

# The Impact Of Metacognitive, Cognitive And Motivational Cultural Intelligence On Behavioral Cultural Intelligence

Doreen J. Gooden, Florida International University, USA  
Carole Ann Creque, University of Central Florida, USA  
Claudette Chin-Loy, Nova Southeastern University, USA

## ABSTRACT

*This study investigates the impact of Metacognitive, Cognitive, and Motivational Cultural Intelligence (CQ) on Behavioral Cultural Intelligence (CQ). In particular, we examine whether cognitive capabilities influence actions and behavior. The results show that 28.4% of the variability in behavioral CQ is explained by metacognitive CQ, cognitive CQ and motivational CQ. Further analysis was done to determine how each of these three dimensions impact on behavioral CQ. Results show that only metacognitive and motivational CQ influence behavioral CQ. These results have implications for businesses as they seek to compete in the global marketplace.*

**Keywords:** Cultural Intelligence; Metacognitive Cultural Intelligence; Cognitive Cultural Intelligence; Motivational Cultural Intelligence; Behavioral Cultural Intelligence

## INTRODUCTION

Globalization has changed the way business is conducted and has also changed managers' perspective on how to manage in a culturally diverse setting. Cultural Intelligence (CQ) is increasingly being studied and identified as an important framework for achieving cross-cultural competencies. According to Ang and Van Dyne (2008), Early and Ang (2003) "cultural intelligence refers to an individual's ability to function effectively across cultures – national, ethnic, organizational, as well as other types of culture". Brislin, Worthely and MacNab (2006) posit that cultural intelligence focuses on a set of skills that enable individuals to transfer social skills from one cultural context to another. Studies have shown that Cultural intelligence has been instrumental in the success of managerial interactions in international markets. Cultural intelligence is a key cross-cultural leadership competency for effective leaders (Deng & Gibson, 2009), intercultural negotiation effectiveness (Imai & Gelfand, 2010) as well as team performance (Moon, 2013). Thus, as organizations seek to operate efficiently in the global marketplace; managers need to have an understanding of cultural intelligence and its implications for organizational success.

There is a plethora of studies examining the level of cultural intelligence (CQ) of individuals, however, there is not much evidence of studies identifying whether individuals who possess metacognitive, cognitive, and motivational CQ will have behavioral CQ tendencies. Behavioral CQ is different from the other three dimensions, as it has to do with actions or behaviors of individuals, while the others relate to the mind (Engle & Nash, 2015). Ang et al. (2007) found that metacognitive CQ and cognitive CQ were predictive of cultural judgment and decision-making, and that metacognitive CQ and behavioral CQ predicted task performance. Early and Ang (2003) pointed out that the four dimensions are different aspects of the overall capacity to function and manage in different cultural settings, and that the dimensions may or may not correlate with each other. Studies of Cultural Intelligence are typically limited to the use of the aggregate measures of all four cultural intelligence dimensions, thus using individual dimensions will provide more useful information (Engle & Nash, 2015). This study, therefore, seeks to evaluate each of the four dimensions and, in particular, identify whether individuals with metacognitive, cognitive and motivational cultural intelligence, will have behavioral intelligence tendencies.

## LITERATURE REVIEW AND HYPOTHESIS

### **Cultural Intelligence (CQ)**

Ang et al. (2007) posit that cultural intelligence theory has its roots in Sternberg's (1986) theories of intelligence, which proposed that there are different "loci" of intelligence within an individual. Metacognitive, cognition and motivation are mental capabilities and behavioral are overt actions. Thus, Sternberg's theory became the basis upon which Early and Ang (2003) developed the construct of cultural intelligence (CQ), and conceptualized that CQ comprises of metacognitive, cognitive, motivational and behavioral dimensions.

