

## The Impacts of Language Proficiency, Emotional Intelligence, and International Experience on Cultural Intelligence

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The purpose of this study was to demonstrate the conceptual foundation of cultural intelligence (CQ) as well as the relationships between CQ and its antecedents. This study empirically examined whether cultural intelligence (CQ) could be developed through high proficiency in a host-country language, possessions of high levels of emotional intelligence (EQ), and the length of international experience. Results demonstrated that language proficiency, emotional intelligence, and international experience predicted overall CQ, with differential relationships for the four dimensions of CQ. More specifically, both language proficiency and emotional intelligence were positively related to all four facets of CQ (metacognitive, cognitive, motivational and behavioral CQ) while international experience were positively related to metacognitive, motivational, and behavioral CQ.

*Key words : cultural intelligence, emotional intelligence, language proficiency, and international experience*

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## I . Introduction

As businesses and industries progress toward rapid globalization through foreign direct investment, international joint ventures, strategic alliances and other forms of collaboration, employees in organizations are required a high level of cross-cultural management skills and capabilities. With the increasing diversity of workplace demographics, the capability to work and interact effectively with people from different cultural backgrounds is increasingly in demand to resolve the problems that arise from cultural differences in complex international working environments. Such cross-cultural interaction can be challengeable for individuals and their organizations since cultural differences increase conflicts and frictions (Shenkar, 2001; Lievens, Harris, Van Keer, & Bisqueret, 2003; Takeuchi, Yun, & Tesluk, 2002). Thus, understanding and coordinating a culturally diverse workforce have therefore obtained increasing importance. Responding to this need, Earley and Ang (2003) developed the multifactor concept of cultural intelligence (CQ). CQ is defined as an individual's capability in adjusting to a completely new cultural environment, and managing people who have different cultural backgrounds and understanding (Earley & Ang, 2003; Earley, Ang & Tan, 2006; Ang, Dyne & Koh, 2006). CQ is a multi-factor concept that

consists of metacognitive, cognitive, motivational, and behavioral factors (Earley & Ang, 2003; Earley, Ang & Tan, 2006; Ang, Dyne & Koh, 2006).

Conceptual theorizing studies on CQ have been the main focus of research (Sternberg & Grigorenko, 2006; Ang, Dyne, Koh, Ng, Templer, Tay & Chandrasekar, 2007), but empirical research on CQ is recently increasing. Past studies demonstrated not only the construct validity of CQ in relation to other intelligence constructs, or personality traits, but also its predictive validity over cultural judgment and decision making, cultural adaptation, task performance, and cross-cultural adjustment (Ang, Van Dyne, & Koh, 2006; Ang et al., 2007; Templer, Tay & Chandrasekar, 2006). Ang, Van Dyne, and Koh (2006) examined differential relationships between the Big Five personality factors and the four dimensions of CQ (meta-cognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ). Templer et al. (2006) demonstrated that the motivational factor of CQ was positively associated with cross-cultural adjustment in terms of work, general, and interaction adjustment of global professionals. In another study, Ang et al (2007) examined relationships between the four CQ factors and three intercultural effectiveness outcomes, such as cultural judgment and decision making, cultural adaptation, and task performance. More

specifically, they found that cultural judgment and decision making was predicted by metacognitive CQ and cognitive CQ; cultural adaptation was explained by motivational CQ and behavioral CQ; and task performance was predicted by metacognitive CQ and behavioral CQ (Ang et al., 2007).

Despite investigating the constructive and predictive validity of CQ, examining antecedents of CQ or factors that influence CQ is inevitable to comprehend why some individuals deal more effectively than others with situations characterized by cultural diversity than others. To date, few studies have examined the relationships between CQ and its antecedents.

As previous studies examine the relationships between CQ and its antecedents such as personality or other trait-type individual differences (Earley & Ang, 2003; Earley, Ang & Tan, 2006; Ang, Dyne & Koh, 2006), this study also assumes the level of language fluency as another crucial element in the development of CQ. Mastering a host country's language not only provides a tool for communicating with individuals in a host country, but also allows to access a body of cultural knowledge, beliefs, norms, customs, traditions, and beliefs beyond language itself. Languages function as culture carriers (Earley, Ang, & Tan, 2006). High proficiency in a host-country's language allows to access fully the cultural heritage of the host

country. Earley (2002) argues that individuals who have limited language skills and fluency have lower CQ.

Another factor that influences CQ would be emotional intelligence (EQ). Although scholars do not deliberately limit their emotional intelligence (EQ) models to a single country, they are unable to adequately apply their models in across-cultural context because EQ is dependent on familiarity with a specific context that is not necessarily applicable across cultures for the individual (Earley & Ang, 2003; Earley & Peterson, 2004). CQ differs from emotional intelligence in several ways. Whereas emotional intelligence gauges the ability to perceive, understand and respond to the affective states of similar cultures, cultural intelligence reflects a person's ability to adjust to new cultural contexts without limiting him or herself to a single one (Earley & Ang, 2003). Whereas EQ does not provide an adequate explanation, nor is it as valid when applied in a cross-cultural context, CQ is culture-free construct that can be applied to cross-cultural situations (Ang et al., 2007, Earley et al, 2003; Ng & Earley, 2006). Thus, a person might rate high on the emotional intelligence scale of his or her original culture, but that does not necessarily translate into success in adapting to different cultural settings.

