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Beyond General Intelligence (IQ) and Emotional Intelligence (EQ): The Role of Cultural Intelligence (CQ) on Cross-Border Leadership Effectiveness in a Globalized World

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Emphasizing the importance of cross-border effectiveness in the contemporary globalized world, we propose that cultural intelligence—the leadership capability to manage effectively in culturally diverse settings—is a critical leadership competency for those with cross-border responsibilities. We tested this hypothesis with multisource data, including multiple intelligences, in a sample of 126 Swiss military officers with both domestic and cross-border leadership responsibilities. Results supported our predictions: (1) general intelligence predicted both domestic and cross-border leadership effectiveness; (2) emotional intelligence was a stronger predictor of domestic leadership effectiveness, and (3) cultural intelligence was a stronger predictor of cross-border leadership effectiveness. Overall,

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results show the value of cultural intelligence as a critical leadership competency in today's globalized world.

Globalization is a reality in the 21st century workplace. As a consequence, leaders must function effectively in cross-border situations as well as in domestic contexts. Leaders working in cross-border contexts must cope effectively with contrasting economic, political, and cultural practices. As a result, careful selection, grooming, and development of leaders who can operate effectively in our globalized environment is a pressing need for contemporary organizations (Avolio, Walumbwa, & Weber, 2009).

To date, research on leadership effectiveness has been dominantly domestic in focus, and does not necessarily generalize to global leaders (Gregersen, Morrison, & Black, 1998; House, Hanges, Javidan, Dorfman, & Gupta, 2004). Hence, there is a critical need for research that extends our understanding of how differences in context (domestic vs. cross-border) require different leadership capabilities (Johns, 2006). As we build our arguments, we emphasize the importance of matching leadership capabilities to the specific context.

Global leaders, like all leaders, are responsible for performing their job responsibilities and accomplishing their individual goals. Accordingly, general effectiveness, defined as the effectiveness of observable actions that managers take to accomplish their goals (Campbell, McCloy, Oppler, & Sager, 1993), is important for global leaders. We use the term "general" in describing this type of effectiveness because it makes no reference to culture or cultural diversity. Thus, it applies to all leader jobs.

Going beyond general effectiveness, it is crucial to recognize the unique responsibilities that leaders have when their jobs are international in scope and involve cross-border responsibilities (Spreitzer, McCall, & Mahoney, 1997). Leadership in cross-border contexts requires leaders to (1) adopt a multicultural perspective rather than a country-specific perspective; (2) balance local and global demands which can be contradictory; and (3) work with multiple cultures simultaneously rather than working with one dominant culture (Bartlett & Goshal, 1992). Thus, we define cross-border effectiveness as the effectiveness of observable actions that managers take to accomplish their goals in situations characterized by cross-border cultural diversity. This aspect of global leaders' effectiveness explicitly recognizes and emphasizes the unique challenges of heterogeneous national, institutional, and cultural contexts (Shin, Morgeson, & Campion, 2007).

Effective leadership depends on the ability to solve complex technical and social problems (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000). Given important differences in domestic and cross-border contexts, it is unlikely that leadership effectiveness is the same in domestic contexts as in cross-border contexts. In this article, we aim to shed light on these differences by focusing on

ways that leadership competencies are similar and different in their relevance to different contexts (domestic vs. cross-border).

Cultural Intelligence and Cross-Border Leadership Effectiveness

When leaders work in cross-border contexts, the social problems of leadership are especially complex because cultural background influences prototypes and schemas about appropriate leadership behaviors. For example, expectations about preferred leadership styles (House et al., 2004), managerial behaviors (Shin et al., 2007), and the nature of relationships (Yeung & Ready, 1995) are all influenced by culture. Thus, effective cross-border leadership requires the ability to function in culturally diverse contexts.

Although general intelligence (Judge, Colbert, & Ilies, 2004) as well as emotional intelligence (Caruso, Meyer, & Salovey, 2002) have been linked to leadership effectiveness in domestic contexts, neither deals explicitly with the ability to function in cross-border contexts. To address the unique aspects of culturally diverse settings, Earley and Ang (2003) drew on Sternberg and Detterman's (1986) multidimensional perspective on intelligence to develop a conceptual model of cultural intelligence (CQ). Ang and colleagues (Ang & Van Dyne, 2008; Ang et al., 2007) defined CQ as an individual's capability to function effectively in situations characterized by cultural diversity. They conceptualized CQ as a multidimensional concept comprising metacognitive, cognitive, motivational, and behavioral dimensions.