Ang et al. (2007) describes cultural intelligence as a process through which individuals acquire and understand cultural knowledge. It allows individuals to function effectively in culturally diverse situations. Cultural Intelligence refers to behaviors that are considered intelligent depending on the perspectives of individuals in specific cultures (Brislin et al., 2006). Creque and Gooden (2011) posit that cultural intelligence relates to an individual's knowledge or cognition that influences his perception to the cultural environment and which determines his behavior in that environment. Brislin et al., (2006) postulate that CQ pertains to the adaptability of individuals in environments that are different from the one in which they were socialized. Thus, they theorize that well developed cultural intelligence skills allows for better cross-cultural respect and recognition. Jeeven and Sumeet (2015) found that cultural intelligence contributes to task performance and suggests that individuals with high cultural intelligence are able to perform at a high level and can be sent on international assignments because of their ability to interact effectively in different cultural environments.

### **Metacognitive CQ**

Ang and Dyne (2008) posit that metacognitive CQ relates to an individual's awareness of culture when interacting in different cultural settings and that it identifies the extent to which the individual will adapt and use strategies which are applicable to the situation within which he or she operates. They further noted that individuals with metacognitive CQ would consciously question and reflect on their own assumptions, which aids in the development of the skills and cultural knowledge needed to interact in culturally diverse situations. Individuals with metacognitive CQ have capabilities that include planning, monitoring and making mental adjustments to the cultural norms of countries (Ang et al., 2007). Thus, these individuals will question their cultural assumptions and adjust their mental modes during and after interactions (Brislin et al., 2006). High metacognitive CQ individuals are consciously aware of others' cultural situations before and during interactions and are aware of when and how to apply their cultural knowledge (Ang et al., 2007). Metacognitive CQ has a positive influence on the shared values of culturally heterogeneous teams (Adair, Heideg & Spence 2013). Bogilovic and Skerlava (2016) found that individuals with high metacognitive CQ are more creative in a culturally diverse environment. Motivational cultural intelligence is essential for promoting growth of cognitive and metacognitive cultural intelligence (Ng et al., 2011)

### **Cognitive CQ**

Cognitive CQ refers to an individual's cultural knowledge of the environment in which he operates. This cultural knowledge could be acquired through education and experience and spans cultural similarities and differences (Ang & Dyne, 2008) and involves specific norms, practices, and conventions, including universal facets of culture as well as culture-specific differences (Ang et al., 2007). Knowledge could also include legal and economic systems, religious beliefs, and language of other cultures (Triandis, 1994). Individuals with cognitive CQ will be able to assess cultural differences and respond accordingly. Having a rich mental orientation of cultural differences will influence appropriate behaviors (Ang et al., 2007).

### **Motivational CQ**

Motivational CQ is the individual's ability to show interest and direct efforts in understanding the cultural differences in order to operate effectively in a given situation (Ang & Dyne 2008). Individuals, therefore, would need the necessary drive, energy and tenacity to be adaptive to the different cultural environments. If they are

intrinsically interested in diverse cultures, then they will be motivated to learn about the similarities and differences that exist in these cultures. Individuals with energy and persistence tend to practice new behaviors and overtime will improve their performance (Ang et al., 2007). Azardvand, Feizi and Alipour (2013) found a significant relationship between motivation and organization commitment. Ng and Earley (2006) noted that motivational CQ can be broken down into 3 parts – enhancement, efficacy and consistency and that these components can direct and influence an individual's adaptation to new cultural environments. They postulate that a high score on the motivational CQ dimension is reflective of a high level of self-efficacy.

### **Behavioral CQ**

Ang and Dyne (2008) argued that an individual should have the necessary verbal and non-verbal skills in order to communicate and interact with individuals from different cultures. Behavioral CQ is, therefore, an important component that enhances social interactions and focuses on how the individual will modify his behavior to adapt to cultural differences. Individuals with high behavioral CQ adapt their verbal and nonverbal behaviors to meet expectations of others and they also know how to use culturally appropriate words, tones, gestures, and facial expressions (Ang et al., 2007). Studies have shown that people with high behavioral CQ behave appropriately in cross-cultural settings. Thus, behavioral CQ allows individuals to use appropriate behaviors when interacting with others from different cultural background. Azardvand et al. (2013) found that behavioral CQ was significantly related to organizational commitment. Duff, Tahbaz and Chan (2012) found a positive relationship with task performance.