In a sense of culture-free issue, EQ is clearly

distinct from CQ. However, some subdimensions of EQ, such as social awareness, and relationship management can be closely related to CQ. Since social competence such as social awareness, and relationship management reflects an individual's capability of dealing with other people's emotions (Goleman, 1998), these subdimensions of EQ may be closely related to CQ which is essential for interacting with people with different cultural backgrounds.

The length of international experience is also considered to be influential factor in CQ. Takeuchi, Tesluk, Yun, and Lepak (2005) demonstrated that prior international experiences of expatriates were positively related to their adaptability to the host country. This study also assumes that previous international experience, such as living or working in a new culture can develop CQ. International experience enables expatriates to acquire skills, knowledge, and behaviors for cross-cultural interactions (Gudykunst & Ting-Toomey, 1998), and correspondingly has a positive effect on their cross-cultural competency in unfamiliar cultural settings (Sambharya, 1996).

The primary objective of this study is to investigate whether cultural intelligence (CQ) can be developed through high proficiency in a host-country language, possessions of high levels of emotional intelligence (EQ), and international experience. This study argues that people with higher proficiency in a host-country language,

higher levels of EQ, and more experiences in abroad are more likely to have higher levels of CQ. In addition, this study confirms reliability and construct validity of the four factor model of CQ.

## 1. Theoretical Overview of Cultural Intelligence

Consistent with Schmidt and Hunter's (2000) definition of general intelligence as the capability to read and understand accurately with concepts and make problem solving, CQ is defined as the capability to interact and manage effectively in multiple cultures (Earley & Ang, 2003; Earley, Ang & Tan, 2006; Ang et al., 2006; Ang et al., 2007; Ng & Earley, 2006; Templer, Tay & Chandrasekar, 2006). The construction of CQ is not simply social intelligence or emotional intelligence with minor changes for multiculturalism (Earley & Ang, 2003; Ang et al., 2007). The construct of CQ is based on Sternberg and Detterman's (1986) multiple-loci of intelligence framework. CQ is a multidimensional construct as well as an extended contemporary view to comprehending intelligence (Earley & Ang, 2003; Ang et al., 2007).

CQ is composed of the four fundamental components: meta-cognitive facet, cognitive facet, motivational facet, and behavioral facet (Earley &

Ang, 2003, Earley, Ang & Tan, 2006; Ang et al., 2006; Ang et al., 2007; Ng & Earley, 2006; Templer, Tay & Chandrasekar, 2006). The four components of CQ are consistent with contemporary perspectives of intelligence that encompasses metacognitive, cognitive, motivational, and behavioral factors (Sternberg & Detterman, 1986; Sternberg et al., 2000).

The meta-cognitive CQ (CQ-Strategy) refers to one's specific capability to obtain understanding and comprehend a new culture based on a variety of factors (Earley & Ang, 2003; Earley & Peterson, 2004). In other words, the meta-cognitive facet includes the general procedure of how people learn new aspects of a culture, as well as helping them in their mental functioning and understanding of their own conceptualizations of self (Earley & Ang, 2003; Ang et al., 2007). It involves planning strategy before cross-cultural interactions, adjusting cultural knowledge when interacting with people with different cultural backgrounds, and monitoring the accuracy of cultural knowledge during cross-cultural encounters (Ang et al., 2007; Ang, et al., 2006).

While meta-cognitive reflects higher-order cognitive process, cognitive CQ (CQ-Knowledge) is how an individual make sense of similarities and difference between cultures (Ang et al., 2007; Ang, et al., 2006). It reflects the specific knowledge of content and mental maps concerning a target culture that is gained

through meta-cognitive mechanisms (Earley & Peterson, 2004). It includes knowledge about the legal and economic systems, religious beliefs, the marriage systems, the arts and crafts, and language of other cultures (Ang, et al, 2006).

The third component of cultural intelligence, the motivational CQ, reflects one's propensity to commit to adaptive behaviors when thrust into a culturally unfamiliar setting (Earley & Peterson, 2004). To successfully adapt to new cultural settings requires more than simple cognitive knowledge of the new cultural group's behavior. People must have motivation, or some impetus, to utilize their knowledge and craft a culturally appropriate response. It involves the inherent preference for interacting with people from different cultures, the confidence on culturally diverse interactions, and the management of stress of adjusting to unfamiliar settings (Ang et al., 2007; Ang, et al., 2006).

The final component of cultural intelligence is the behavioral CQ. Given a cultural context, this refers to one's ability to act on one's desire or intent (Earley & Ang, 2003). The behavioral perspective of cultural intelligence suggests that successful adaptation to a new culture necessitates appropriate situational responses given one's behavioral repertoire. This is informed by knowledge of the behavior and its execution (cognitive), and requires intent to exert the effort and (motivational) (Earley & Peterson,

2004). It includes a sense of flexibility for behavioral responses that fit to a variety of culturally diverse situations, and the ability to adapt both verbal and nonverbal behavior when a cross-cultural interaction requires it (Ang, et al., 2006).