Metacognitive CQ is an individual's level of conscious cultural awareness during intercultural interactions. It involves higher level cognitive strategies—such as developing heuristics and guidelines for social interaction in novel cultural settings—based on deep-level information processing. Those with high metacognitive CQ are consciously aware of the cultural preferences and norms of different societies prior and during interactions. They question cultural assumptions and adjust their mental models about intercultural experiences (Triandis, 2006).

Whereas metacognitive CQ focuses on higher order cognitive processes, cognitive CQ is knowledge of norms, practices, and conventions in different cultures acquired from education and personal experience. This includes knowledge of cultural universals as well as knowledge of cultural differences. Those with high cognitive CQ have sophisticated mental maps of culture, cultural environments, and how the self is embedded in cultural contexts. These knowledge structures provide them with a starting point for anticipating and understanding cultural systems that shape and influence patterns of social interaction within a culture.

Motivational CQ is the capability to direct attention and energy toward learning about and operating in culturally diverse situations. Kanfer and Heggstad (1997, p. 39) argued that motivational capacities “provide agentic control of affect, cognition, and behavior that facilitate goal accomplishment.” Expectations

and the value associated with successfully accomplishing a task (Eccles & Wigfield, 2002) influence the direction and magnitude of energy channeled toward that task. Those with high motivational CQ direct attention and energy toward cross-cultural situations based on their intrinsic interest in cultures (Deci & Ryan, 1985) and confidence in intercultural effectiveness (Bandura, 2002).

Finally, behavioral CQ is the capability to exhibit culturally appropriate verbal and nonverbal actions when interacting with people from other cultures. Behavioral CQ also includes judicious use of speech acts—using culturally appropriate words and phrases in communication. Those with high behavioral CQ demonstrate flexibility in their intercultural interactions and adapt their behaviors to put others at ease and facilitate effective interactions.

Rooted in differential biological bases (Rockstuhl, Hong, Ng, Ang, & Chiu, 2011), metacognitive, cognitive, motivational, and behavioral CQ represent qualitatively different facets of overall CQ—the capability to function and manage effectively in culturally diverse settings (Ang & Van Dyne, 2008; Ang et al., 2007). Accordingly, the four facets are distinct capabilities that together form a higher level overall CQ construct.

Offermann and Phan (2002) offered three theoretical reasons for why leaders with high CQ capabilities are better able to manage the culturally diverse expectations of their followers in cross-border contexts (Avolio et al., 2009). First, awareness during intercultural interactions allows leaders to understand the impact of their own culture and background. It gives them insights into how their own values may bias their assumptions about behaviors in the workplace. It enhances awareness of the expectations they hold for themselves and others in leader–follower relationships. Second, high CQ causes leaders to pause and verify the accuracy of their cultural assumptions, consider their knowledge of other cultures, and hypothesize about possible values, biases, and expectations that may apply to intercultural interactions. Third, leaders with high CQ combine their rich understanding of self and others with motivation and behavioral flexibility in ways that allow them to adapt their leadership behaviors appropriately to specific cross-cultural situations.

In addition to managing diverse expectations as a function of cultural differences, leaders in cross-border contexts also need to effectively manage the exclusionary reactions that can be evoked by cross-cultural contact (Torelli, Chiu, Tam, Au, & Keh, 2011). Social categorization theory (Tajfel, 1981; Turner, 1987) theorizes that exclusionary reactions to culturally diverse others are initially driven by perceptions of dissimilarity and viewing others as members of the out-group. Research demonstrates, however, that those with high CQ are more likely to develop trusting relationships with culturally diverse others and less likely to engage in exclusionary reactions (Rockstuhl & Ng, 2008). Consistent with our earlier emphasis on matching capabilities to the context, their results also demonstrated that CQ did not influence trust when partners were culturally homogeneous.

An increasing amount of research demonstrates the importance of CQ for performance effectiveness in cross-border contexts (for reviews, see Ang, Van Dyne, & Tan, 2011; Ng, Van Dyne, & Ang, in press). This includes expatriate performance in international assignments (Chen, Kirkman, Kim, Farh, & Tangirala, 2010), successful intercultural negotiations (Imai & Gelfand, 2010), leadership potential (Kim & Van Dyne, 2011), and leadership effectiveness in culturally diverse work groups (Groves & Feyerherm, 2011).

To summarize, theory and research support the notion that leaders with high CQ should be more effective at managing expectations of culturally diverse others and minimizing exclusionary reactions that can occur in cross-border contexts. Thus, we hypothesize that general intelligence will predict leadership effectiveness in domestic contexts and in cross-border contexts; emotional intelligence will be a stronger predictor of leadership effectiveness in domestic contexts; and cultural intelligence will be a stronger predictor of leadership effectiveness in cross-border contexts.

