90}$							0.12	0.09	.15

Note. TFL = transformational leadership; CV = collectivistic value.  $N = 382$  subordinates nested within 77 managers. The gammas ( $\gamma$ ) are unstandardized and centered on the grand mean, and the standard errors (SE) are robust. Level 1 equation: Autonomous motivation =  $\beta_0 + \beta_1$  (age) +  $\beta_2$  (gender) +  $\beta_3$  (country) +  $\beta_4$  (perception of managers' TFL) +  $\beta_5$  (collectivistic value) +  $\beta_6$  (perception of managers' TFL  $\times$  collectivistic value) +  $\beta_7$  (perception of managers' TFL  $\times$  country) +  $\beta_8$  (country  $\times$  collectivistic value) +  $\beta_9$  (perception of managers' TFL  $\times$  collectivistic value  $\times$  country) +  $r$ . Level 2 equations:  $\beta_0 = \gamma_{00} + u_0$ ;  $\beta_1 = \gamma_{10}$ ;  $\beta_2 = \gamma_{20}$ ;  $\beta_3 = \gamma_{30}$ ;  $\beta_4 = \gamma_{40}$ ;  $\beta_5 = \gamma_{50}$ ;  $\beta_6 = \gamma_{60}$ ;  $\beta_7 = \gamma_{70}$ ;  $\beta_8 = \gamma_{80}$ ;  $\beta_9 = \gamma_{90}$ .

### Limitations

The conclusions drawn from the present study are limited by the use of a cross-sectional research design and the use of self-reports. It is possible that the autonomous motivation of employees affects their perceptions of their manager's leadership behavior. We believe that this is unlikely. Employees agreed in how they perceive their manager, but they varied in their work motivation. That is, the within-group agreement was higher for transformational leadership than for autonomous work motivation.

The use of self-reports from managers to assess transformational leadership is considered to be less valid than employee reports and are generally unrelated to one another (Bass & Avolio, 1994). Moreover, since the importance of transformational leadership lies in the effect it has on employee outcomes, we should care most about employees' perceptions of it. Nonetheless, future research could use alternative measures of transformational leadership, such as the use of observational data or the use of manipulations in laboratory experiments or in quasi-experiments. Longitudinal designs would also address the causality issue.

Finally, this research also has sampling limitations. The Chinese sample came from the high-tech sector whereas the Canadian sample came from a government organization. The Chinese sample was younger and had less organizational tenure than the Canadian sample. Despite these differences, we found similar results in both samples. Nonetheless, research using varied samples is needed in order to generalize these results.

### Implications and Conclusions

Few studies so far have integrated self-determination theory and the transformational leadership to investigate the motivational effects of transformational leadership. Though it is often assumed that transformational leadership has an effect on the motivation of followers, evidence to date is sparse. An exception is a study by Bono and Judge (2003). In a field and a laboratory study, they examined the effect of transformational leadership behavior on goal autonomous and controlled motivation. Their results are compatible with those obtained in the present study. They found a relationship between leadership behavior and obtained performance and organizational commitment. Autonomous work motivation yielded better outcomes than controlled motivation. Hence, we call on researchers to continue to research the effects of leadership on work motivation, as it is important to increase understanding of its motivational mechanisms (Shamir, House, & Arthur, 1993).

The results of the present study have important implications for international management and for the management of a diverse workforce. They suggest that we may not need to manage people from different cultures so differently. However, we there may be appropriate and inappropriate ways to display transformational leadership behaviors in different cultures. Our research design did not allow for the examination of such issues. Despite these possible constraints, self-determination theory and the full range model of leadership appear to provide useful guidelines when leading employees. Self-determination theory also provides

reasons why these behaviors have an effect on employee motivation: through their effects on psychological need satisfaction. What remains to be tested is whether current transformational leadership training used widely in North America (Barling, Weber, & Kelloway, 1996; Deci, Connell, & Ryan, 1989) would be effective in China. It is possible that such training may need to be adapted to the culture where transformational leadership takes place.

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### Note

1. This questionnaire was used with the permission of Mind Garden.

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