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The Influence of Motivational Cultural Intelligence on Cultural Effectiveness Based on Study Abroad: The Moderating Role of Participant's Cultural Identity

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Abstract

This study examines the influence of motivational cultural intelligence (CQ) on the development of cultural effectiveness among university short-term business study abroad program participants. We conceptualize cultural effectiveness as the degree of psychological comfort and success in managing intercultural demands. Results of a multiple-source, two-wave lagged study demonstrate that initial levels of motivational CQ were positively associated with increases in (a) cultural well-being reported by participants and (b) peer perceptions of suitability for overseas work. In addition, cultural identity, an individual's psychological identification with his or her own national culture, strengthened the time-lagged relationship between motivational CQ and peer-rated suitability for overseas work. Participants with strong cultural identity and low motivational CQ were viewed as the least suitable for an

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overseas job. We discuss practical implications for designing cross-cultural education programs and implications for future research.

Keywords
cultural intelligence (CQ), motivational CQ, cultural identity, cultural effectiveness, study abroad, cross-cultural education

Introduction

Throughout the world, employees are increasingly exposed to intercultural situations, multicultural groups, and expected to take on international responsibilities (Bhagat & Prien, 1996; Black, Mendenhall, & Oddou, 1991; X. P. Chen, Liu, & Portnoy, 2012). As a result, colleges and universities highlight the importance of developing student's cross-cultural capabilities by offering courses in international management and encouraging participation in cross-cultural experiential learning programs that provide direct international experiences (Redden, 2010; Sachau, Brasher, & Fee, 2010). It is estimated that over 85% of the universities and colleges in the United States offer some form of study abroad programs (Whalen, 2008), and 283,332 U.S. students participated in these programs during the 2011-2012 academic year (Open Doors, 2013). Notably, about 60% are short-term programs that last fewer than 8 weeks and 20% of them target students majoring in business (Open Doors, 2013).

To date, research has reported a range of benefits of participation in cross-cultural education programs, including enhanced cross-cultural awareness, intercultural sensitivity (Anderson, Lawton, Rexeisen, & Hubbard, 2006; Black & Duhon, 2006; Chieffo & Griffiths, 2004), improved professional self-image (Cushner & Mahon, 2002), and career advancement (Vance, 2005). Despite these reported positive outcomes of cross-cultural experiential learning experiences, scholars have called for more rigorous research designs for assessing the effectiveness of these programs (Littrell, Salas, Hess, Paley, & Riedel, 2006; Tucker, Gullekson, & McCambridge, 2011). Anderson et al. (2006) noted, "While there have been a plethora of studies attempting to support the positive impact of study abroad programs, few have employed pre–post designs in an attempt to quantify the changes occurring over the course of the program" (p. 459). Besides the lack of rigorous research designs, existing research provides limited information on how to improve the learning experiences of the students. While guidelines and best practices have been offered and discussed (e.g., Koernig, 2007; Sachau et al., 2010; Tchaïcha & Davis, 2005), they are mostly based on the researchers' personal experiences and are not based on systematic statistical analyses.

Responding to these needs, this study examines factors that influence the extent to which individuals benefit from participating in short-term cross-cultural education programs, using a multiple-source, pre–post design. Drawing from research on cultural intelligence (CQ; Ang & Van Dyne, 2008; Earley & Ang, 2003), we propose that motivational CQ is the key to benefiting from participation in cross-cultural education programs. Research has shown that motivational CQ, defined as an individual's capability to direct attention and energy toward learning about and functioning in situations characterized by cultural differences (Ang & Van Dyne, 2008), has special relevance to cultural effectiveness (G. Chen, Kirkman, Kim, Farh, & Tangirala, 2010; Templer, Tay, & Chandrasekar, 2006). As noted by X. P. Chen et al. (2012), "motivational CQ is a significant predictor across various settings and tasks, whereas other dimensions of CQ did not show consistent results" (p. 94). Drawing on these empirical results and experiential learning theory (ELT; Kolb, 1984), we hypothesize that motivational CQ contributes to *increases* in cultural effectiveness as a result of cross-cultural learning experiences. To our knowledge this is the first study that has linked motivational CQ to *enhanced* cultural effectiveness across time as a result of cross-cultural training/education.

Noting the importance of self-concept and identity in shaping individual attitudes and behavior (Schaubroeck, Kim, & Peng, 2012), we also propose that the beneficial effects of motivational CQ are contingent on the strength of an individual's cultural identity, defined as the degree to which a person identifies psychologically with his/her own national culture (Kosmitzki, 1996; Sussman, 2000). This allows us to consider a boundary condition that provides insights into *when* motivational CQ has a stronger versus weaker influence on cultural effectiveness. Compared with motivational CQ that is malleable (Ang & Van Dyne, 2008), cultural identity is a set of deeper level personal beliefs that tend to be relatively stable over time. By considering constructs with different degrees of malleability, our findings provide insights into the selection of participants as well as predeparture interventions that might enhance learning during time abroad. Below we review the theoretical foundation and the CQ literature on which we base our hypotheses, which we tested in a sample of business study abroad participants.

