STARS

2010

Development And Validation Of The Cross-cultural Competence Inventory

Carol Ann Thornson
University of Central Florida

STARS Citation

DEVELOPMENT AND VALIDATION OF THE
CROSS-CULTURAL COMPETENCE INVENTORY

by

CAROL ANN THORNSON
B.S. University of Central Florida, 2004
M.S. University of Central Florida, 2007

A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Industrial and Organizational Psychology
in the Department of Psychology
in the College of Sciences
at the University of Central Florida
Orlando, Florida

Fall Term
2010

Major Professors: Barbara A. Fritzsche and Huy Le

ABSTRACT

Understanding the factors responsible for successful interactions between cultures has been an

ongoing investigation among anthropologists, social workers, and organizational psychologists.

The need for employees who are able to function effectively across cultures has resulted in a

great deal of research examining which factors enable expatriate effectiveness. Despite the

necessity of a workforce that is able to function across cultures in today's global economy, an

even greater case can be made for cross-cultural competence (3C) in the U.S. military. The

potential for loss of life and international-level consequences is high if our military forces are not

adequately prepared. This is why the Department of Defense has identified 3C as a critical

determinant of success for military missions. Despite the critical need for military 3C, a review

of the literature found no validated instruments developed to assess the readiness of our troops to

work closely with foreign nationals and coalition forces in the context of military deployments.

As such, the overarching goal of this validation study was to enable the U.S. military to prepare

and train its forces in 3C, specifically allowing the military to: (1) better assess troop readiness to

engage other cultures; (2) target training to those skills that help achieve missions in the field; (3)

design more authentic cross-cultural training exercises; (4) assess the effectiveness of cross-

cultural training; and (5) guide the development of future cultural training efforts. To that end, a

blended approach to scale development was undertaken, whereby critical-incident interviews

with subject matter experts informed which of the individual difference predictors from the

civilian literatures would likely be applicable to the military domain. Initial administration of the

prototype instrument to 792 military members, followed by exploratory factor analysis, revealed

six hypothesized factors of 3C. Following scale development, the Cross-Cultural Competence

Inventory (3CI) was administered to almost 5,000 service members, and the six-factor structure was confirmed as well as cross-validated. Another data collection effort focused on assessing the stability of the six factors over time, via test-retest reliability analysis. A final validation study revealed Cultural Exploration to be a significant predictor of three of the four performance criteria, as rated by supervisors on deployment. Furthermore, this study offered the unique perspective gained by administering two popular civilian instruments along with a military-based tool, providing insight into the nature of military 3C and the ways in which it is similar to, and distinct from, civilian 3C. Additionally, important theoretical contributions may help guide future empirical research and military applications. This study is the initial step in assessing readiness for cultural interaction in the military. The results may serve to guide future efforts in military research in order to support our forces in the field as well as to guide the military establishment in making decisions on training, education, and operations in the context of mission success.

I would like to dedicate a large part of this project to my mother, Dolores, who has been a positive source of strength and humor throughout my life, and who instilled in me the belief that I can do anything to which I set my mind. Thank you, Mom, for all your love and support! To my son, Sean - thank you for inspiring me to be not only the best mother I could be, for you, but the best person I could be, for myself as well. I hope you will always follow your dreams, no matter how difficult or how long it takes. To Steve, thank you for being so supportive, patient, and loving over these past four years, and for your never-ending faith in me. And last but not least, to the angel on my shoulder, my little Westie, Buttons … I still miss you every day!

ACKNOWLEDGMENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE: INTRODUCTION

Overview of Dissertation

"Culture is an integrated system of learned behavior patterns that are characteristic of the members of any given society" (p. 18, U.S. Peace Corps, 1997). Implicit in this meaning is the fact that culture refers to both the underlying values and beliefs of a given society (e.g., the invisible elements) and the specific behaviors that derive from those values (e.g., the visible elements). As is apparent to anyone who has traveled extensively, whether across North America or around the world, people from other cultures have different customs, eat different foods, celebrate different holidays, and often behave in very different ways. These differences in behavior and customs are the readily apparent and visible elements of culture. Beneath the surface are the cognitive and attitudinal differences that are not so readily apparent, despite their profound influence on behavior (Klein, 2004). Because we can only observe the visible elements (e.g., behaviors), the underlying values must be inferred. Failing to fully grasp that the various ways people behave are not arbitrarily or spontaneously generated, but consistent with their cultural values, is the first obstacle toward cultural understanding.