The following hypothesis was tested:

**H1:** Behavioral CQ is influenced by Metacognitive CQ, Cognitive CQ, and Motivational CQ.

## **METHODOLOGY**

### **Sample**

The sample population comprised of 85 MBA students pursuing their graduate degrees at an American University. The population comprised of 61.2% females and 32.9% males. 5.9% of the participants did not indicate their gender. Only 61 respondents indicated their age: 21.2% were in the age group 20-25; 22.4% were in the age group 26-30; 8.2% in the age group 31-35; 9.4% in the age group 36-40 and 10.6% were over 40. Participants completed the self-administered questionnaires. Thus, this sample can be considered a sample of convenience since the survey was administered to students during their class sessions.

### **Measure**

The Cultural Intelligence Scale (CQS) Self –Report survey developed by Ang and Van Dyne (2006) was used to assess cultural intelligence, which includes four variables: Motivational CQ; Cognitive CQ; Metacognitive CQ; and Behavioral CQ. The Metacognitive CQ scale consists of four items. A sample question is “I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds”. The Cognitive CQ scale consists of six items. A sample question is “I know the cultural values and beliefs of other cultures”. The Motivational CQ consists of five items. A sample question is “I am confident that I can socialize with locals in a culture that is unfamiliar to me”. The Behavioral CQ scale consists of five items. A sample question is “I use pause and silence differently to suit different cross-cultural situations.” The survey items were on a Likert-Scale ranging from 1 “strongly disagree” to 7 “strongly agree”. In addition to the 20-scaled items that measured the four variables, demographic questions were added to capture participants' age and gender.

Cronbach Alpha testing was done to determine the internal reliability of the Cultural Intelligence Survey (CQS). The reliability score for Cultural Intelligence was .875. Reliability testing for the four variables of cultural intelligence was also done.

Metacognitive CQ 0.829; Cognitive CQ 0.876; Motivational CQ 0.803; and Behavioral CQ 0.886.

**RESULTS**

Table 1 presents the mean scores of the cultural dimensions. Metacognitive CQ had the highest mean of 5.74 and cognitive CQ had the lowest mean score of 3.98. The total CQ which represents the mean of all four dimensions, was 4.9055

**Table 1.** Descriptive Statistics

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
METACOGNITIVE CQ	85	1.75	7.00	5.7412	.99959
COGNITIVE CQ	85	1.00	6.60	3.9808	1.23267
MOTIVATIONAL CQ	85	1.00	7.00	5.4712	1.10988
BEHAVIORAL CQ	85	2.00	7.00	4.7820	1.36068
TOTAL CQ	85	1.83	6.79	4.9055	.85143
Valid N (listwise)	85				

We tested the hypothesis with hierarchical regression as shown in Tables 2 & 3. We entered the controls (age and gender) in step 1, metacognitive CQ in step 2, Cognitive CQ in step 3 and motivational CQ in step 4. Hypothesis 1 predicted that individuals with metacognitive CQ, cognitive CQ and motivational CQ would have behavioral CQ tendencies. Results support Hypothesis 1 (Table 1): R<sup>2</sup> was .284 suggesting that 28.4% of the variability in behavioral CQ was as a result of motivational CQ, cognitive and behavioral CQ.

**Table 2.** Hierarchical Regression Analysis

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>	<b>Change Statistics</b>				
					<b>R Square Change</b>	<b>F Change</b>	<b>df1</b>	<b>df2</b>	<b>Sig. F Change</b>
1	.183 <sup>a</sup>	.033	.000	1.34619	.033	1.001	2	58	.374
2	.473 <sup>b</sup>	.224	.183	1.21705	.190	13.961	1	57	.000
3	.474 <sup>c</sup>	.225	.169	1.22704	.001	.076	1	56	.784
4	.533 <sup>d</sup>	.284	.219	1.19002	.059	4.538	1	55	.038

a. Predictors: (Constant), Age, Gender

b. Predictors: (Constant), Age, Gender, METACOGNITIVECQ

c. Predictors: (Constant), Age, Gender, METACOGNITIVECQ, COGNITIVECQ

d. Predictors: (Constant), Age, Gender, METACOGNITIVECQ, COGNITIVECQ, MOTIVATIONALCQ