To summarize, CQ is an aggregate multi-dimensional construct that is composed of metacognitive, cognitive, motivational, and behavioral factors in relations with cross-cultural interactions.

## 2. Antecedents or factor that influences CQ: Personality, general cognitive ability, language proficiency, emotional intelligence, and international experience

Just as other forms of intelligence, CQ is also in a controversy on nature versus nurture issue. Unlike personality or IQ that is inherited and resistant to change, CQ can be developed and learned over time through more international experiences and adequate training (Earley & Ang, 2003; Earley, Ang, & Tan, 2006).

With regard to personality, personality is stable trait-like individual differences (Chen, Gully, Whiteman, & Kilcullen, 2000). Ang, Van Dyne, and Koh (2006) examined relationships between CQ and Big Five personality (conscientiousness, agreeableness, emotional stability, extraversion, openness to experience),

and demonstrated the discriminant validity of the four dimensions of CQ compared to the Big Five personality factors. More specifically, Ang et al. (2006) found that conscientiousness positively related to meta-cognitive CQ; agreeableness positively related to behavioral CQ; emotional stability negatively related to behavioral CQ; extraversion positively related to cognitive CQ, motivational CQ and behavioral CQ; and openness to experience positively related to all four facets.

Another factors that influence CQ would be general cognitive ability (IQ) (Earley & Ang, 2003; Earley, Ang, & Tan, 2006). They are similar since they all concern with a set of capabilities, rather than preferred ways of behaving (Earley & Ang, 2003; Earley, Ang, & Tan, 2006). However, they are different because CQ concentrates on culturally relevant capabilities while IQ is not specific to particular contexts, such as cross-cultural environments (Ackerman & Humphreys, 1990; Hough & Schneider, 1996). Moreover, IQ can not explain behavioral or motivational domains of intelligence.

Although there is a substantial heritability factor like personality and general cognitive ability in CQ, CQ is also influenced by environmental factors such as experience, education, and parenting (Earley, Ang, & Tan, 2006). Thus, individual's CQ is relatively static in the short term, but it can be developed in

the long term (Earley & Ang, 2003). Much of learning can be achieved by individual's international experiences and intercultural training. In order to examine feasible factors that predict CQ, this paper assumes that three factors, such as language proficiency, emotional intelligence, and international experience are positively associated with CQ.

Previous research found that language proficiencies influence the development of interpersonal interactions (Marschan et al., 1997; Marschan-Piekkari et al., 1999a, b). Since CQ deals with cross-cultural interactions among individuals from different cultural backgrounds, language skill of a host country may be an important predictor of individual CQ. Language skills or fluency are the degree to which persons can speak or write language with ease and accuracy in (Barner-Rasmussen & Björkman, 2007). Learning foreign languages and overcoming language barriers are one of the most difficult challenges for cross-cultural encounters. Mastering foreign languages provides a body of cultural knowledge, beliefs, and values as well as a convenient tool for communication. Language proficiencies are essential for gaining cultural knowledge such as the legal and economic systems, religious beliefs, and social systems in different cultures. Therefore, mastering a host-country's language helps develop CQ. Research on language proficiencies has shown that deficits

of language skill or fluency in cross-cultural interactions increase a sense of separation and disconnection that can isolate individuals from the main stream of team members (Marschan-Piekkari et al., 1999a, b). Individuals with high language fluency in cross-cultural teams tend to lead discussion, facilitate in-group interaction, and make efficient decision-making (Marschan et al., 1997). Barner-Rasmussen & Björkman (2007) demonstrated that language fluency is positively related to shared vision and perceived trustworthiness. Language proficiencies are therefore expected to be a crucial element of developing CQ. Thus, this study predicts that proficiency in foreign languages is positively related to CQ.

Like CQ, emotional intelligence (EQ) is based on contemporary theories of intelligence (Sternberg, 1986), and has been considered a well-established and validated theory in a singular cultural setting by providing numerous evidences of correlations between EQ and individual, group and organizational performance (Goleman, 1995; Goleman 1998; Mayer, Caruso, & Salovey, 1999). CQ reflects a person's capability to collect, interpret, and act on unexpected social cues to still function effectively while EQ does not deal directly with these issues. Rather, EQ involves one's capability to perceive, assimilate, self-regulate, understand and respond to the affective states of culturally-similar individuals

(Earley & Ang, 2003; Earley & Peterson, 2004). Thus, those with high levels of EQ within their own culture are not necessarily skilled at comprehending the implications of interacting with individuals from other cultures since many of social or emotional cues used by individuals from one culture to make sure another individual's emotional status vary by cultures (Ang et al, 2007; Earley & Ang, 2003). Unlike EQ, CQ is culture-free construct that can be applied to cross-cultural situations (Ang et al., 2007, Earley et al, 2003; Ng & Earley, 2006).