The recent growth in technology and transportation over the last century has not only brought the global community together, but has also served to highlight the many ways we may be worlds apart in our understanding of one another. As Triandis (1996) noted, we believe that the ways in which we perceive and understand the world are the same ways that others perceive and understand the world. We persist in our belief that reality is what we observe, when one person's reality may be another person's falsehood. We fail to realize that our minds *assign* meaning to objective reality; therefore, meaning is purely subjective (U.S. Peace Corps, 1997).

1

Further blinding us to the real but abstract differences between cultures, rather than aiding us in their understanding, is the American egalitarian view that all people are basically the same underneath the skin. Although such an assumption is beneficial and constructive in describing the equal *worth* of all cultures, races, and ethnicities, this assumption may be an impediment to gaining awareness and understanding of the very real differences that exist in thinking, judgment, and authority relationships (Klein, 2004).

Because awareness of these important cultural differences is viewed as a necessary precursor when relating to other cultures, most of the early cross-cultural investigations have focused on understanding and describing such awareness. One view describes how awareness of differences is manifested as orientations toward other cultures, which progresses in stages, from ethnocentrism to ethnorelativism (Hammer, Bennett, & Wiseman, 2003). Therefore, in the first stage of extreme ethnocentrism, people are completely unaware of any differences between cultures, and so fail to recognize the influence of their own culture on their own perceptions or values. This is followed by the next stage, where people perceive cultural differences, but believe their own culture to be superior, such as extreme patriotism or nationalism. This results in the categorization of people from other cultures into stereotypical representations, such as "people from Iran are terrorists." The next level of ethnocentric orientation is where people are accepting of surface-level cultural differences, but still assume that their own values, such as democratic ideals, are universally accepted across cultures. Learning that their own values are not shared or appreciated by those from other cultures is believed to result in a cognitive shift, from an ethnocentric to an ethnorelative orientation. This shift is thought to allow for an easier transition to other cultures, necessary for adaptation of expatriates working overseas, or students abroad for

2

extended periods of time. However, merely increasing cultural awareness has not been shown to lead to effective cross-cultural outcomes (Abbe, Gulick, & Herman, 2007). Because of this, research into understanding the factors responsible for successful interactions among cultures has been an ongoing investigation among anthropologists, social workers, and organizational psychologists.

One area where research into cross-cultural understanding has flourished is the area of business psychology. Today, there are more expatriate workers living abroad on international assignments or working on international joint ventures than ever before (Van der Zee & Van Oudenhoven, 2000). The need for employees who are able to function effectively across different cultures has wrought a great deal of inquiry into which factors enable expatriate adjustment and effectiveness (e.g., Matsumoto et al., 2001; Van der Zee & Van Oudenhoven, 2000). Not understanding the different ways people communicate and interact can be disastrous when it comes to business relations. For example, in the area of business negotiations, it was found that in Western cultures, the objective of negotiations is to work toward mutual understanding and agreement. Once satisfactory agreement between both parties is reached, this signals the end of the negotiations. The same is not true, however, in Middle Eastern cultures, where such agreement does not signify the end of negotiations but only that the *serious* negotiations can now begin (Hofstede, 2003).

Statement of the Problem

Although it is critical, especially in today's global economy, that our workforce is able to function effectively across cultures, an even greater case can be made for such competence in the United States Military. Beyond the profit margins and the bottom line, the consequences for

cultural misunderstanding during military missions include not only risks to national security interests overseas, but the potential loss of human life. Sparked by an influx of instances of stereotyping, racism, and abuses of power by military members, it seems that there are blatant and avoidable ways in which military members have inadvertently alienated local populations. Ahmed Hashim, a professor of strategic studies at the Navy War College, noted regular Iraqi perceptions of excessively aggressive and disrespectful American responses to insurgent attacks, including soldiers entering Iraqi residences when the men of the house were not present, as well as having female Iraqis undergo bodily searches by male Soldiers (Hashim, as cited in Chandler, 2005). In fact, one of the main reasons for the opposition to U.S. forces overseas may be the cultural ignorance of Americans, as well as the contempt many Americans have for cultures that are different from our own (Langewiesche, 2004, as cited in Chandler, 2005).