Literature Review and Development of Hypotheses

Cultural Intelligence and Experiential Learning Theory

Based on Sternberg and Detterman's (1986) framework of multiple loci of intelligence, Earley and Ang (2003) conceptualized CQ as an individual

capability that enables people to function effectively in culturally diverse situations. CQ consists of four dimensions: metacognitive, cognitive, motivational, and behavioral CQ. Metacognitive CQ refers to the mental regulation of cognitive processes to acquire knowledge, and cognitive CQ refers to the knowledge structures individuals have about ways in which cultures are similar and different. Behavioral CQ is the capability to exhibit flexibility in overt actions, whereas motivational CQ is the capability to direct and sustain personal energy and resources to cope with cross-cultural demands. Given prior evidence that motivational CQ can be a powerful predictor of intercultural effectiveness (G. Chen et al., 2010; X. P. Chen et al., 2012; Templer et al., 2006), we focus on this dimension of CQ to refine our understanding of its influence on the development of cultural effectiveness.

Experiential learning theory (ELT) defines learning as a continuous process of adapting to the environment by acquiring new information, challenging existing knowledge and relearning, and integrating new knowledge into action (Kolb, 1984). ELT outlines four fundamental stages that individuals experience during the experiential learning cycle: concrete experiences, reflective observation, abstract conceptualization, and active experimentation (Kolb & Kolb, 2005). The first stage is concrete experiences, which refer to tangible experiences and gut feelings associated with new environments or events. The second stage, reflective observation, involves thinking about the concrete experiences and reexamining existing assumptions or beliefs. The third stage is abstract conceptualization, which focuses on more general and deeper level theorizing that may guide future actions. The final stage, active experimentation, refers to implementing new knowledge in interacting with the environment.

Drawing from ELT, Ng, Van Dyne, and Ang (2009) developed a theoretical framework that conceptualizes CQ as a set of learning capabilities that influences how individuals experience the four stages of experiential learning in intercultural situations (e.g., study abroad, expatriate assignments). They theorized that the quantity and quality of experiential learning, in turn, influences cultural effectiveness outcomes. Most relevant to our article, Ng and colleagues proposed that motivational CQ is critical to the learning stages of concrete experiences and active experimentation in intercultural situations. We draw on their theorizing and the prior research on motivational CQ to develop our predictions about how motivational CQ enhances cultural effectiveness through cross-cultural learning experiences.

Motivational CQ and Development of Cultural Effectiveness

Following prior research on cultural effectiveness that has distinguished psychological outcomes (i.e., emotional well-being) from sociocultural outcomes (i.e., skills and competencies; e.g., Van Vianen, De Pater,

Kristof-Brown, & Johnson 2004; Ward, Wilson, & Fischer, 2011), we focus on perceived well-being or comfort in intercultural contexts ("cultural well-being," hereafter) and suitability for overseas work, as observed by peers. We define cultural well-being as one's general feelings of competency, self-worth, and happiness in coping with the demands of interacting with a new culture (Searle & Ward, 1990). Suitability for overseas work, on the other hand, reflects one's skills in managing cultural demands and potential for performing overseas work (Kim & Van Dyne, 2012).

Earley and Ang (2003) identified two key components to motivational CQ: intrinsic motivation and self-efficacy regarding novel cultures. Intrinsic motivation in intercultural contexts reflects the sense that interacting with people from different cultures is a source of pleasure (Deci & Ryan, 1985), and cultural self-efficacy reflects confidence and the capability to direct and sustain effort to manage intercultural interactions even when situations are challenging.

Individuals with high motivational CQ have curiosity and interest (intrinsic motivation) to observe and learn about social norms in new cultural environments. They proactively seek exposure to intercultural experiences and events and are open to trying new things (Yamazaki & Kayes, 2004). Thus, they engage in a large quantity of concrete experiences and actively experiment with their acquired knowledge and skills in culturally diverse situations. They also derive satisfaction and pleasure from these intercultural experiences and should have high quality interactions.

Individuals with the confidence to function in intercultural situations (cultural efficacy) should also have high quantity and quality of concrete experiences and active experimentation during experiential learning. Living or working in a novel culture can be challenging and stressful (Redmond, 2000; Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006). Without a sense of cultural efficacy, individuals might be intimidated by the uncertainties and may refrain from getting involved in novel cultural contexts. A high level of cultural efficacy thus promotes concrete cultural experiences and enables people to direct their energy toward positively coping with challenges in a different culture. Additionally, cultural efficacy enhances utilization of skills, knowledge, and resilience when encountering difficulties (Bandura, 1997).

Combining these intrinsic motivation and cultural efficacy arguments, we propose that motivational CQ will facilitate concrete experiences and active experimentation during cross-cultural learning experiences. The quantity and quality of experiential learning during concrete experiences and active experimentation contribute to improved cultural effectiveness in the form of enhanced well-being in intercultural situations. Consistent with this notion, Templer et al. (2006) found that motivational CQ was positively associated with psychological adjustment in intercultural situations. Other studies also

reported a positive relationship between motivational CQ and adjustment to a new culture (Ang et al., 2007; G. Chen et al., 2010). Notably, however, extant research has focused on a cross-sectional correlation between motivational CQ and cultural adjustment or cultural well-being. Drawing on ELT, we go beyond prior research by predicting an *increase* in cultural well-being based on participation in cross-cultural education programs. Thus, we predict

Hypothesis 1a: Motivational CQ assessed before cross-cultural learning experiences will have a time-lagged positive relationship with T2 (Time 2) cultural well-being, after controlling for T1 (Time 1) cultural well-being.