Method

We tested our hypotheses with field data from 126 military leaders and their peers studying at the Swiss Military Academy at ETH Zurich. CQ has special relevance to leadership in military settings because armed forces throughout the world are increasingly involved in international assignments (Ang & Ng, 2007). We obtained data from professional officers in a 3-year training program that focused on developing domestic and cross-border leadership capabilities. Thus, the sample allows comparison of leadership effectiveness across contexts. During the program officers completed domestic assignments (e.g., physical education, group projects, and general military and leadership military training) as well and cross-border assignments (e.g., international support operations for the UN in former Yugoslavia and international civil-military collaboration training with U.S., EU, and Croatian armed forces). Military contexts represent high-stakes settings where leadership effectiveness has broad implications for countries, regions, and in some cases, the world. Poor-quality leadership can exacerbate tensions and heighten conflict between groups. In addition, it is essential that military leaders overcome initial exclusionary reactions that can be triggered when interacting with people from different cultures in high-stress situations. As a result, gaining a better understanding of general and cross-border leadership effectiveness in this setting should have important practical implications.

All 126 participants (95% response rate) were male Caucasians with average previous leadership experience of 6.44 years ($SD = 4.79$). On average, they had lived in 1.45 different countries ($SD = .91$). They had been studying and working together on a daily basis for at least 7 months prior to the study.

Procedure

Two peers in the program, selected based on cultural diversity, provided ratings of general and cross-border leadership effectiveness, such that those with French, Italian, or Rhaeto-Romansh background were rated by peers who had a German background and vice versa. We designed the data collection using peers for the assessment of leadership effectiveness for four reasons. First, all participants had extensive previous leadership experience in the military and were knowledgeable observers in these contexts. Second, military mission goals were clearly specified, and thus peers could readily observe both domestic and cross-border effectiveness in terms of mission completion. Third, participants worked closely together and had numerous opportunities to observe peers' leadership effectiveness across general and cross-border contexts. Finally, Viswesvaran, Schmidt, and Ones (2002) showed in their meta-analysis of convergence between peer and supervisory ratings that leadership is one job performance dimension for which ratings from these two sources are interchangeable.

Participants provided data on cultural intelligence, emotional intelligence, and demographic background. In addition, we obtained archival data on general mental ability and personality. This multisource approach is a strength of the design.

Measures

Peers assessed general leadership effectiveness and cross-border leadership effectiveness with six items each (1 = *strongly disagree*; 7 = *strongly agree*). Existing leadership effectiveness measures (e.g., Ng, Ang, & Chan, 2008; Offermann, Bailey, Vasilopoulos, Seal, & Sass, 2004) do not distinguish explicitly between general and cross-border effectiveness. Thus, we reviewed the literature on general leadership effectiveness, developed six general leadership items, and then wrote parallel items that focused specifically on leadership effectiveness in culturally diverse contexts.

Independent ratings by three subject matter experts (1 = *not at all representative*, 2 = *somewhat*, 3 = *highly representative*) provided face validity for the items (intraclass correlation = .83). Exploratory factor analysis (pilot sample #1: $n = 95$) showed two distinct factors (74.49% explained variance), and confirmatory factor analysis (CFA) (pilot sample #2: $n = 189$) demonstrated acceptable fit: $\chi^2 (53df) = 94.69$, $p < .05$, RMSEA = .066. In the substantive sample, interrater agreement ($r_{WG(J)} = .71 - 1.00$) supported aggregation of peer ratings for general ($\alpha = .91$) and cross-border leadership effectiveness ($\alpha = .93$).

We assessed CQ with the previously validated 20-item CQS (Cultural Intelligence Scale: Ang et al., 2007), which is highly reliable and generalizable across samples and cultures (Van Dyne, Ang, & Koh, 2008). Sample items include: I check the accuracy of my cultural knowledge as I interact with people from

different cultures; and I alter my facial expressions when a cross-cultural interaction requires it ($\alpha = .89$). CFA analysis of a second-order model demonstrated good fit to the data: $\chi^2 (40df) = 58.13, p < .05, RMSEA = .061$), so we averaged the four factors to create our measure of overall CQ. We assessed EQ with 19 items (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006) and obtained archival data on general mental ability (the SHL Critical Reasoning Test Battery, 1996) and Big-Five personality (Donnellan, Oswald, Baird, & Lucas, 2006). These controls are important because prior research shows CQ is related to EQ (Moon, 2010), general mental ability (Ang et al., 2007), and personality (Ang, Van Dyne, & Koh, 2006). We also controlled for previous leadership experience (number of years of full-time job experience with the Swiss Military), international experience (number of countries participants had lived in), and age because prior research shows relationships with leadership effectiveness.