Adding to this need for cross-cultural competence (3C), or *the ability to interact appropriately and effectively and with other cultures* (Fantini, 1995), has been the recent shift in mentality from warfighting to peacekeeping and stability operations. In such operations, the U.S. no longer assumes the leadership role amongst coalition forces (Klein, Pongonis, & Klein, 2000), but our forces must work together with other cultures to achieve these goals. When we behave in culturally ignorant or disdainful ways toward other cultures, this only serves to provide justification to our enemies. Repeated violations of cultural norms and taboos have lasting effects in the minds of the indigenous people, whose support is essential and integral to reaching our military objectives. Such incidents have prompted the U.S. Military to identify cross-cultural competence as one of the most critical determinants of success in military missions today (McGinn, Weaver, McDonald, van Driel, & Hancock, 2008).

4

Purpose of the Current Study

In order to inform military training and policy interventions, the purpose of this effort was to design and validate an assessment tool to predict how individuals might perform in cross-cultural encounters. The development and initial construct and criterion-related validation of this new instrument is the focus of my dissertation. I begin with an overview of the literature in this regard, presented in Chapter Two, which is intended to provide a theoretical domain upon which to base a deductive approach to item development. Here, I examine how 3C has been defined from different perspectives in the literature, and how these perspectives may or may not be applicable to the military domain. Because of the lack of military research on 3C, an inductive approach to item development was also employed, the details of which are presented in Chapter Three. Thus, following extensive literature review, qualitative data were collected to explore the performance domain and develop the performance criteria indicative of mission success. Chapter Four presents the initial Pilot Study, beginning with the development of the prototype instrument and presenting the methodology used to gather and analyze the data. Following the development of the Cross-Cultural Competence Inventory (3CI), the initial Construct Validation Study and examination of the factor structure of 3C is described in Chapter Five, followed by the presentation of the Test-Retest Reliability Study in Chapter Six. The Final Validation Study is presented in Chapter Seven, whereby convergent-discriminant validation evidence, as well as criterion-related validity evidence, are presented. Chapter Eight discusses the overall results of these studies in light of the contributions made to the literature as a whole. As this was a preliminary validation study, the Future Research section offers several suggestions to further guide research into understanding the complexities of military 3C.

CHAPTER TWO: LITERATURE REVIEW

Understanding Cross-Cultural Competence

The efforts to identify individuals who possess the relevant characteristics associated with 3C in the military domain have not been fully explored; therefore, to guide the development of a military-relevant instrument, the civilian literature must be examined. When describing 3C, a variety of individual difference predictors have been proposed and measured across different academic and scientific disciplines. One area where cross-cultural research has flourished is the area of business psychology. Here, the need for employees who are able to function effectively across different cultures has wrought a great deal of inquiry into which factors enable expatriate adjustment (e.g., Matsumoto et al., 2001; Van der Zee & Van Oudenhoven, 2000). For example, in one review of the management literature, the varied predictors cited as integral to 3C included, among others, personality traits, motivation, assertiveness skills, a positive attitude, a sense of humor, and communication skills (Van Oudenhoven, Van der Zee, & Van Kooten, 2001). In another review, Hannigan (1990) proposed empathy, openness, tolerance of ambiguity, flexibility, and perseverance as the main constructs of 3C. There are also a host of overarching and multifaceted concepts used to describe 3C, including "Cultural Intelligence" (Earley & Ang, 2003), "Multicultural Competency" (Dunn, Smith, & Montoya, 2006), and "Intercultural Competence" (Hammer et al., 2003). As such, there is certainly no shortage of research into what types of people are likely to succeed in living and working outside their country of origin for extended periods of time. However, the variety of different variables proposed in the civilian literature, as well as inconsistencies in the definitions and methods, have been challenging for researchers trying to understand and assess this multidimensional construct.