Applying these arguments to cross-cultural education programs suggests that those with high motivational CQ are especially likely to benefit from the opportunity to learn during international experiences. Given the close proximity of peers who are simultaneously participating in the educational program and spending time abroad together, peers can observe the concrete experiences and active experimentation of those with high CQ. This active involvement serves as cues and provides a foundation for enhanced capabilities and effectiveness in intercultural contexts. Consequently, participants with higher motivational CQ should be perceived by their peers as have learned significantly and accordingly, are viewed as more suitable for work in different cultural contexts. Based on the above theorizing, we propose that motivational CQ leads to enhanced peer perceptions of suitability for overseas work based on participation in cross-cultural education.

Hypothesis 1b: Motivational CQ assessed before cross-cultural learning experiences will have a time-lagged positive relationship with T2 peer-rated suitability for overseas work, after controlling for T1 peer-rated suitability for overseas work.

Moderating Role of Cultural Identity

We have proposed that motivational CQ facilitates experiential learning and improves cultural effectiveness based on participation in cross-cultural learning experiences. Yet the positive effect of motivational CQ on cultural effectiveness may not be universal. We argue that strength of personal cultural identity is an important factor that may qualify the motivational CQ—cultural effectiveness relationships. Cultural identity is the extent to which an individual views and defines the self in terms of the common attributes or values shared with those from her home culture (Kosmitzki, 1996; Sussman,

2000). Cultural identity is a specific type of collective identity that psychologically ties together individuals who belong to the same social group, while simultaneously distinguishing them from members of other social groups (Tajfel, 1981). Both theory (e.g., social identity theory; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and empirical evidence (e.g., Kosmitzki, 1996; McGuire, McGuire, Child, & Fujioka, 1978) suggest that the contrast effect makes cultural identity salient when individuals enter a new cultural environment (e.g., visiting a new country or taking an international assignment). Experiencing cultural differences challenges existing beliefs based on internalization of home culture norms and triggers self-reflection on cultural identity. Thus, cultural identity is an important factor to consider when predicting cultural effectiveness.

When people deeply value the norms of their native culture, exposure to different cultures can be threatening and trigger reactance (Brehm, 1966). This can cause people to reject new cultures and reaffirm the superiority of their own home culture (Kosmitzki, 1996). Strong attachment to home culture may also cause individuals to experience strain when confronted with cultural discrepancies between the home country and the new setting (Van Der Zee, Atsma, & Brodbeck, 2004; Ward & Chang, 1997). Thus, those with strong cultural identities may be less psychologically flexible in adapting to new cultures. They may be less able to engage in cultural code-switching, which involves "deviating from accustomed behavior in one's native culture in order to engage in behavior appropriate to a foreign culture" (Molinsky, 2007, p. 623).

Motivational CQ should be especially valuable in helping those with strong cultural identities to overcome tendencies toward psychological rigidity and thus facilitates their experiential learning processes. When individuals are highly motivated to learn about a new culture, they should be engaged in in-depth exploration with the new culture, even if they have a strong cultural identity. This should lead to better cross-cultural learning experiences and outcomes.

In contrast, individuals with low motivational CQ and strong cultural identities are least likely to get involved with experiential learning in a new culture because they have little interest in other cultures and hold strong beliefs of who they are in terms of values and norms of their home culture. They may even exhibit ethnocentric reactions to novel cultures because of their inflexibility in cultural code-switching (Molinsky, 2007). Ethnocentric reactions refer to being judgmental toward those who are different (Church, 1982; Goldstein & Kim, 2006). Ethnocentric persons often misunderstand other cultures (Gudykunst & Kim, 1997), and they are less effective in intercultural situations (Toale & McCroskey, 2001). Thus, they are less likely to

benefit from experiential learning opportunities that improve cultural effectiveness.

Shifting our focus, we propose that those with weak cultural identities will be more psychologically flexible and more accepting of new cultural norms. They should find it easier to switch cultural codes to "fit" with the new culture and thus better adjust to the cultural demands of working, living, or traveling in different countries. Thus, motivational CQ should make less of a difference in cultural effectiveness of individuals with weak cultural identities, compared to those with strong cultural identities. Accordingly, we predict that motivational CQ will be more strongly related to cultural effectiveness (cultural well-being and suitability for overseas work) for those with stronger cultural identities.

Hypothesis 2a: The time-lagged relationship between T1 motivational CQ and T2 cultural well-being will be stronger for those with strong cultural identities than for those with weak cultural identities.

Hypothesis 2b: The time-lagged relationship between T1 motivational CQ and T2 peer-rated suitability for overseas work will be stronger for those with strong cultural identities than for those with weak cultural identities.

Method

Design of the Study Abroad Programs

College students from two, 5-week summer study abroad programs sponsored by a business school at a public university in the United States participated in this study. These programs aimed to develop students' interest in and sensitivity to different cultures and to offer them direct experiences related to business operations in foreign cultures. Each program was led by an experienced faculty member and students earned credit for a management course based on completing the study abroad program. We worked closely with faculty leaders to design the programs so they would be comparable—except that one program focused on Asia—including mainland China, Hong Kong, and Japan, and the other focused on Europe—including Belgium, France, the Netherlands, and Germany. In each program, students spent 1 week in on-campus study, followed by 4 weeks of study abroad.