Table 3. Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.034	.677		5.959	.000
	Gender	.507	.359	.182	1.411	.164
	Age	-.020	.122	-.021	-.164	.870
2	(Constant)	.956	1.026		.932	.355
	Gender	.226	.333	.081	.678	.501
	Age	.033	.112	.035	.295	.769
	METACOGNITIVECQ	.586	.157	.451	3.736	.000
3	(Constant)	1.020	1.060		.962	.340
	Gender	.231	.337	.083	.687	.495
	Age	.028	.114	.029	.244	.808
	METACOGNITIVECQ	.599	.166	.461	3.619	.001
	COGNITIVECQ	-.036	.130	-.035	-.275	.784
4	(Constant)	.128	1.110		.115	.909
	Gender	.348	.331	.125	1.051	.298
	Age	.047	.111	.050	.425	.673
	METACOGNITIVECQ	.426	.180	.328	2.364	.022
	COGNITIVECQ	-.086	.128	-.083	-.668	.507
	MOTIVATIONALCQ	.341	.160	.290	2.130	.038

a. Dependent Variable: BEHAVIORALCQ

In Table 2, model 4 shows that age and gender did not influence behavioral CQ. Cognitive CQ did not influence behavioral CQ. However, both metacognitive CQ and motivational CQ influenced behavioral CQ –  $\beta$  .426,  $p = .022$  and  $\beta$  .341 and  $p = .038$  respectively.

Table 2, presents the correlation that exist among the cultural intelligence dimensions.

Relationship exists between: motivational CQ and metacognitive CQ –  $r = .523$ ,  $p = .000$ ; motivational CQ and cognitive CQ -  $r = .332$ ,  $p = .002$ ; metacognitive CQ and cognitive CQ –  $r = .329$ ,  $p = .002$ ; metacognitive CQ and behavioral CQ –  $r = .477$  and  $p = .000$ ; motivational CQ and behavioral CQ -  $r = .386$ ,  $p = .002$ . There was a positive relationship between motivational CQ and behavioral CQ -  $r = .386$ ,  $p = .000$ . Cognitive CQ and behavioral CQ were not related –  $r = .179$ ,  $p = .102$ .

Table 4. Correlations of Cultural Intelligence Dimensions

		META- COGNITIVE CQ	COGNITIVE CQ	MOTIVATIONA L CQ	BEHAVIORAL CQ
METACOGNITIVE CQ	Pearson Correlation	1	.329**	.523**	.477**
	Sig. (2-tailed)		.002	.000	.000
	N	85	85	85	85
COGNITIVE CQ	Pearson Correlation	.329**	1	.332**	.179
	Sig. (2-tailed)	.002		.002	.102
	N	85	85	85	85
MOTIVATIONAL CQ	Pearson Correlation	.523**	.332**	1	.386**
	Sig. (2-tailed)	.000	.002		.000
	N	85	85	85	85
BEHAVIORAL CQ	Pearson Correlation	.477**	.179	.386**	1
	Sig. (2-tailed)	.000	.102	.000	
	N	85	85	85	85

\*\* . Correlation is significant at the 0.01 level (2-tailed).

## **DISCUSSION**

There is not much evidence of studies identifying whether individuals who possess metacognitive, cognitive, and motivational CQ will also have behavioral CQ tendencies, so this study was able to respond to Early and Ang (2003) observation that the four dimensions of cultural intelligence may or may not correlate with each other, and with Engle and Nash's (2015) argument that using each dimension can provide more useful information. Ang et al. (2007) also postulate that the four dimensions have different capabilities and, therefore, may have different impact on the creative performance of individuals. Thus, our research provides empirical evidence of the value of examining each of the four dimensions and identifying the interrelatedness that may or may not exist.

Our hypothesis that metacognitive, cognitive, and motivational CQ influenced behavioral CQ was confirmed.