6

The goal of this undertaking was to develop an assessment tool specifically for the military, one that is psychometrically valid and reliable. To guide such an effort, the five steps of questionnaire design were followed, as recommended by psychometricians. These steps include the conceptualization phase, prototype construction, questionnaire tryout, item analysis, and revision phase (Cohen & Swerdlik, 2002). The conceptualization phase begins with a thorough review of the literature to explore the existing instruments developed to measure the construct of interest and its related manifestations. Such a review might reveal that other measures leave something to be desired in terms of validity, or the applicability of the constructs being measured, as they apply to the current domain under investigation. With this in mind, an overview of the following instruments already developed to measure 3C is provided, and their applicability to the military domain discussed: The Big Five Measures (Costa & McCrae, 1992); the Multicultural Personality Questionnaire (Van der Zee & Van Oudenhoven, 2000); the Intercultural Adjustment Potential Scale (ICAPS; Matsumoto et al., 2001); the Scale of Ethnocultural Empathy (SEE; Wang et al., 2003); the Intercultural Sensitivity Inventory (ISI; Bhawuk & Brislin, 2000); the Intercultural Development Inventory (IDI; Hammer et al., 2003); the Cross-Cultural Adaptability Inventory (CCAI; Kelley & Meyers, 1995); and the Cultural Intelligence Scale (CQS; Earley & Ang, 2003).

Existing Measures of Cross-Cultural Competence

Personality-Based Measures

The Big Five

The Big Five personality traits (Costa & McCrae, 1992; Digman, 1990) predispose people to adapt and behave in certain ways to accomplish their goals, given particular situational

constraints (Buss, 1991). The Big Five include: (1) Extraversion (sociability, assertiveness, activity, ambition); (2) Agreeableness (likeability, friendliness, cooperation, trust); (3) Conscientiousness (responsibility, dependability, the will to achieve, ability to plan, organize, persist); (4) Emotional Stability (emotional control, sense of security, lack of anxiety); and (5) Openness (imagination, intellectualism, curiosity, artistic sensitivity). Following Barrick and Mount's (1991) landmark meta-analysis, research into personality traits and their relationship to job performance soared. Such research has shown that personality provides incremental validity over and above general mental ability across occupations (Mount & Barrick, 1995).

The Big Five measures have been used extensively in cross-cultural research in the business domain. Specifically, Emotional Stability and Conscientiousness reveal similar patterns of relationships in expatriate samples as in domestic samples. However, Extraversion and Agreeableness display higher correlations with performance criteria in expatriate samples than they do in domestic samples (Mol, Born, Willemsen, & Van der Molen, 2005). Likewise, differential relationships with performance were found when Caliguiri (2000) tested the correlations of Big Five traits with two criteria of expatriate success (e.g., premature termination and job performance). That is, Extraversion, Agreeableness, and Emotional Stability were negatively related to whether expatriates desired to terminate their assignments. However, termination is not an option for military personnel.

The Big Five traits have mainly been linked to subjective outcomes of expatriate adjustment to other cultures. For example, longitudinal studies have found that Emotional Stability predicted interaction adjustment and work adjustment among expatriates, whereas Agreeableness predicted interaction adjustment, and Extraversion and Conscientiousness

8

predicted general adjustment (Shaffer, Harrison, Gregersen, Black, & Ferzandi, 2006). Emotional stability was also shown to be related to psychological adjustment, and for expatriate spouses, to psychological and sociocultural adjustment (Ali, Van der Zee, & Sanders, 2003).

With regard to performance in other cultures, those who were higher in both Conscientiousness and Agreeableness received higher performance ratings from the supervisor in their home country than those received in the host country (Dalton & Wilson, 2000). As Conscientiousness has been shown to be the best personality predictor of job performance in the U.S. across domains, this result is not surprising. However, none of the Big Five traits were significantly correlated with ratings from host-country supervisors, calling into question the generalizability of the Big Five traits across cultures.

Given the mixed support for the Big Five, other researchers have focused on a narrower set of traits in order to identify cross-cultural predictors of effectiveness. Two such measures are the Multicultural Personality Questionnaire (MPQ; Van der Zee & Van Oudenhoven, 2000) and the Intercultural Adjustment Potential Scale (ICAPS; Matsumoto et al., 2001). Each will be examined in turn, as well as their applicability to the military domain.

Multicultural Personality Questionnaire

In order to predict multicultural effectiveness, Van der Zee and Van Oudenhoven (2000) developed the Multicultural Personality Questionnaire (MPQ). This instrument was developed and initially validated using Dutch student samples, and later was used in studies to predict cross-cultural adjustment as it pertained to expatriates. This personality-based measure assesses five dimensions. The first subscale measures Cultural Empathy, or the ability to empathize with the feelings, thoughts, and behaviors of those from other cultural backgrounds. An example item

9

is: "Understands little of foreign people and cultures." Open-Mindedness is measured in the second subscale, and refers to an open and unprejudiced attitude towards different groups and different cultural norms and values. An example item is: "Is interested in other cultures." The third subscale, Social Initiative is similar to the Big Five trait of Extraversion and is the tendency to stand out in a different culture. An example item is: "Takes initiative." Emotional Stability is similar to the personality dimension of low neuroticism. It is described as the ability to remain calm in stressful situations. An example item is: "Is not easily hurt." Finally, Flexibility has to do with the tendency and ability to adjust one's behaviors to different cultures and situations. An example item is: "Likes low-comfort holidays."