The on-campus segment included training on awareness of the cultural differences, information and exercises on do's and don'ts for success in overseas work, and detailed information on the cultural norms and customs of the focal cultures. A variety of methods were used, including lectures, guest

speeches by expatriate managers and experts on culture, group discussion of cultural dilemmas, role play of cultural situations, and video presentations on cultural norms and rituals. Outside the classroom, students completed specific assignments (e.g., economic, cultural, and political facts) on the countries to be visited, working together with a randomly assigned participant (dyadic partner) during the program. Moreover, students completed online surveys on CQ capabilities on the third day of the on-campus study. The first author briefly introduced the concept of CQ and the purpose of the study. Two days later, students attended a CQ workshop that included debriefing of their personal CQ feedback reports and guidelines for preparing personal development plans. In the personal developmental plans, students proposed specific action steps they would take during study abroad to enhance their learning experiences and CQ capabilities. As with other course assignments, students submitted their personal development plans to the faculty member for feedback before going abroad.

During the time abroad, students had numerous opportunities to interact with locals and explore the culture. Accommodations were in student housing near university campuses and in local hotels. A typical day started with an overview of the day's agenda and learning goals for the activities by the faculty member. Each day ended with a half-hour debriefing session where students discussed and reflected on their experiences during the day. Course activities included site visits to local businesses, governmental organizations, and university campuses, meetings with local managers and employees, exposure to cultural events, and visits to local families. As a course requirement, participants worked with their partners to prepare a business report based on their visits to local organizations. Dyads also presented a summary of their observations to local business managers. In addition to the structured activities organized by the faculty member, students also had personal time to explore the local environment. In their dyads they went shopping, dined at local restaurants, and took city tours. As a course requirement, they wrote reflection papers about their experiences during the study abroad (e.g., what surprised them, what they learned) after they had returned home.

Participants and Procedures

Participants were undergraduate business students (e.g., majoring in management, marketing, accounting, finance, logistics, etc.). They were informed of the voluntary nature of their participation. To encourage participation, we provided students with personal feedback reports on their CQ before and after their time abroad. Prior to going abroad, participants completed the online T1 survey, which included motivational CQ, cultural identity, cultural

well-being, demographic variables, and whether they knew their partners before the study abroad program. They also rated their partners' suitability for overseas work based on class exercises and the predeparture assignments they had completed. Two weeks after returning from abroad, they completed the T2 postsurvey, which included their own cultural well-being and suitability for overseas work for their partner and one other randomly assigned program participant.

A total of 109 students participated in the study at T1, for an overall response rate of 92%. The Asian program had 58 participants (63% male, average age of 21 years), and the European program had 51 (41% male, average age of 21 years). Of the 109 T1 participants, 98 provided responses to the T2 survey and 100 had ratings from the other two peers, for an overall response rate of 83%. As a result, the sample size in the analyses varies slightly depending on the specific outcomes. Twenty-eight percent had prior full-time work experience and 96% had prior part-time work experience. Most participants were from the United States (78%), with a variety of other countries also represented: China (9%), Korea (3%), Canada (2%), India (2%), Japan (1%), Italy (1%), Ethiopia (1%), Iran (1%), Iraq (1%), Cyprus (1%), Lithuania (1%), Kazakhstan (1%), and Saudi Arabia (1%). Overall, 51% were female, average age was 21 years (SD = 4.12), 65% were White, 19% Asian, 8% African American, and the remaining 8% were Pacific Islander, Hispanic, Native American, or Filipino.

Measures

Unless mentioned explicitly, we assessed variables with 7-point Likert-type scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). We used established measures for all constructs (see the appendix for specific items).

Motivational CQ. We measured motivational CQ at T1 with the five motivational CQ items from the previously validated CQ scale (Ang et al., 2007; Van Dyne, Ang, & Koh, 2008). Sample items are "I enjoy working with people from different cultures" and "I am sure I can deal with the stresses of adjusting to a culture that is new to me." Cronbach's alpha was .80.

Cultural Identity. We assessed cultural identity at T1 with six items adapted from the Multi-Group Ethnic Identity Measure developed by Roberts et al. (1999). This scale accesses the centrality and importance of home country culture to one's self-definition. A sample item is "My cultural heritage is an important part of my identity." Cronbach's alpha was .85.

Cultural Well-Being. We assessed participant's cultural well-being at T1 and T2 with five items from the General Health Questionnaire (Goldberg, 1972). At T1, participants rated their general well-being in intercultural situations to provide a baseline for cultural well-being. This allowed us to test changes in cultural well-being over time. At T2 (2 weeks after returning from abroad), participants rated their well-being when interacting with individuals from different cultures during the past 2 weeks. To capture well-being in intercultural contexts, we instructed participants to respond to the items based on their experiences when interacting with people from different cultures or when living/traveling in different cultures. One sample item is "I feel reasonably happy." Cronbach's alpha was .90 at T1 and .94 at T2.