Results

CFA analysis supported the discriminant validity of the 10 constructs ($\chi^2 (186df) = 255.12, p < .05, RMSEA = .046$) and the proposed 10-factor model provided a better fit than plausible alternative models. Table 1 presents descriptive statistics and correlations. Table 2 summarizes hierarchical regression and relative weight analyses (Johnson & LeBreton, 2004).

As predicted, IQ was positively related to general leadership effectiveness ($\beta = .23, p < .05$) and cross-border leadership effectiveness ($\beta = .18, p < .05$), even after controlling for age, leadership experience, international experience, Big-Five personality, EQ, and CQ. Thus, general mental ability had implications for both aspects of leadership effectiveness.

In addition and consistent with our predictions, EQ was positively related to general leadership effectiveness ($\beta = .27, p < .05$) but not to cross-border leadership effectiveness ($\beta = -.07, n.s.$), after controlling for age, leadership experience, international experience, Big-Five personality, IQ, and CQ. Relative weight analysis demonstrated that EQ predicted 25.7% of the variance in general leadership effectiveness but only 3.5% of the variance in cross-border leadership effectiveness. Thus, EQ has special relevance to leadership effectiveness in domestic contexts but not to leadership effectiveness in cross-border contexts.

Finally, CQ was positively related to cross-border leadership effectiveness ($\beta = .24, p < .05$) but not to general leadership effectiveness ($\beta = -.11, n.s.$), after accounting for the controls. Relative weight analysis showed that CQ predicted 24.7% of the variance in cross-border leadership effectiveness and only 4.7% of the variance in general leadership effectiveness. Thus, results demonstrate the unique importance of CQ to cross-border leadership effectiveness.

Results also show that previous international experience predicted both general ($\beta = .30, p < .01$) and cross-border leadership effectiveness ($\beta = .35,$

Table 1. Means, Standard Deviations, and Correlations

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. General leadership effectiveness ^a	5.13	0.66	(.91)											
2. Cross-border leadership effectiveness ^a	4.41	0.70	.56**	(.93)										
3. General intelligence ^b	22.06	5.69	.23**	.14	–									
4. Emotional intelligence ^c	4.82	0.62	.26**	.15	.23**	(.76)								
5. Cultural intelligence ^c	5.01	0.71	.17	.33**	.15	.62**	(.89)							
6. Agreeableness	4.38	0.64	.01	.04	.00	.11	.06	(.62)						
7. Conscientiousness	4.77	0.56	–.06	.02	.02	–.05	–.08	.02	(.77)					
8. Emotional stability	4.53	0.63	.01	.01	.13	.16	–.06	.29**	.18*	(.66)				
9. Extraversion	4.52	0.61	.07	.09	.10	.17	.15	.20*	.06	.18*	(.77)			
10. Openness to experience	4.08	0.65	.06	.14	–.06	.09	.20*	.02	.09	–.03	.37**	(.80)		
11. Age (in years)	29.07	3.96	–.08	.11	–.21*	.02	.09	.14	–.13	.03	–.19*	.10	–	
12. Leadership experience (in years)	6.44	4.79	–.13	–.04	–.28**	–.03	.01	.10	.15	.04	–.10	.12	.55**	–
13. Prior international experience	1.45	0.91	.25**	.38**	–.20*	.01	.25**	.09	–.02	–.21*	.00	.09	.11	.06

Note. *N* = 126.

^aObserver report.

^bPerformance based.

^cSelf-report.

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

Table 2. Hierarchical Regression Results ($N = 126$)

	General leadership effectiveness			Cross-border leadership effectiveness		
	Step 1	Step 2	RW	Step 1	Step 2	RW
Age (in years)	-.06	-.05	2.3%	.17	.16	5.6%
Leadership experience (in years)	-.11	-.04	4.0%	-.16	-.11	2.4%
Prior international experience	.25**	.30**	32.9%	.38***	.35***	48.1%
Agreeableness	-.02	-.03	0.3%	-.04	-.04	0.2%
Conscientiousness	-.07	-.06	1.8%	.02	.02	0.1%
Emotional stability	.07	.01	0.7%	.07	.07	0.9%
Extraversion	.03	.00	0.7%	.07	.03	1.3%
Openness to experience	.05	.06	1.4%	.08	.06	3.6%
General intelligence		.23*	25.5%		.18*	9.5%
Emotional intelligence		.27*	25.7%		-.07	3.5%
Cultural intelligence		-.11	4.7%		.24*	24.7%
<i>F</i>	1.32	2.39**		3.24**	3.61***	
	(8,117)	(11,114)		(8,117)	(11,114)	
ΔF	1.32	4.89**		3.24**	3.94**	
	(8,117)	(3,114)		(8,117)	(3,114)	
R^2	.08	.19		.18	.26	
ΔR^2	.08	.11		.18	.08	
Adjusted R^2	.02	.11		.13	.19	

Note. RW = relative weights in percentage of R^2 explained.