In keeping with its personality foundation, research has demonstrated that the MPQ is highly related to the broader Big Five personality traits. Studies that have administered both the MPQ and the NEO-PI-R (Costa & McCrae, 1992) have demonstrated strong positive correlations between MPQ Social Initiative and NEO Extraversion and strong negative correlations between MPQ Emotional Stability and NEO Neuroticism (Van der Zee & Van Oudenhoven, 2000). Moderate relationships were found between MPQ Open-mindedness and NEO Openness and between MPQ Flexibility and NEO Extraversion (Van Oudenhoven & Van der Zee, 2002).

The MPQ scales were initially designed to predict outcomes for students (Van der Zee & Van Oudenhoven, 2001). To examine the psychometric quality of the MPQ, the developers had 210 students rate themselves and also obtained 119 ratings from others who knew them well. Internal consistency reliabilities were high, with scale means all slightly above the midpoint of the scale, especially for Cultural Empathy and Open-mindedness, for both the self rating and other ratings and revealed differences in MPQ scores between students preparing to study abroad

10

and first-year psychology students. These two scales were also highly correlated. Because the developers felt that both Cultural Empathy and Open-mindedness may be the MPQ dimensions that are most applicable to expatriate success, they felt it was important to keep these subscales separate. The most problematic subscale in this study was Cultural Empathy, mainly due to inflated scale means for both self and other ratings. The developers speculate that social desirability may have influenced these results, noting that other ratings were significantly lower than self-ratings (which was also the case for Open-mindedness and Flexibility). The other surprising finding was that even though the scale discriminated between students on international orientation, this was in the wrong direction for Cultural Empathy. Psychology students scored higher on Cultural Empathy than students who intended to travel internationally. However, the authors conclude that the findings with respect to norm values obtained from this group cannot be generalized to more heterogeneous groups.

In another student sample taken at an international business school, the MPQ predicted adjustment, especially for foreign students (Van Oudenhoven & Van der Zee, 2002). Stronger relationships were found between the MPQ subscales and subjective well-being, perceptions of peer support, and self-rated mental health (rated at two different points in time) in the foreign-born students than in the native-born students.

Despite its validation using student samples, the developers suggest that the MPQ would be a useful tool for selecting expatriates (Van der Zee & Van Oudenhoven, 2000). The criterion of interest the MPQ was designed to predict is adaptation to other cultures, namely psychological adaptation (i.e., mental health and personal satisfaction) and sociocultural adaptation (i.e., the ability to deal with daily problems, particularly in the areas of family life and work). In a study

designed to test these hypotheses (Van Oudenhoven, Mol, & Van der Zee, 2003), it was found that the MPQ was able to predict satisfaction with life, physical health, and psychological well-being, with the strongest relationship being between Emotional Stability and personal adjustment. A relationship was also found between job satisfaction and the MPQ.

With regard to the instrument's applicability to the military domain, some of the wording of the 91 items may be somewhat awkward, perhaps due to the translation from Dutch to English which does not seem to translate as clearly as intended. For example, the first item in the 91-item scale reads: "Likes low-comfort holidays" to assess Flexibility. Not only is this written in the third person which can be confusing when used as a self-report scale, but the meaning (i.e., roughing it on vacations) does not come across to American respondents that well. Here, holidays are usually taken to mean religious or national holidays, not vacations, as in the United Kingdom and Europe. Low-comfort does not automatically imply "roughing it." Therefore, it is questionable whether the operationalization of particular items would work for a military sample.