Peer-Rated Suitability for Overseas Work. Participants in the same study abroad program rated other peers' suitability for overseas work at T1 and T2. We used the three items adapted by Kim and Van Dyne (2012) from Lyness and Judiesch (2008). A sample item is "I think this person is well-suited for a job working in another country." At T2, the correlation between the two peer ratings—one by the partner and the other by a randomly assigned program participant—was .64, suggesting high consistency and so we averaged the T2 peer ratings. Cronbach's alpha was .93 at T1 and .95 at T2.

Control Variables. We controlled for gender (1 = male; 2 = female) and country of origin (0 = non-U.S.; 1 = U.S.) in all the analyses to avoid potential confounds. As expected, neither age nor educational level was related to the outcome variables. Importantly, correlations between type of program (i.e., European program vs. Asian program) and year of data collection (2008 vs. 2009) were not statistically significant and ranged from .07 (program and cultural well-being) to .13 (year and suitability for overseas work), showing that neither type of program or year of data collection influenced the outcomes. Thus, we combined data across programs and across years for the analyses. Supplementary analyses also showed that regression results did not differ when controlling for these variables.

Results

Table 1 presents the means, standard deviations, and correlations among study variables. T1 motivational CQ was positively related to both T2 outcomes: T2 cultural well-being = .32 ($p < .01$) and T2 peer-rated suitability for overseas work = .26 ($p < .01$).

Table 1. Means, Standard Deviations, and Correlations Among Study Variables.

	M	*SD*	1	2	3	4	5	6	7	8
1. Cultural well-being (Time 2)	6.19	0.89								
2. Peer-rated suitability for overseas work (Time 2)	5.41	1.16	.13							
3. Motivational CQ (Time 1)	4.37	1.17	.32**	.26**						
4. Cultural identity Time 1)	5.69	0.85	−.14	−.01	.20*					
5. Gender	1.49	0.50	.08	−.23*	−.06	.00				
6. Country of origin	0.78	0.42	.35**	.03	.14	−.21*	.03			
7. Ethnic minority	0.29	0.46	−.09	−.04	.07	.33*	−.13	−.30**		
8. Cultural well-being (Time 1)	5.27	1.01	.49**	.17	.19	−.11	.09	.35**	−.06	
9. Peer-rated suitability for overseas work (Time 1)	5.10	1.05	.07	.25*	.11	.22*	−.17	.02	.09	.05

Note. CQ = cultural intelligence. Sample size ranges from 98 (e.g., recommending behavior) to 109 (e.g., motivational CQ). Demographic variables were dichotomized: country of origin (0 = born in countries other than the United States, 1 = born in the United States), gender (1 = male, 2 = female), and ethnic minority (0 = Caucasian White, 1 = otherwise).
*$p < .05$. ** $p < .01$.

Hypotheses Testing

Table 2 presents the hierarchical regression results. To facilitate testing and subsequent plotting of the interaction effect (i.e., Hypothesis 2), we centered predictors to their representative sample means. Hypothesis 1 predicted positive relationships for motivational CQ assessed before the overseas program (T1) with cultural well-being (Hypothesis 1a) and peer-rated suitability for overseas work (Hypothesis 1b) assessed after the program (T2), controlling for T1 baseline levels of cultural well-being and suitability for overseas work. In Step 2, T1 motivational CQ was positively related to T2 cultural well-being ($\beta = .26$, $p < .01$), after controlling for cultural well-being at T1. Thus, results fully support Hypothesis 1a. Similarly, T1 motivational CQ had a significant positive effect on peer-rated suitability for overseas work at T2 ($\beta = .26$, $p < .05$), after controlling for the time-lagged influence of T1 suitability for overseas work. This supports Hypothesis 1b.

Hypothesis 2 proposed that T1 motivational CQ would interact with T1 cultural identity in predicting T2 cultural well-being (Hypothesis 2a) and peer perceptions of suitability for overseas work (Hypothesis 2b). To test Hypothesis 2, we created an interaction term based on the product of the mean-centered T1 variables. We then entered this interaction term in Step 3 of the regression. As shown in Table 2, we observed a significant interaction of motivational CQ and cultural identity predicting peer perceptions of suitability for overseas work ($\beta = .21$, $p < .05$), indicating that the association of

Table 2. Results of Hierarchical Regression Analyses Testing the Hypotheses.

	Dependent variables (Time 2)[a]					
	Cultural well-being			Peer-rated suitability for overseas work		
Variables	M1	M2	M3	M1	M2	M3
Step 1						
Gender	.04	.06	.06	−.21	−.19	−.17
Country of origin	.20*	.16	.16	.00	−.05	−.07
Ethnic minority	.00	.01	.02	−.08	−.08	−.07
Cultural well-being (T1)	.41**	.36**	.36**			
Peer-rated suitability for overseas work (T1)				.23*	.22*	.22*
Step 2						
Motivational CQ[b]		.26**	.26**		.26*	.28**
Cultural identity		−.12	−.12		−.10	−.15
Step 3						
Motivational CQ × cultural identity			.03			.21*
Total R^2	.28	.34	.34	.11	.17	.21
ΔR^2	.28	.06	.00	.11	.07	.04
F	8.63**	7.51**	6.38**	3.20*	3.37**	3.63**
ΔF	8.63**	4.11*	.08	2.57*	3.13*	4.55*

Notes. $N = 98$. For country of origin, 0 = born in countries other than the United States and 1 = born in the United States; for gender, 1 = male and 2 = female, and for ethnic minority, 0 = Caucasian White, 1 = otherwise.

a. Standardized coefficients are reported.

b. We also collected data on the other three CQ capabilities (i.e., metacognitive CQ, cognitive CQ, and behavioral CQ) at T1. As expected, none of them predicted T2 outcomes.