* $p < .05$, ** $p < .01$, *** $p < .001$.

$p < .001$). Surprisingly, previous leadership experience did not predict general leadership effectiveness ($\beta = -.04$, n.s.) or cross-border leadership effectiveness ($\beta = -.11$, n.s.) in our study. While this result is inconsistent with earlier research that has demonstrated experience can be an important predictor of leadership success (Fiedler, 2002), it is also consistent with recent theoretical arguments that experience may not necessarily translate into effectiveness (Ng, Van Dyne, & Ang, 2009).

Discussion

This study responds to a recent call for research on the unique aspects of global leadership and the competencies that predict global leadership effectiveness (Avolio et al., 2009). As hypothesized, results of our rigorous multisource research design show differences in predictors of general leadership effectiveness compared to cross-border leadership effectiveness. Cross-border leaders must work simultaneously with systems, processes, and people from multiple cultures.

Thus, cultural intelligence—the capability of functioning effectively in multicultural contexts (Earley & Ang, 2003)—is a critical competency of effective global leaders.

Theoretical Implications

Our findings have important theoretical implications. First, as Chiu, Gries, Torelli, and Cheng (2011) point out, the outcomes of globalization are uncertain. Some academics predict a multicultural global village and others expect clashes between civilizations. As the articles in this issue attest, contextual and psychological factors influence the extent to which intercultural contact activates exclusionary or integrative reactions. For example, Morris, Mor, and Mok (2011) highlight the adaptive value and creative benefits of developing a cosmopolitan identity. Our findings complement this perspective by emphasizing the importance of cultural intelligence for leadership effectiveness—especially in high-stakes global encounters, such as cross-border military assignments. In addition, our study offers another perspective because we emphasize the value of theory and research on the competencies of global leaders that help them perform in global contexts, rather than focusing on psychological reactions to globalization. Focusing on competencies suggests exciting opportunities for future research on the dynamic interaction between globalization and global leaders.

A second set of theoretical implications is based on the context-specific relationships demonstrated in this study. Specifically, results suggest that EQ and CQ are complementary because EQ predicted general but not cross-border leadership while CQ predicted cross-border but not general leadership effectiveness. This contrasting pattern reinforces the assertion that domestic leader skillsets do not necessarily generalize to global leader skillsets (Avolio et al., 2009; Caligiuri, 2006). Hence, EQ and CQ are related but distinct forms of social intelligence (Moon, 2010), and each has context-specific relevance to different aspects of global leadership effectiveness. Thus, researchers should match types of intelligences to specifics of the situation to maximize predictive validity of effectiveness.

Practical Implications

Our findings also have practical implications for the selection and development of global leaders. First, the significant relationship between general intelligence and both forms of leader effectiveness reinforces the utility of intelligence as a selection tool for identifying leadership potential. In addition, the incremental validity of emotional and cultural intelligence as predictors of leadership effectiveness, over and above previous experience, personality, and general intelligence, confirms predictions that social intelligences also contribute to leadership effectiveness (Riggio, 2002). Accordingly, managers should consider multiple

forms of intelligence when assessing leadership potential, especially when work roles include responsibility for coordinating complex social interactions.

Given the differential predictive validity of EQ and CQ relative to the two types of leadership effectiveness in our study, applying the notion of context similarity and matching types of intelligence with the leadership context should help organizations enhance their understanding of what predicts global leader effectiveness. This finding should also help organizations understand why leaders who are effective in domestic contexts may not be effective in cross-border contexts. These insights should help organizations tailor leadership development opportunities to the competency requirements of the situation. When leaders work primarily in domestic settings, organizations should place more emphasis on developing within-culture capabilities, such as EQ. In contrast, when leaders work extensively in international or cross-border settings, organizations should emphasize development of cross-cultural capabilities, such as CQ (Ng, Tan, & Ang, 2011).

Limitations and Future Research

Despite the strength of our multisource design and support for our predictions, this study has limitations that should help guide future research. First, our cross-sectional design prevents inferences about the causal direction of relationships. Thus, we recommend longitudinal field research that assesses capabilities and leadership effectiveness at multiple points in time.

Second, our study was conducted in a military context and all participants were male. Thus, we recommend caution in generalizing our findings to other settings until research can assess whether relationships can be replicated in other contexts. To address this need, we recommend future research on different types of intelligences and different aspects of leadership effectiveness in other vocational settings and different cultures (Gelfand, Erez, & Aycan, 2007).