Intercultural Adjustment Potential Scale

The Intercultural Adjustment Potential Scale (ICAPS; Matsumoto et al., 2001) was designed to measure *Intercultural Competency*, the ability to leverage individual attributes across intercultural interactions. This instrument includes subscales to assess the following constructs: (1) Emotion Regulation (the ability to control negative emotions, which allows individuals to engage in clear thinking about intercultural incidents without retreating into psychological defenses); (2) Openness/Flexibility (the ability to consider alternatives that would have been inappropriate in previous social experiences); and (3) Critical Thinking (the ability to analyze the

cultural underpinnings of the context and to understand intentions and behaviors from a different cultural perspective) (Matsumoto et al., 2003; 2004).

The ICAPS was initially developed for Japanese expatriates living in the U.S. and has shown good research support in predicting expatriate adjustment. Specifically, the scale demonstrates correlations with several adjustment measures, after controlling for years in the U.S. and self-rated language proficiency (Matsumoto et al., 2001). In separate studies, results show that those with higher ICAPS scores reported lower levels of depression (Matsumoto et al., 2001), anxiety (Matsumoto et al., 2003), and homesickness (Yoo et al., 2006). Additionally, the ICAPS has also been shown to have predictive validity over and above the Big Five traits of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness (Matsumoto et al., 2004). Therefore, the ICAPS seems to be a useful tool for predicting which expatriates are likely to adjust to international assignments. Using this tool should effectively aid employers in selecting those employees who would be less likely to terminate international assignments prematurely. However, selection is not a viable option for the U.S. Military, unlike expatriate assignments or study abroad programs.

Applicability of Personality Measures

Although personality-based measured, including the Big Five, have been shown to predict outcomes in the civilian literature, it has been argued by military researchers that there would be very little utility in measuring personality traits for the U.S. Military (Abbe et al., 2007). Such researchers argue that because most personality traits are stable over time, they would not be amenable to training. The military seeks to train malleable skills, competencies, and attitudes in its members to enable successful cross-cultural operations. However, there are

13

more important and theoretical reasons to consider. The extent that personality predicts behavior, and how much variance it accounts for when it does predict, depends upon the strength of the situation (Mischel, 1977). Due to the nature of the military, personality traits in general may be under-predictors, playing much less of a role than they normally would. As the classics in social psychology research have clearly demonstrated, a strong situation can overcome the influence of personality almost entirely (Haney, Banks, & Zimbardo, 1973; Milgram, 1963). As in institution, the military on a whole can be considered a very strong situation, where in order to build team and unit cohesion, personal identity itself is stripped away (e.g., uniforms, haircuts), in favor of the largely proscribed rules and regulations. Such "strong" situations (Mischel, 1977) tend to mask individual differences, so that personality plays much less of a role than in weaker situations, such as business.

A second issue is that the three personality measures discussed above were mainly interested in predicting cross-cultural adjustment and not performance (Matsumoto et al., 2001; Van der Zee & van Oudenhoven, 2000). Cross-cultural adjustment is defined in terms of how comfortable individuals are with living outside of their home country (Black, 1990, as cited in Caligiuri, 2000). However, military personnel are deployed as advisors, peacekeepers, and soldiers and thus, the focus is on interacting effectively with foreign nationals in order to accomplish their mission, and not to adjust to conditions of living in another country. They must be able to operate in other cultures, but function mainly as warfighters. Therefore, personality variables chosen to predict adjustment and adaptation may not be the same as those that predict success on military missions.

14

Scale of Ethnocultural Empathy

Ethnocultural empathy has to do with the expression of empathic thoughts (perspective taking) and feelings (empathic emotions) toward members of ethnic groups different from one's own (Wang et al., 2003). It is the capacity to clearly project an interest in others, as well as to reflect a reasonably complete and accurate sense of another's thoughts, feelings, and/or experiences (Ruben, 1976). To measure this construct, the Scale of Ethnocultural Empathy (SEE; Wang et al., 2003) was developed and assesses the four hypothesized dimensions of ethnocultural empathy: (1) Empathic Feeling and Expression; (2) Empathic Perspective Taking; (3) Acceptance of Cultural Differences; and (4) Empathic Awareness.

Wang et al. (2003) conducted three studies to test for internal consistency and test-retest reliability, which were reported as being acceptable. Interestingly, female and non-European American respondents tended to score statistically higher than males and European American respondents. Only one subscale showed similarity between males and females, Empathic Perspective Taking, which is "composed of items that indicate an effort to understand the experiences and emotions of people from different racial and ethnic backgrounds by trying to take their perspective in viewing the world" (p. 224). Testing criterion validity, a study by Nishida (1985, as cited in Abbe et al., 2007) found that levels of empathy in job applicants were positively correlated with assessment personnel ratings of observed behaviors on leadership, decisiveness, initiative, problem-solving, and stress tolerance.