Although EQ is dependent on familiarity with a specific context that is not necessarily applicable across cultures for the individual (Earley & Ang, 2003; Earley & Peterson, 2004), EQ is also a learned capability that can contribute to cross-cultural interactions. Since EQ is the capacity for identifying our and others' emotions, for motivating ourselves, and for managing emotions effectively in ourselves and others (Goleman, 1995; Goleman, 1998; Boyatzis, Goleman, & Rhee, 1999), this capability can influence on when interacting with people with different cultural backgrounds. Specifically, the capabilities of EQ dealing with others, such as social awareness, and relationship management can be essential parts in cross-cultural interactions. Thus, a person who rate high EQ on his or her original culture does not necessarily translate into success in adapting to different cultural settings,

but he or she may have a higher possibility of adapting successfully to unfamiliar cultural environments

This paper also investigates whether respondents with more international experiences are more likely to have higher levels of CQ than respondents with fewer international experiences. International experience such as working abroad, studying abroad, and short visits to foreign countries helps individuals to gain knowledge, skills and behaviors required for intercultural interactions (Takeuchi et al., 2005 Gudykunst & Ting-Toomey, 1998), and to develop adaptability, and flexibility in different cultural environments (Sambharya, 1996). The theoretical logic behind this assumption of a positive relationship between CQ and international experience is based on social learning theory (Bandura, 1977). Social learning theory suggests that individuals can be learned and developed from other people around them (Bandura, 1977). In other words, individuals in cross-cultural interactions learn other cultures' customs and norms by experiencing directly or observing the host countries' behaviors (Bandura, 1997). Moreover, individuals who have more international experiences in other cultures are more likely to possess more comprehensive cognitive schemata that allow individuals to have an open-mind and flexibility, positive views towards other cultures, respect for others, tolerance of others' behaviors

and norms, and fluency in multiple languages (Bandura, 1977). Thus, individuals who are often exposed to international encounters are predicted to have high CQ levels.

### 3. Research Hypotheses

Hypothesis 1: Respondents with high proficiency in a host-country language will have higher levels of CQ than will respondents with low proficiency in a host-country language.

Hypothesis 2: Respondents with high levels of EQ will have higher levels of CQ than will respondents with low levels of EQ.

Hypothesis 3: Respondents with more experiences in abroad will have higher levels of CQ than will respondents with fewer experiences in abroad.

## II. Research Method

### Sample and Procedure

Respondents were undergraduate students enrolled at a large public university in Korea. Respondents indicated that they have spent an average length of their international residence or visit of 7.52 months (SD=7.21). Respondents

were 39.1% male, average 22.12 years of age (SD=5.64) with a range of 17 to 25 years old.

In order to minimize common method variance, this study collected data at two points during one semester. At the beginning of semester, 173 students completed data on demographic information including gender, age, language level, and length of international experience and the 20-item CQ questionnaires. At the end of semester (12 weeks later), 167 of these students completed the 63-item EQ questionnaires. Since there are only a few numbers of difference between Time1 (n=173) and Time 2 (n=167), this study assumes that there is no potential attribution bias.

Since both CQ and EQ measurements were developed in English, they were translated into Korean for the Korean respondents by a native Korean speaker who was a professional in business translation for a local research firm in Korea and had been educated in the US. After the initial translation process was complete, a discussion was held to resolve any discrepancies between the researcher and translator. After there was an agreement between the researcher and translator, the Korean versions of the two questionnaires were then back translated into English by a translator who was born in the U.S. and was both fluent in English and Korean. Any differences were also resolved between the researcher and translator. In sum,

the back translated versions matched the original English versions of the two questionnaires, reflecting fine quality of the translation work.

This study examined whether CQ could be developed by improving proficiency of a host-country language, raising levels of emotional intelligence, and having more experiences in abroad. CQ acts as the dependent variable while proficiency of a host-country language, level of emotional intelligence, and duration of expatriation serve as the independent variables

## 1. Measures

### Cultural Intelligence

CQ was measured using the 20 item, four-factor Cultural Intelligence Scale (CQS) developed by Ang and colleagues (2004). Respondents described the degree to which they agreed with each statement based on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). As shown in Appendix, four items measured the meta-cognitive facet of CQ (e.g., "I am conscious of the cultural knowledge I apply to cross-cultural interactions."). Six items assessed the cognitive facet of CQ (e.g., "I know the legal and economic systems of other cultures."). Five items assessed the motivational facet of CQ (e.g., "I am confident that I can socialize with locals in a culture that is unfamiliar to me."). Five items measured the

behavioral facet of CQ (e.g., "I alter my facial expressions when a cross-cultural interaction requires it."). The CQS assesses four items for metacognitive CQ ( $\alpha=.85$ ), six for cognitive CQ ( $\alpha=.82$ ), five for motivational CQ ( $\alpha=.86$ ), and five for behavioral CQ ( $\alpha=.85$ ). These reliabilities are consistent with those presented in Ang et al (2006).