*$p < .05$. ** $p < .01$.

motivational CQ with peer-rated suitability for overseas work was contingent on the level of cultural identity. In contrast, the interaction predicting cultural well-being failed to reach significance (Hypothesis 3a: $\beta = .03$, *ns*). We plotted the significant interaction for Hypothesis 2b (see Figure 1) using procedures suggested by Cohen, Cohen, West, and Aiken (2003). As predicted, the relationship between T1 motivational CQ and T2 peer-rated suitability for overseas work was positive for those with strong cultural identities (simple slope t-test = 3.24, $p < .01$). In contrast, and as expected, T1 motivational CQ was not related to T2 suitability for overseas work for participants with weak cultural identities (simple slope t-test = .19, *ns*). Overall, participants with the

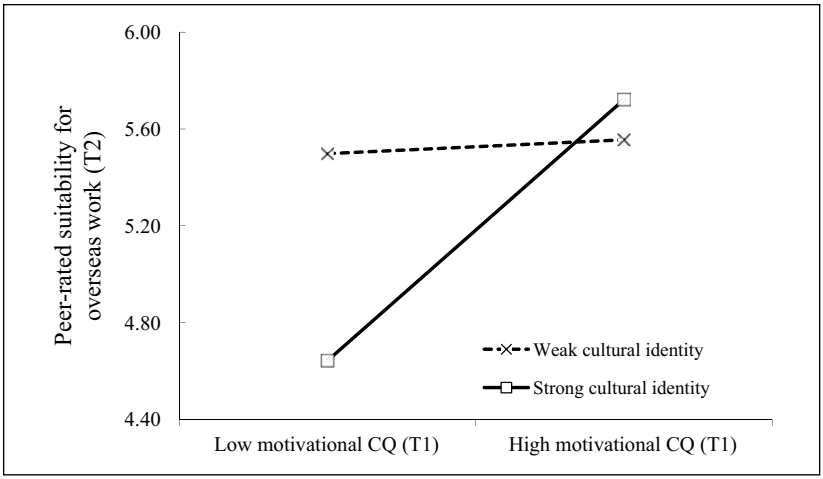

Figure 1. Interaction between cultural identity and motivational cultural intelligence (CQ) in predicting peer-rated suitability for overseas work.

combined characteristics of strong cultural identity and low motivational CQ were rated as lowest in suitability for overseas work by their peers. Thus, Hypothesis 2b is supported but Hypothesis 2a is not.

Supplementary Analyses

It is possible that the measure of "peer perceptions of suitability for overseas work" may have captured interpersonal liking rather than actual effectiveness in intercultural contexts. If this assumption holds, we would expect that raters who (a) knew ratees (i.e., focal participants) longer, (b) were similar in terms of sex and ethnicity, or (c) had closer interactions with ratees would report higher ratings of suitability for overseas work. We conducted supplemental analyses to examine these possibilities. First, the majority of the participants (84%) reported that they had not known each other before the study abroad program. We created a dummy variable to represent relationship history (0 = did not know each other before; 1 = knew each other before. Analysis showed this dummy variable was not related to T1 peer-rated suitability for overseas work ($r = -.06$, *ns*). Second, we created two dummy variables that represent similarity between rater and ratee in terms of sex and ethnicity (sex similarity: 1 = rater is the same sex as the ratee, and 0 = otherwise; ethnicity similarity: 1 = rater and ratee share the same ethnicity, and 0 = otherwise). Results showed that the similarity variables were not related to peer-rated suitability for overseas work

($r = -.01$ for sex similarity, and $r = -.08$ for ethnicity similarity). Finally, we created a "partnership" dummy variable (0 = a randomly selected nonpartner peer from the same study abroad program; 1 = the randomly assigned peer partner) for the T2 data. Again, the relationship between partnership and peer-rated suitability for overseas work failed to reach significance ($r = -.10$, *ns*). Results suggested that peer ratings of suitability for overseas work were not influenced by prior relationships, similarity, or liking.

Discussion

We found that participant's motivational CQ assessed before going abroad had a time-lagged positive relationship with both indicators of cultural effectiveness (i.e., cultural well-being and peer-rated suitability for overseas work) after completion of the study abroad educational program. By controlling for the baseline levels of cultural effectiveness, our findings suggest that higher initial motivational CQ leads to an *increase* in cultural effectiveness based on participation in cross-cultural education programs. In addition, participants with strong cultural identities who also had low motivational CQ were least likely to benefit from the program as evidenced by low peer-rated suitability for overseas work at the completion of study abroad. Below, we discuss implications for cross-cultural education practices and future research.