It seems that taking the perspective of others who are different from oneself may be an important factor in predicting 3C in the military. If Americans do not take the perceptual perspective of the other person with whom they are communicating into account, as was found in

Wu and Keysar (2007) U.S. military personnel may be disadvantaged when negotiating with more collectivistic cultures. Therefore, measuring perspective-taking skills may be useful and applicable to the military domain.

Intercultural Development Inventory

Based on the developmental framework outlined in the Introduction, the Intercultural Development Inventory (IDI; Hammer et al., 2003) was developed to measure how a person or a group of people feel about cultural differences. Research has suggested that the IDI is able to differentiate those with prior intercultural experience, those with prior experience studying other cultures or languages, and those who have a tendency to socialize with people from other cultures. For example, in a longitudinal study of students (Paige, Cohen, & Shively, 2004, as cited in Abbe et al., 2007), higher IDI scores were found after a study abroad trip than before the trip. The students also showed an increase in accepting and adapting to cultural differences after their experiences. In a study involving self-rated language proficiency (Olson & Kroeger, 2001), it was found that higher levels of self-ratings were correlated with higher scores on the IDI. Those who reported more experiences traveling to other cultures had higher IDI scores than those reporting less experience.

The applicability of assessing awareness in a military measure of 3C, however, is questionable. The goal here is to assess those individual differences that are predictive of one's ability to interact effectively with others from different cultures. Therefore, although awareness of cultural differences is a necessary precursor to cross-cultural understanding, awareness alone does not seem to capture the essence of 3C, as defined here. Furthermore, cultural awareness

exercises are already the focus of much of the cultural training used by the military (Abbe et al., 2007); thus, assessing awareness further may not provide much practical utility.

Intercultural Sensitivity Inventory

The Intercultural Sensitivity Inventory (ICSI; Bhawuk & Brislin, 2000) measures the degree to which individuals hold an individualistic or collectivistic viewpoint when they are asked how they would behave if they were working in Japan versus the U.S. It was found that graduate-level students scoring higher on the ICSI were more interested in living and working in other cultures; however, language skills did not differ (Bhawuk & Brislin, 2000). The ICSI was able to discriminate between those rated as highly effective vs. less effective in intercultural interactions by academic program staff. In another study using a training intervention, those who participated in cross-cultural training exercises showed increases from their pre-test ICSI scores to their post-test scores (Sizoo & Serrie, 2004).

Assessing the extent that military members endorse collectivism or individualism may be an interesting endeavor, given the military culture itself; however, its utility in guiding the development of a measure of 3C is questionable. Whether military members pay more attention to the needs of the group or pay more attention to their own needs (Triandis, Leung, Villareal, & Clack, 1985) does not seem like a fruitful avenue to pursue in assessing the readiness of our forces to interact with others in different cultures. Therefore, although this measure may be promising in non-military contexts, it does not seem to be related to the type of mission-specific performance that is critical to the military.

Cross-Cultural Adaptability Inventory

As the name implies, the Cross-Cultural Adaptability Inventory (CCAI; Kelley &

Meyers, 1995) was developed to predict adaptation to other cultures. It measures both

personality as well as skill in deciphering verbal and non-verbal cues (Kelley & Meyers, 1995).

The CCAI has been used extensively in training programs, as it is useful for providing feedback

to individuals on their potential for cross-cultural effectiveness (Williams, 2005). In this way, the

respondent then decides whether s/he wishes to work in a culturally diverse company or to live

abroad. The four dimensions it measures include: (1) Emotional Resistance; (2) Flexibility and

Openness; (3) Perceptual Acuity; and (4) Personal Autonomy. The instrument has been

published in several manuals; however, there is not much information available on the

underlying theory or validation.

At this point, the research results have been disappointing. The CCAI has been used in

assessing study abroad experiences of students (Sinicrope et al., 2007) and sensitivity training for

medical students (Majumdar, Keystone, & Cuttress, 1999); yet in all three studies, no statistically

significant differences were found between the experimental and control groups. There were

some trends toward improvement following cross-cultural experiences, such as increases in

flexibility and openness (Majumdar et al., 1999), but these did not reach statistical significance.