Third, given that this is the first research, to our knowledge, that proposes and tests an integrated model of three types of intelligence and global leadership effectiveness, the model is necessarily incomplete. We did not consider the indirect effects of mediators or moderators. We recommend future research that “opens the black-box” by focusing on mediating mechanisms that link capabilities with global leader effectiveness. For example, Bass (2002) argued that multiple intelligences are a core element of transformational leadership. Previous research has demonstrated that emotional intelligence in domestic contexts (Rubin, Munz, & Bommer, 2005) and cultural intelligence in culturally diverse contexts (Elenkov & Manev, 2009) predict transformational leadership behavior. Judge and Piccolo (2004) provided meta-analytic evidence that transformational leadership behaviors predict leadership effectiveness. Thus, it is plausible that transformational leadership mediates the relationships of emotional and cultural intelligence with leadership effectiveness. Leader-member exchange (LMX) is

another plausible mediator. For example, Riggio (2002) suggested that social and emotional intelligences most likely enhance the quality of leader–follower relationships, which then influence effective leadership. In sum, we recommend future research on mediators that link multiple intelligences with leadership effectiveness.

We also recommend future research on situational factors that moderate the relationships between multiple intelligences and leadership effectiveness. Judge et al.'s (2004) meta-analysis, for example, demonstrated that situational stressors influence relationships between general intelligence and leadership effectiveness. Thus, it is possible that situational stressors function as an important boundary condition that qualifies the relationships demonstrated in our study. Given that EQ (Mayer, Roberts, & Barsade, 2008) and CQ (Tarique & Takeuchi, 2008) are influenced by prior experiences, it is possible that EQ and CQ are especially important in high-stress situations. Alternatively, it is possible that global identity (Shokef & Erez, 2008) functions as a boundary condition that changes the nature of the relationships between leader competencies and leader effectiveness. In sum, we recommend field and experimental research on the extent to which situational stressors moderate the relationships demonstrated in our research.

Conclusion

In sum, this research begins to add to limited understanding of predictors of global leadership effectiveness and how the nomological networks of leadership effectiveness differ in different contexts. Most important, results demonstrate the critical importance of CQ in predicting leadership effectiveness in cross-border contexts. We recommend future research on IQ, EQ, and CQ as well as other intelligences in predicting different types of leadership effectiveness in both domestic and cross-cultural contexts.

References

- Ang, S., & Ng, K. Y. (2007). Cultural and network intelligences: The twin pillars in leadership development for the 21st century era of global business and institutional networks. In K. Y. Chan, S. Singh, R. Ramaya, & K. H. Lim (Eds.), *Spirit and system: Leadership development for a third generation SAF* [Monograph] (pp. 46–52). Pointer: Journal of the Singapore Armed Forces.
- Ang, S., & Van Dyne, L. (2008). Conceptualization of cultural intelligence: Definition, distinctiveness, and nomological network. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 3–15). Armonk, NY: M.E. Sharpe.
- Ang, S., Van Dyne, L., & Koh, C. (2006). Personality correlates of the four-factor model of cultural intelligence. *Group and Organization Management, 31*, 100–123. doi:10.1177/1059601105275267
- Ang, S., Van Dyne, L., Koh, C. K. S., Ng, K. Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review, 3*, 335–371. doi:10.1111/j.1740-8784.2007.00082.x