The correlational analysis gives further support to our findings. There was positive a relationship between motivational CQ and behavioral CQ, confirming that individuals with motivational CQ attributes will have behavioral CQ tendencies. Motivational CQ is based on an individual's intrinsic motivation (Ang et al., 2007), thus, if individuals are interested in understanding cultural differences, then they will modify their behavior to accommodate those differences. Having metacognitive CQ was also shown to influence behavioral CQ. We could argue, therefore, that individuals with high metacognitive CQ are consciously aware of the cultural situation of others, and they are more likely to modify their behaviors to adapt to these situations. Cognitive CQ and behavioral CQ were not related. Ang et al. (2007) posit that having cognitive CQ does not necessarily translate into actions and behaviors. Thus, an individual can be aware of potential differences across different cultures, but does not modify his behavior to accommodate the differences.

There was a relationship between motivational CQ and metacognitive CQ and this could be that individuals, who are intrinsically motivated, might be inclined to modify and adapt to the different cultural situations. Motivational CQ and cognitive CQ also had a positive relationship. This supports (Ng et al., 2011) finding that motivational CQ plays an integral role in promoting growth of metacognitive and cognitive CQ. There was also a positive relationship between metacognitive CQ and cognitive CQ, and we could infer that the more aware individuals are of differences in their cultural environment, the more they will assess these differences and respond accordingly.

## **LIMITATIONS AND FUTURE RESEARCH**

An important limitation of the study is that our sample size was very small and students were from one institution, therefore, the findings might not be applicable to the general population. A larger sample size and a wider cross-section of individuals are recommended for future research. Other demographic variables could also be included in the analysis, for example, occupation, or whether they have international experience.

## **CONCLUSION**

Results of our study have implications for businesses, and also for higher education institutions preparing students to assume leadership roles in the global marketplace. Our research indicates that individuals with metacognitive and motivational CQ will have behavioral CQ tendencies. Specifically, it re-emphasizes the point that if there is awareness of cultural differences and individuals show interest and direct their efforts to understanding these differences, then they will adopt the appropriate behavior when interacting with others from different cultures. Thus, as businesses continue to operate in the global environment, cultural intelligence will play an integral role in their success. Success will, however, be dependent on managers' ability to interact with people from different cultures and also their ability to function effectively in cultural diverse situations. A change in managers' perspective on managing in a culturally diverse setting will, therefore, be necessary. Our results suggest that the more aware individuals are of differences in their cultural environments, the more they will assess these differences and respond accordingly. Brislin et al. (2006) posit that a well-developed cultural intelligence set of skills, will result in better cross-cultural respect and recognition. Bogilovic and Sherlavaj (2016), propose that in order to encourage creativity in the workplace, managers should create an environment that improves employees' metacognitive and motivational CQ. Thus, the business environment should be conducive to openness for differences, innovativeness and creativity.

These attributes will contribute to organizational success. Higher education institutions might also recognize that cultural intelligence knowledge can be achieved not only through academic programs, but also through international study tours, or participation in virtual international projects (Erez et al., 2013). Thus, incorporating study abroad programs in the curriculum will enhance students' global awareness, and also help in preparing them to add value to organizations.

#### **AUTHOR BIOGRAPHIES**

**Dr. Doreen J. Gooden** is a Senior Instructor in the Management and International Business Department at Florida International University. Her research interest includes Cultural Intelligence, Corporate Governance and Foreign Direct Investment in emerging markets. E-mail: goodend@fiu.edu (Corresponding Author)

**Dr. Carole Ann Creque**, Lecturer University of Central Florida, Integrated Business Program. Graduate of Nova Southeastern University where she earned a D.B.A. in Management and Marketing in 2003 and M.B.A. with a Marketing specialization in 1998. 17 years teaching at both the undergraduate and graduate level. Her research interest includes Cultural Intelligence and Study Abroad Programs.

**Dr. Claudette Chin-Loy** completed her doctoral degree in business Administration at Nova Southeastern University, H. Wayne Huizenga School of Business, with a specialization in human resource management. She has been teaching business and management courses for the past twelve years with number of universities, and currently works at the H. Wayne Huizenga School of Business. She has collaborated on research in the areas of organizational culture, knowledge management and change, as well as modern competitiveness in the twenty-first century

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