Confirmatory factor analysis (CFA) demonstrated good fit of the data to a four-factor correlated model (Model A):  $\chi^2(164df) = 310.28$ , Goodness-of-Fit (GFI) = .898, Non-Normed Fit Index (NNFI) = .933, Comparative Fit Index (CFI) = .941, and root mean square of approximation (RMSEA) = .071. All factor loadings were significant. In order to examine relative fit of this four-factor model, this study compared this four-factor correlated model with alternate nested models, such as four-factor orthogonal model (Model B), three-factor model (Model C), two-factor model (Models D and E), and one-factor model (Model F).

Nested model comparisons present the superiority of the four-factor model since each of the  $\Delta\chi^2$  statistics exceeds the critical value based on the degree of freedom. The hypothesized four-factor model demonstrates the best fit compared to the other five models. Model A (four-factors) presented better fit than Model B (four orthogonal factors),  $\Delta\chi^2(6df)=605.87$ ,  $p<.001$ . Model A (four-factors) also showed better

fit than three factor model of Model C (metacognition and cognition combined vs. behavior and motivation combined),  $\Delta\chi^2(3df)=487.37$ ,  $p < .001$ . Model A also demonstrated better fit than two alternate two factor models of Model D (metacognition and cognition vs. motivation and behavior combined):  $\Delta\chi^2(5df) = 798.50$ ,  $p < .001$  and Model E (metacognition vs. the other three facets combined)  $\Delta\chi^2(5 df)=779.56$ ,  $p < .001$ . Lastly, Model A had better fit than Model F (one

factor model with all items loading on a single factor),  $\Delta\chi^2(6df)= 921.27$ ,  $p < .001$ .

**Emotional Intelligence (EQ)**

EQ was measured by the Emotional Competence Inventory-University Edition (ECI-U) (Boyatzis, Goleman, & Rhee, 2000; Boyzatis & Goleman, 2002). The ECI includes 4 clusters composed of 21 competencies: self-awareness, self-management, social awareness, and relationship management. The ECI-U includes 63 phrases

Table 1. ECI Clusters and Examples of Questions

Self-Awareness	
Definition	The ability to identify one’s own emotions, recognize the source of feelings, and comprehend implications of own emotions
Example of Questions	3. I present myself in an assured and unhesitating manner 14. I am aware of my own strengths and weaknesses
Self-Management	
Definition	The ability to keep one’s disruptive emotions and impulses under control
Example of Questions	19. I deal calmly with stress 36. I easily handle shifting priorities and rapid change
Social Awareness	
Definition	The ability to understand and know other people’s feelings, needs and concerns, with an emphasis on rapport building
Example of Questions	4. I accurately read people’s moods or non-verbal cues 28. I accurately read key power relationships in groups or organizations
Relationship Management	
Definition	Adeptness at inducing desirable responses from others with its focus on negotiation and persuasive skills
Example of Questions	31. I make close, personal friends among acquaintances or classmates 62. I communicate the positions of those involved in a conflict to all concerned

illustrating people's behaviors. Respondents selected the degree to which they agreed with each statement based on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). As shown in Table 1, nine items measured the self-awareness cluster of EQ (e.g., "I present myself in an assured and unhesitating manner."). Twenty one items assessed self-management cluster of EQ (e.g., "I deal calmly with stress."). Nine items assessed social awareness cluster of EQ (e.g., "I accurately read people's moods or non-verbal cues."). Twenty four items measured relationship management cluster of EQ (e.g., "I make close, personal friends among acquaintances or classmates.").

In the current study, the reliabilities of the four clusters are .72 for self-awareness, .79 for self-management, .82 for social awareness, and .81 for relationship management.

#### **Language Proficiency, International Experiences, and Control Variables**

Consistent with Takeuchi et al. (2005), respondents were asked to list the name of the English-speaking countries to which they had visited with the length of each trip, and the purpose of trips. For the purpose of this study, this study only focused on the countries that have used English as their host language to examine the relationship between language

proficiency, especially for English fluencies and CQ. These countries included America, Canada, Australia, New Zealand Singapore, and Philippine. The purpose of trips were divided into trips for holiday and language schools.

In order to measure their language fluency, the respondents are asked their TOEFL (Test of English as a Foreign Language) or TOEIC (Test of English for International Communication) scores at the last page of the questionnaire. Since most Korean companies require the TOEIC score for their employee recruitment and selection, most of these Korean college students have taken the TOEIC at least once. In addition, most Korean students who prepare to go studying or finish their studying in the English spoken countries have generally taken the TOEFL. Later, TOEIC score can be converted into TOEFL score based on the TOEFL-TOEIC conversion Table.

To assess international experience, the respondents are asked to list the length of each trip (number of months) when they had lived or visited in abroad. This study included age (years), and gender (0=female, 1=male) as controls.