- Ang, S., Van Dyne, L., & Tan, M. L. (2011). Cultural intelligence. In R. J. Sternberg & S. B. Kaufman (Eds.), *Cambridge handbook on intelligence* (pp. 582–602). New York: Cambridge University Press.
- Avolio, J., Walumbwa, F. O., & Weber, T. J. (2009). Leadership: Current theories, research, and future directions. *Annual Review of Psychology, 60*, 421–449. doi:10.1146/annurev.psych.60.110707.163621
- Bandura, A. (2002). Social cognitive theory in cultural context. *Applied Psychology: An International Review, 51*, 269–290. doi:10.1111/1464-0597.00092
- Bartlett, C. A., & Ghoshal, S. (1992). What is a global manager? *Harvard Business Review* (September–October), 124–132. doi:10.1225/R0308F
- Bass, B. M. (2002). Cognitive, social, and emotional intelligence of transformational leaders. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 105–118). Mahwah, NJ: Erlbaum.
- Brackett, M. A., Rivers, S. E., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating emotional abilities to social functioning: A comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology, 91*, 780–795. doi:10.1037/0022-3514.91.4.780
- Caligiuri, P. M. (2006). Performance measurement in a cross-national context. In W. Bennett, C. E. Lance, & D. J. Woehr (Eds.), *Performance measurement: Current perspectives and future challenges* (pp. 227–244). Mahwah, NJ: Erlbaum.
- Campbell, J. P., McCloy, R. A., Oppler, S. H., & Sager, C. E. (1993). A theory of performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 35–70). San Francisco, CA: Jossey-Bass.
- Caruso, D. R., Mayer, J. D., & Salovey, P. (2002). Emotional intelligence and emotional leadership. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 55–74). Mahwah, NJ: Lawrence Erlbaum.
- Chen, G., Kirkman, B. L., Kim, K., Farh, C. I. C., & Tangirala, S. (2010). When does cross-cultural motivation enhance expatriate effectiveness? A multilevel investigation of the moderating roles of subsidiary support and cultural distance. *Academy of Management Journal, 53*, 1110–1130.
- Chiu, C. Y., Gries, P., Torelli, C. J., & Cheng, S. Y. Y. (2011). Toward a social psychology of globalization. *Journal of Social Issues, 67*, 663–676. doi:10.1111/j.1540-4560.2011.01721.x
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Donnellan, M. F., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The mini-IPIP scales: Tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment, 18*, 192–203. doi:10.1037/1040-3590.18.2.192
- Earley, P. C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Palo Alto, CA: Stanford University Press.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. In S. T. Fiske, D. L. Schacter, & C. Zahn-Waxler (Eds.), *Annual review of psychology* (Vol. 53, pp. 109–132). Palo Alto, CA: Annual Reviews. doi:10.1146/annurev.psych.53.100901.135153
- Elenkov, D. S., & Manev, I. M. (2009). Senior expatriate leadership's effects on innovation and the role of cultural intelligence. *Journal of World Business, 44*, 357–369. doi:10.1016/j.jwb.2008.11.001
- Fiedler, F. E. (2002). The curious role of cognitive resources in leadership. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 91–104). Mahwah, NJ: Erlbaum.
- Gelfand, M. J., Erez, M., & Aycan, Z. (2007). Cross-cultural organizational behavior. *Annual Review of Psychology, 58*, 479–514. doi:10.1146/annurev.psych.58.110405.085559
- Gregersen, H. B., Morrison, A. J., & Black, J. S. (1998). Developing leaders for the global frontier. *Sloan Management Review, 40*, 21–32. doi:10.1225/SMR039
- Groves, K. S., & Feyerherm, A. (2011). Leader cultural intelligence in context: Testing the moderating effects of team cultural diversity on leader and team performance. *Group & Organization Management, 36*, 535–566. doi:10.1177/1059601111415664

- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Palo Alto, CA: Sage.
- Imai, L., & Gelfand, M. J. (2010). The culturally intelligent negotiator: The impact of cultural intelligence (CQ) on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes*, *112*, 83–98. doi:10.1016/j.obhdp.2010.02.001
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, *31*, 386–408.
- Johnson, J. W., & LeBreton, J. M. (2004). History and use of relative importance indices in organizational research. *Organizational Research Methods*, *7*, 238–257. doi:10.1177/1094428104266510
- Judge, T. A., Colbert, A. E., & Ilies, R. (2004). Intelligence and leadership: A quantitative review and test of theoretical propositions. *Journal of Applied Psychology*, *89*, 542–552. doi:10.1037/0021-9010.89.3.542
- 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. doi:10.1037/0021-9010.89.5.755
- Kanfer, R., & Heggestad, E. D. (1997). Motivational traits and skills: A person-centered approach to work motivation. *Research in Organizational Behavior*, *19*, 1–56.
- Kim, Y. J., & Van Dyne, L. (2011). Cultural intelligence and international leadership potential: The importance of contact for members of the majority. *Applied Psychology: An International Review*. Advance online publication. doi:10.1111/j.1464-0597.2011.00468.x
- Mayer, J. D., Roberts, R. D., & Barsade, S. G. (2008). Human abilities: Emotional intelligence. *Annual Review of Psychology*, *59*, 13.1–13.30. doi:10.1146/annurev.psych.59.103006.093646
- Moon, T. (2010). Emotional intelligence correlates of the four-factor model of cultural intelligence. *Journal of Managerial Psychology*, *25*, 876–898. doi:10.1108/02683941011089134
- Morris, M. W., Mor, S., & Mok, A. (2011). From bicultural to global identity: Implications for responses to mixed-culture situations and cultural differences. *Journal of Social Issues*, *67*, 760–773.
- Mumford, M. D., Zaccaro, S. J., Harding, F. D., Jacobs, T. O., & Fleishman, E. A. (2000). Leadership skills for a changing world. Solving complex social problems. *Leadership Quarterly*, *11*, 11–35. doi:10.1016/S1048-9843(99)00041-7
- Ng, K. Y., Ang, S., & Chan, K. Y. (2008). Personality and leader effectiveness: A moderated mediation model of leadership self-efficacy, job demands, and job autonomy. *Journal of Applied Psychology*, *93*, 733–743. doi:10.1037/0021-9010.93.4.733
- Ng, K. Y., Tan, M. L., & Ang, S. (2011). Culture capital and cosmopolitan human capital: The impact of global mindset and organizational routines on developing cultural intelligence and international experiences in organizations. In A. Burton & J. C. Spender (Eds.), *The Oxford handbook of human capital* (pp. 96–119). Oxford: Oxford University Press. doi:10.1093/oxfordhb/9780199532162.003.0004
- Ng, K. Y., Van Dyne, L., & Ang, S. (in press). Cultural intelligence: A review, reflections, and recommendations for future research. In A. M. Ryan, F. T. L. Leong, & F. Oswald (Eds.), *Conducting multinational research projects in organizational psychology*. Washington, DC: American Psychological Association.
- Ng, K. Y., Van Dyne, L., & Ang, S. (2009). From experience to experiential learning: Cultural intelligence as a learning capability for global leader development. *Academy of Management Learning & Education*, *8*, 511–526.
- Offermann, L. R., Bailey, J. R., Vasilopoulos, N. L., Seal, C., & Sass, M. (2004). The relative contribution of emotional competence and cognitive ability to individual and team performance. *Human Performance*, *17*, 219–243.
- Offermann, L. R., & Phan, L. U. (2002). Culturally intelligent leadership for a diverse world. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 187–214). Mahwah, NJ: Lawrence Erlbaum.
- Riggio, R. E. (2002). Multiple intelligence and leadership: An overview. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 1–6). Mahwah, NJ: Lawrence Erlbaum.