Motivational CQ and Cross-Cultural Learning Experiences

Study abroad and other cross-cultural education programs are designed to improve participant's sensitivity to different cultures and their effectiveness in intercultural situations (Black & Duhon, 2004; Cushner & Karim, 2004; Vance, Sibeck, McNulty, & Hogenauer, 2011). Despite the increasing popularity of these programs in colleges and universities worldwide, outcomes of study abroad programs have not been rigorously assessed (Pedersen, 2010). By tracking study abroad program participants over time, our study showed enhanced cultural effectiveness—specifically in terms of psychological well-being in intercultural situations ($\Delta M = 0.92$, $t = 9.22$, $p < .01$) and peer-rated suitability for overseas work ($\Delta M = 0.31$, $t = 2.61$, $p < .01$). From this perspective, our study provides a more rigorous examination of study abroad program outcomes than most prior research (Anderson et al., 2006).

Consistent with prior observations that being exposed to intercultural experiences does not automatically improve participant's cultural capabilities (e.g., Gmelch, 1997; Pedersen, 2010), we found that those with lower motivational CQ were less likely to benefit from study abroad. Subgroup examination of participants ($n = 40$) with motivational CQ scores lower than the

sample mean showed no difference in pre- and post- program peer-rated suitability for overseas work ($\Delta M = 0.20$, $t = 0.79$, *ns*). This finding rules out the possibility that the observed changes in cultural effectiveness merely reflected the participants' affective experiences (Sitzmann, Ely, Brown, & Bauer, 2010). If "feeling happy" is the sole driver for the participants' more positive reports in the postprogram survey, we will not expect them to provide systematically lower ratings for peers with low motivational CQ.

However, we did not observe a significant interaction between cultural identity and motivational CQ in predicting cultural well-being. Motivational CQ had a positive influence on cultural well-being, regardless of the level of cultural identity. We speculate that the intercultural processes contributing to cultural well-being may be somewhat different from the processes that improve suitability for overseas work as perceived by others. In order to be seen as suitable for overseas work, individuals have to demonstrate their adaptability to the novel culture and have to show new patterns of behavior that are compatible with the culture (Molinsky, 2007). Individuals with strong cultural identities are often reluctant to change their behaviors, and thus high motivational CQ is critical in this situation. In contrast, feeling well in a cross-cultural situation does not necessarily involve visible changes in behavior. For example, individuals may experience more comfort in a new culture by improving their knowledge about the culture. Because understanding the new culture may not challenge one's cultural identity, an individual with a strong cultural identity may not experience substantial discomfort interacting with people from a different culture. As a result, motivational CQ benefits those with strong cultural identities as much as those with weak cultural identities in terms of enhanced cultural well-being.

Implications for Short-Term Cross-Cultural Education Programs

One major implication of our findings is that cross-cultural education programs should consider interventions that can boost motivational CQ before participants go abroad. Thus, it is important to have predeparture preparation and training as suggested by scholars (e.g., Koernig, 2007; Tchaïcha & Davis, 2005). Predeparture preparation can aim to enhance participant's awareness of the intrinsic value of intercultural interactions. For example, the program could include course materials that depict the national and cultural heritage of the host country to stimulate participant's desire to learn more about that culture. Interactive exercises and role play simulations where participants practice culture specific skills (Ozcelik & Paprika, 2010) can be used to improve their sense of cultural efficacy. Given that those with strong cultural identities and low motivational CQ are least likely to benefit from

cross-cultural education programs, facilitators should pay special attention to these participants. For example, they could be paired up with other participants who have high motivational CQ to enhance their motivation through the peer influence (Ryan, 2000). Alternatively, programs could select candidates that are most likely to benefit from the experience. For popular study abroad programs, selection criteria could include having at least a moderate level of motivational CQ. In sum, predeparture activities could focus on enhancing participant's interest and confidence in intercultural interactions (motivational CQ), rather than an exclusive emphasis on factual information about the culture.

Considering the brief nature of most of the cross-cultural education programs (Vance et al., 2011), trip activities need to be well planned so that students have meaningful contact with locals. Such contact can be facilitated by formal course-related activities and informal social interactions (Sachau et al., 2010). The study abroad programs surveyed in our research, for example, set up connections with local organizations and scheduled each pair of student participants to interview local managers and employees. Students were also required to have a deliverable (i.e., a summary of the interview) to make the assignment concrete. As recommended by de Figueiredo and Mauri (2013), study abroad participants could also be teamed up with college students from local universities to complete team tasks (e.g., developing a business plan, business case competition). Structured course activities like these would facilitate local contact and cross-cultural learning for participants who might be less proactive in seeking intercultural interactions on their own. To enhance students' informal interactions with locals, program facilitators could arrange homestays with local families instead of staying in hotels. This provides students a rich intercultural context for developing deeper understanding of the culture and personal connections with host families that might last a lifetime (Sachau et al., 2010).

Finally, we suggest that study abroad programs consider postprogram activities to reinforce students' learning. Postprogram design has so far received little research attention and is often not included in study abroad programs. Successful postprogram activities would extend student learning beyond the time abroad. For example, program facilitators could create a shared internet space where students can post trip-related pictures and videos. Students could keep in touch with each other through the Internet space and share their culture-related stories during and after the time abroad. Program facilitators could also invite participants from prior program to volunteer as guest speakers or class discussants, again to extend the time they spend thinking about and processing their cross-cultural experiences. Finally, program facilitators should encourage students to maintain contact

with locals via e-mail, Facebook, and other Internet media. Given that these activities would occur after the study abroad program, they should be designed so they are self-motivating and do not require excessive facilitator involvement.