### **III. Results of the Study**

Table 2 presents the descriptive statistics,

Table 2. Descriptive Statistics( $N=167$ )

	M	SD	1	2	3	4	5	6	7	8	9	10
1 Total CQ	80.9	14.7	(.87)									
2 Metacognitive CQ	3.78	.69	.71**	(.85)								
3 Cognitive CQ	4.21	.51	.72**	.45**	(.82)							
4 Motivational CQ	5.30	.60	.78**	.36**	.27**	(.86)						
5 Behavioral CQ	5.01	.47	.77**	.45**	.51**	.50**	(.85)					
6 Language proficiencies	201.9	32.0	.47**	.43**	.35**	.33**	.41**	-				
7 Emotional intelligence	212.2	19.8	.43**	.41**	.29**	.34**	.32**	.11*	(.87)			
8 International experience	7.5	7.2	.39**	.29**	.25**	.35**	.33**	.23**	.20**	-		
9 Age	22.1	5.6	.03	.09	.10	.05	-.03	.00	.03	.09	-	
10 Gender (1=male 2=female)	1.5	0.4	-.05	-.09	-.10	.04	.00	.02	-.01	.01	-.17**	-

Note. \* $p < .05$ , \*\* $p < .01$

CQ=cultural intelligence, Cronbach's alpha in parentheses, International experience=months

correlations, and reliabilities used in this study. As Table 2 shows, coefficient alpha for all of the multiple-item constructs ranged between .82 and .87, exceeding the .70 cutoff point. The indices suggest acceptable reliability for the multi-item constructs.

In order to test the hypotheses, hierarchical regressions were used as shown in Table 3. In the first step of each regression analysis, the two control variables (age, and gender) were entered and the three antecedent factors (language proficiency, emotional intelligence, and

international experience) were included at the second step. Hypothesis 1 predicted that language proficiency would be positively related to CQ. Results supported Hypotheses 1 that language proficiency was positively related to total CQ ( $\beta=.27$ ,  $p < .001$ ). More specifically, language proficiency was positively related to (a) meta-cognitive, (b) cognitive, (c) motivational and (d) behavioral CQ. ( $\beta=.29$ ,  $p < .001$   $\beta=.30$ ,  $p < .001$   $\beta=.27$ ,  $p < .001$   $\beta=.33$ ,  $p < .001$ ). Hypothesis 2 assumed that emotional intelligence would have a positive relationship with CQ.

Table 3. Hierarchy Regression Analysis ( $n=167$ )

Variable	Total		Metacognitive		Cognitive		Motivational		Behavioral	
	CQ		CQ		CQ		CQ		CQ	
	Step1	Step2	Step1	Step2	Step1	Step2	Step1	Step2	Step1	Step2
Age	.03	.04	.05	.00	.05	.00	.07	.03	.03	.14
Gender (1=male, 2=female)	-.03	-.04	-.06	-.04	-.05	-.04	.03	.01	-.03	-.01
Language proficiencies		.27***		.29***		.30***		.27***		.33***
EQ		.24***		.29***		.14*		.35***		.23***
International experience		.20**		.15**		.09		.15**		.20**
<i>F</i>	1.41	6.81***	1.5	5.61***	1.45	4.49**	1.61	4.31**	1.22	5.87**
<i>F</i>		8.69***		7.57***		6.39***		6.22***		7.71***
$R^2$	.00	.42	.01	.33	.03	.20	.00	.36	.00	.30
$\Delta R^2$		.42		.32		.17		.36		.30
Adjusted $R^2$	.00	.40	-.00	.31	.00	.15	.00	.34	.00	.29

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

Gender (1=male, 2=female), International experience (months of cross-cultural experiences)

Results demonstrated that emotional intelligence was positively related to total CQ ( $\beta = .24$ ,  $p < .001$ ). Like language proficiency, emotional intelligence was positively related to all four facets of CQ ( $\beta = .29$ ,  $p < .001$ ,  $\beta = .14$ ,  $p < .05$ ,  $\beta = .35$ ,  $p < .001$ ,  $\beta = .23$ ,  $p < .001$ ). Finally, Hypothesis 3 that international experience would relate to total CQ was supported ( $\beta = .20$ ,  $p < .01$ ). International experience was positively related to a) meta-cognitive, (b) motivational and (c) behavioral CQ ( $\beta = .15$ ,  $p < .01$ ,  $\beta = .15$ ,  $p < .01$ ,  $\beta = .20$ ,  $p < .01$ ). However, international experience was unrelated to cognitive CQ.

#### IV. Discussion and Conclusions

The primary goal of this research was to examine whether cultural intelligence (CQ) was influenced by language proficiency, emotional intelligence and international experience. Although previous studies have demonstrated the constructive and predictive validity of CQ (Ang et al., 2004; Ang et al., 2007), few studies have conducted research on CQ regarding its antecedents. Thus, this study attempted to explore the relationships between the four-factor CQ construct and its antecedents. Among the antecedents of CQ,

language proficiency, emotional intelligence and international experience all predicted overall CQ, controlling for demographic characteristics, such as gender and age. In addition, this study further increased the generalizability of the Cultural Intelligence Scale (CQS) across countries by using 167 Korean respondents, which had been supported by employing respondents only in Singapore and the United States. Correspondingly, this study confirmed a reliability and construct validity of the four factor model of CQS.