- Rockstuhl, T., Hong, Y. Y., Ng, K. Y., Ang, S., & Chiu, C. Y. (2011). The culturally intelligent brain: From detecting to bridging cultural differences. *Neuroleadership Journal*, 3, 22–36.
- Rockstuhl, T., & Ng, K. Y. (2008). The effects of cultural intelligence on interpersonal trust in multicultural teams. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 206–220). Armonk, NY: M.E. Sharpe.
- Rubin, R. S., Munz, D. C., & Bommer, W. H. (2005). Leading from within: The effects of emotion recognition and personality on transformational leadership behavior. *Academy of Management Journal*, 48, 845–858.
- Shin, S. J., Morgeson, F. P., & Campion, M. A. (2007). What you do depends on where you are: Understanding how domestic and expatriate work requirements depend upon the cultural context. *Journal of International Business Studies*, 38, 64–83. doi:10.1057/palgrave.jibs.8400247
- SHL. (1996). *Critical reasoning test battery: Technical manual*. Thames Ditton, UK: Saville and Holdsworth Ltd. Occupational Psychologists.
- Shokef, E., & Erez, M. (2008). Cultural intelligence and global identity in multicultural teams. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 177–191). Armonk, NY: M.E. Sharpe.
- Spreitzer, G. M., McCall, M. W., & Mahoney, J. D. (1997). Early identification of international executive potential. *Journal of Applied Psychology*, 82, 6–29. doi:10.1037/0021-9010.82.1.6
- Sternberg, R. J., & Detterman, D. K. (1986). *What is intelligence? Contemporary viewpoints on its nature and definition*. Norwood, NJ: Ablex.
- Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology*. Cambridge: Cambridge University Press.
- Tarique, I., & Takeuchi, R. (2008). Developing cultural intelligence: The roles of international nonwork experiences. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 56–70). Armonk, NY: M.E. Sharpe.
- Torelli, C. J., Chiu, C. Y., Tam, K. P., Au, K. C., & Keh, H. T. (2011). Psychological reactions to foreign cultures in globalized economy: Effects of simultaneous activation of cultures. *Journal of Social Issues*, 67, 716–742.
- Triandis, H. C. (2006). Cultural intelligence in organizations. *Group and Organization Management*, 31, 20–26. doi:10.1177/1059601105275253
- Turner, J. C. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Basil Blackwell.
- Van Dyne, L., Ang, S., & Koh, C. (2008). Development and validation of the CQS: The cultural intelligence scale. In S. Ang & L. Van Dyne (Eds.), *Handbook of cultural intelligence: Theory, measurement, and applications* (pp. 16–38). Armonk, NY: M.E. Sharpe.
- Viswesvaran, C., Schmidt, F. L., & Ones, D. S. (2002). The moderating influence of job performance dimensions on convergence of supervisory and peer ratings of job performance: Unconfounding construct-level convergence and rating difficulty. *Journal of Applied Psychology*, 87, 345–354. doi:10.1037//0021-9010.87.2.345
- Yeung, A., & Ready, D. (1995). Developing leadership capabilities of global corporations: A comparative study in eight nations. *Human Resource Management*, 34, 529–547. doi:10.1002/hrm.3930340405

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