Limitations and Future Research

As with all studies, our research has limitations that have implications for future research. Despite our effort to move beyond prior cross-sectional research by using a pre–post, multiple-source design to examine the influence of motivational CQ on cultural effectiveness, we were not able to assess experiential learning processes directly. Qualitative approaches, such as diary studies, could help identify specific incidents during cross-cultural experiences that may have implications for cultural engagement, cultural learning, and cultural effectiveness. In our design, we collected T1 data in the middle of the on-campus training so that peers could rate their perceptions of suitability for overseas work. This may have created a conservative assessment of the changes in cultural effectiveness as a result of study abroad participation. Accordingly, future research may focus on how specific aspects of predeparture preparation can improve experiential learning during the time abroad and cultural effectiveness after returning home.

A second limitation is the nature of our sample. Although universities emphasize study abroad programs and although many students participate in study abroad as part of their cross-cultural learning experiences, we do not know the extent to which our findings would apply to other types of cross-cultural education and training programs. Thus, the generalizability of these results to postgraduate (e.g., MBA or executive education) study abroad or corporate cross-cultural training programs must be examined in future studies. Because students in an MBA or executive program may have more prior intercultural experience and may be better aware of their needs and goals, they may benefit from short-term cross-cultural experiences even if their motivational CQ is not particularly high. Alternatively, their cultural effectiveness may already be high and ceiling effects may dampen potential learning opportunities. In multinational organizations, pressures associated with cross-cultural training programs may create a strong situation that diminishes the influence of motivational CQ on cultural effectiveness. Research needs to better understand when international learning opportunities are most beneficial and how to design these cross-cultural education and training programs for specific target audiences. Research may also examine the role of other relevant identity constructs such as biculturalism (see reviews by Nguyen & Benet-Martínez, 2007; Sam & Berry, 2010). Having a bicultural identity may

facilitate experiential learning during study abroad through flexibility in switching identities across cultural situations (Molinsky, 2007).

Finally, the field needs research on other indices of cultural effectiveness, such as job performance in international assignments years later, to make a stronger case for the positive impact of cross-cultural training and study abroad education programs. We used peer-rated suitability for overseas work at T2 as one proxy for cultural effectiveness. Peers rated a focal participant based on their observations of how he or she interacted with locals and their collaborations on cultural assignments before and during the study-abroad period. Our supplemental analyses showed that peer perceptions of suitability for overseas work were not biased by prior relationships, similarity, or liking, and that the two peer ratings at T2 converged in perspectives. In addition, 96% of our participants had part-time work experience and they all had interacted with people from different countries, and thus they were able to provide a valid perspective about a peer's suitability for overseas work. In conjunction with the aforementioned analyses, we suggest that peer-rated suitability for overseas work provides an independent and meaningful indicator of cultural effectiveness. Nevertheless, we note that peers may base their assessments largely on the focal participant's ethnocentric attitudes and reactions toward the locals, and thus may not capture other factors needed for performing effectively in an overseas job (e.g., learning new skills, networking in a foreign country). Future research that includes ratings of intercultural effectiveness provided by the instructor, local manager, or local customer would be another useful design feature that could provide a different perspective on evaluations of intercultural effectiveness.

Conclusion

Using a rigorous design with pre–post data and multisource ratings of cultural effectiveness, we found positive effects of T1 motivational CQ on increases in self-reported cultural well-being and peer perceptions of suitability for overseas work. Results also show that the relationship between T1 motivational CQ and T2 peer-rated suitability for overseas work was especially strong for those with strong cultural identities. Our study provides important insights that can inform the design of cross-cultural education programs by highlighting the importance of developing interventions that enhance participant's motivational CQ before going abroad. Such interventions should help those with strong cultural identities benefit more from the experience. Overall, results demonstrate the importance of motivational CQ in developing cultural effectiveness through participation in cross-cultural education programs.

Appendix

Measures Used in the Study

Motivational CQ.[a]

- I enjoy working with people from different cultures.
- I like cross-cultural interactions that are new.
- I am sure I can deal with the stresses of adjusting to a culture that is new to me.
- I am confident that I can socialize with the locals in a culture that is unfamiliar.
- I am confident that I can be effective when working with people who have different (rather than similar) cultural backgrounds.

Cultural Identity

- My cultural heritage is an important part of my identity.
- I have a clear sense of my cultural background and what it means for me.
- I often think about my cultural background.
- I have a lot of pride in my culture and its accomplishments.
- When others with my cultural background are recognized for their accomplishments, I feel as though I have accomplished something too.
- I share in the successes of others who have my cultural background.

Cultural Well-Being. To what extent do the following statements apply to you when you were interacting with individuals from a different culture during the past 2 weeks.

- I feel reasonably happy.
- I am able to concentrate on what I have been doing.
- I am making useful contributions.
- I am capable of making decisions.
- I am able to face up to my responsibilities.

Peer-Rated Suitability for Overseas Work

- I think this person is well-suited for a job working in another country.
- I would strongly recommend that this person be sponsored by an organization to work overseas.

- I think that someday this person can be a manager in an overseas operation.

Note. Use of this scale granted to academic researchers for research purposes only. For information on using the scale for purposes other than academic research (e.g., consultants and nonacademic organizations), please send an e-mail to info@culturalq.com
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