The results of this study provided several important points. First, the findings of this study supported strong psychometric characteristics of the CQ scale with a stable facet (meta-cognitive, cognitive, motivational, and behavioral CQ), which were consistent with the findings of previous studies (Ang et al., 2004; Ang et al., 2007). Second, analyses of the findings provided that the CQ factors were positively related to language proficiency, emotional intelligence and international experience after controlling for age, and gender.

The results supported the prediction that language proficiencies were positively related to CQ. In thinking about language proficiencies and the four facets of CQ, language proficiencies were positively related to all four facets of CQ. First, metacognitive CQ reflects an individual's capability of planning, monitoring, and adjusting

cultural consciousness and awareness during cross-cultural interactions (Earley & Ang, 2003; Ang et al., 2006; Ang et al., 2007). Thus, those who are high in language proficiencies know better how to acquire and understand cultural knowledge, and recognize better how they respond to a variety of cues in cross-cultural interactions due to their systematic mechanism for accessing the core values of different cultures. Second, language offers cultural knowledge since language not only delivers a lot of subtleties and implications of culture, but also provides its values, norms, traditions, and different conceptual paradigm. (Earley, 2002).

Thus, language proficiencies would be positively related to cognitive CQ, which is an individual's level of cultural knowledge, such as specific norms, practices and conventions in different cultural environments (Earley & Ang, 2003). Third, language proficiencies were positively related to motivational CQ. Since acquiring high ability in multiple languages requires consistent passions and efforts for learning languages, those with high in language proficiencies are more likely to derive attention and efforts toward learning cultural differences. Finally, language proficiencies were also related to behavioral CQ. Behavioral CQ refers to the individuals' capability to perform adequate verbal and non-verbal actions in cross-cultural interactions (Earley & Ang, 2003). Individuals

with high language proficiencies are more likely to share the identical perspectives of values, norms, and rules of different cultures (Triandis, 2006). Thus, verbal and non-verbal behaviors are positively associated with language proficiencies through shared perceptions.

The results of this study also demonstrated that emotional intelligence (EQ) was positively related to all four facets of CQ. Goleman (1995) defined emotional intelligence as competency in managing oneself and his/her relationship with others. In addition, Boyzatis and Goleman (2002) developed an EQ assessment, the Emotional Competency Inventory (ECI) that includes the four subcomponents, such as self-awareness, self-management, social awareness and relationship management. Since EQ is the capability for identifying and perceiving one's and others' emotions, for motivating oneself, and for managing emotions effectively in oneself and others (Goleman, 1995; Goleman, 1998; Boyzatis, Goleman, & Rhee, 1999), this capability definitely impact on when interacting with people with different cultural backgrounds. First, the results supported that emotional intelligence was positively related to metacognitive CQ. Those who are high in emotional intelligence have a consciousness of their internal states, preferences, resources and intuitions, as well as a realistic assessment of self-ability, and a well-grounded sense of self-confidence, they are more

likely to acquire and understand cultural knowledge effectively. Second, emotional intelligence was also related to cognitive CQ. Since individuals with high emotional intelligence are more likely to expect obstacles to achieve a goal, and take calculated risks with achievement drive, and initiative (Boyzatis & Goleman, 2002), they are more intelligent, curious, anticipatory, and well-prepared for knowledge about specific aspects of other cultures. Third, results supported that emotional intelligence would be positively related to motivational CQ. People who are high in emotional intelligence put more consistent energy and effort toward learning about cross-cultural situations since they can deal better with stress or cultural shock from an unfamiliar culture, and manage their impulses and emotions to overcome the conflicts and misunderstandings characterized by cultural differences. Finally, emotional intelligence was positively related to behavioral CQ. People who are high in emotional intelligence tend to read better other cultural groups' feelings or non-verbal cues, and display effective verbal and non-verbal communication skills.

The results also presented that international experience was positively related to metacognitive, motivational and behavioral CQ. First, international experience was positively related to metacognitive CQ. Since those with more international experiences are more likely to

obtain cultural consciousness, and knowledge through exposures to different cultures and countries, various international experiences develop active thinking about people and situations in different cultural environment, and allow individuals to interpret others' cultural norms or values before and during interactions. Second, this study reported that international experience was related to motivational CQ, which defined as an individual's capability to derive energy and interest for cultural adaptation (Earley & Ang, 2003). Previous studies have argued that individuals with a variety of international experience tend to have more traits of curiosity, stronger desires of adapting to new environments, and more communication skills to work with people from different cultures (Mendenhall & Oddou, 1985). Finally, this paper supported that international experience was positively related to behavioral CQ. Behavioral CQ refers to the capability of applying appropriate verbal and non-verbal skills in different cultures (Earley & Ang, 2003). More international experiences promote individuals' proficiencies in changing their behaviors to adapt to new cultural settings since they are more open to others' cultures.

This study has also limitations. First, future study should be more concerned about common method variance. Although this study collected self-report of CQ and EQ at two different

points of time to minimize common method variance, all of the sample data come from same resource. The best way to control CMB is to use different measurement method for each variable, such as the multitrait-multimethod (MTMM) (Park et al., 2007; Podsakoff et al., 2003; Spector, 1994). If it is impossible to gain multiple measures of the variables from multiple methods, researchers must obtain predictor and criterion variables from different sources (Podsakoff & Organ 1986). Another way of controlling CMB is using objective measures that help reduce many biases that can interrupt human judgment and distort reports (Spector, 2006). Second, future study should explore more extended model of CQ and other variables by adding personality as an antecedent variable, and job performance or cultural adaptation as criterion variable and mediated variable. For example, future study could examine the relationships between an individual level's level of CQ/EQ, and job performance in international assignments as well as cultural adaptation, and also investigate the relationship among personality and the intelligence construct. Third, this study used TOEFL and TOEIC as indications of language fluency, but this study could not omit the possibility for participant bias due to the ability, willingness and honesty of the respondents. Finally, since study samples were limited to the undergraduate students in a

Korean university, generalization of the study was limited and the chance of sampling errors could not be excluded. Future studies should test the hypotheses with samples from different populations

Despite these limitations, this study has a theoretical implication. As recent conceptual and empirical studies on CQ have suggested, the findings of this study supports that CQ are capabilities that can be developed. Intercultural competence research have classified as antecedents of individual difference from demographic variables such as personality traits, a state-like capability (IQ, emotional intelligence, social intelligence, and language proficiency), and previous experience to situational variables (cultural distance, predeparture training, the nature of the task, job role, and family adjustment) (Dinges & Baldwin, 1996; Ng & Earley, 2006). Among these various variables, this paper focuses on demographic variables such as language proficiency, emotional intelligence, and international experience as antecedents of CQ.

Practically, this study also has implications for cross-cultural management practice. For example, this study would help human resource professionals search for selection, training and developing a more culturally competent workforce. By demonstrating the relationship between CQ and the antecedent variables, this study allows

organizations to improve their staffing and performance system. They will recognize an importance of cultural intelligence besides evaluating employees' language proficiencies, international work experience, and emotional intelligence when an HR department in an organization recruits or selects its employees for work in cross-cultural settings.

In addition, organizations could use the CQS to recruit and select their employees who would be the best fit for expatriate assignments since pervious studies and this study supported strong psychometric characteristics of the CQS. By using CQS, those who are perform well in domestic contexts but unlikely to succeed in cross-cultural interactions could be screened out, which eventually would reduce unnecessary costs occurred in the failures of oversea assignments.

In conclusion, this study demonstrated strong construct validity for the four-factor CQ concept, and selective relationships of three antecedent factors with CQ.

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1 차원고접수 : 2008. 04. 01.

수정원고접수 : 2008. 05. 28.

최종게재결정 : 2008. 06. 05.

## 외국어 능력, 정서지능 및 국제경험이 문화지능에 미치는 영향

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본 연구의 목적은 문화지능의 개념을 소개하고 문화지능에 영향을 미치는 선행변수와 문화지능간의 관계를 설명하는데 있다. 본 연구에서는 해당국가의 외국어 능력, 정서지능 수준 및 국제경험이 문화지능에 영향을 미치는지를 측정하였다. 연구결과에 따르면 외국어 능력, 정서지능, 그리고 국제경험의 모든 변수가 문화지능을 예측하는데 유의하였으며, 각 변수와 문화지능 4개의 하위요소와도 밀접한 상관관계를 보였다. 좀 더 구체적으로 외국어 능력과 정서지능은 문화지능 4개 하위요소 (초인지적, 인지적, 동기적, 행동적 문화지능)와 정의 상관관계를 보였으며, 국제경험은 인지적 문화지능을 제외한 모든 하위요소와 정의 상관관계를 보였다.

주요어 : 문화지능, 정서지능, 외국어 능력, 국제경험

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## Appendix

**Cultural Intelligence Scale (CQS)**

Read each statement and select the response that best describes your capabilities.

Select the answer that BEST describes you AS YOU REALLY ARE (1=strongly disagree; 7=strongly agree)

CQ Factor	Questionnaire Items
MC1	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
MC2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
MC3	I am conscious of the cultural knowledge I apply to cross-cultural interactions.
MC4	I check the accuracy of my cultural knowledge as I interact with people from different cultures.
COG1	I know the legal and economic systems of other cultures.
COG2	I know the rules (e.g., vocabulary, grammar) of other languages.
COG3	I know the cultural values and religious beliefs of other cultures.
COG4	I know the marriage systems of other cultures.
COG5	I know the arts and crafts of other cultures.
COG6	I know the rules for expressing non-verbal behaviors in other cultures.
MOT1	I enjoy interacting with people from different cultures.
MOT2	I am confident that I can socialize with locals in a culture that is unfamiliar to me.
MOT3	I am sure I can deal with the stresses of adjusting to a culture that is new to me.
MOT4	I enjoy living in cultures that are unfamiliar to me.
MOT5	I am confident that I can get accustomed to the shopping conditions in a different culture.
BEH1	I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
BEH2	I use pause and silence differently to suit different cross-cultural situations.
BEH3	I vary the rate of my speaking when a cross-cultural situation requires it.
BEH4	I change my non-verbal behavior when a cross-cultural situation requires it.
BEH5	I alter my facial expressions when a cross-cultural interaction requires it.

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