Davis and Finney (2006) conducted the only validation study of this instrument.

It was administered to 725 college students. Reliability ranged from .54, for flexibility and

openness, to .80 for emotional resilience. Confirmatory factor analysis revealed a poor fit for the

four-factor structure. Because of these poor results, the authors conducted exploratory factor

analysis but were unable to find any interpretable factor structure due to cross-loadings of items

onto factors they were not intended to measure. Therefore, it was recommended that the CCAI should not be used until it has been further developed and validated, despite its popularity as an outcome measure in training.

Cultural Intelligence Scale

The Cultural Intelligence Scale (CQS; Earley & Ang, 2003) was designed to measure the multidimensional construct of Cultural Intelligence. This construct is based on contemporary intelligence theories, which define intelligence less as academic abilities and more as a set of relatively malleable capabilities that can be enhanced over time (Earley & Peterson, 2004; Sternberg, 1986). Similarly, Cultural Intelligence (CQ) is defined as an individual's ability to grasp, reason, and behave in situations characterized by cultural diversity (Earley & Ang, 2003).

The CQS measures four dimensions, the first of which is Metacognitive CQ, which refers to controlling one's own thoughts, or cognitions (Ang et al., 2007). Such capabilities might include the ability to plan, monitor, and revise mental models of cultural norms. The second dimension assessed is Cognitive CQ, defined as knowledge of different cultures, whether such knowledge is gained via education or experience. The CQ-Knowledge subscale measures general knowledge, including mental models about cultures, economic and legal systems, social norms, religious beliefs, and language. Motivational CQ has to do with directing attention and energy toward learning about cultural differences as well as the extent of interest and drive to adapt to a new culture (Ang, Van Dyne, Koh, & Ng, 2004). Finally, Behavioral CQ purports to measure a flexible range of behavioral responses across different types of situations.

The four-factor structure was supported using CFA. The developers removed items that showed high residuals, did not load strongly on any one factor, or showed little variability in

19

responses. The 20 items with the strongest psychometric properties were retained; therefore, the corrected item-total correlation of each subscale ranged between .47 and .71 (Earley & Ang, 2003). With regard to the CQ factors and outcomes (i.e., cultural judgment and decision making, cultural adaptation, and task performance), such relationships were examined across three different studies (Ang et al., 2007). Confirmatory factor analysis demonstrated acceptable fit across studies.

For the first study, data were collected from two samples of undergraduates in the Midwestern U.S. ($N = 235$) and Singapore ($N = 358$). Convergent validity was assessed by examining correlations between the CQ factors and related constructs. As expected, the four CQ factors moderately and positively related to Emotional Intelligence, with 11 of the 16 correlations between the four factors of CQ and the four factors of the Cross-Cultural Adaptability Inventory (CCAI; Kelley & Meyers, 1995) also being significant. As Ang and colleagues (2006) showed, discriminant validity evidence was found for the four dimensions of CQ as compared to the Big Five personality traits, and convergence was demonstrated by showing meaningful relationships between specific personality characteristics and specific aspects of CQ. For example, Openness to Experience on the Big Five was related to all four dimensions of CQ.

In this initial study, the developers also examined whether Metacognitive CQ and Cognitive CQ would predict the criterion of cultural judgment and decision making, using the Cultural Judgment and Decision Making instrument (CJDM; Cushner & Brislin, 1996), another self-report measure. They also tested whether Motivational CQ and Behavioral CQ would predict the criterion of cultural adaptation (e.g., cultural adjustment and well-being), after

20

controlling for sex, cross-cultural experience, and age. Results were confirmed. However, the predictor and criterion measures may not have been adequately differentiated. For instance, one of the items used to assess cultural adjustment was, "How well have you adjusted to your current situation in terms of living conditions in general; food; shopping; cost of living; healthcare facilities (1=extremely unadjusted; 7=extremely adjusted)" and the predictor, Motivational CQ, contains an item that reads: "I am confident that I can get accustomed to the shopping conditions in a different culture." These measures were also administered concurrently.

The second study utilized a sample of 98 international managers from a variety of countries. The relationship between the CQS and CJDM, and ratings of task performance on a team task, revealed that both Metacognitive CQ and Behavioral CQ were related to task performance. There were no significant relationships, however, between Cognitive CQ or Motivational CQ and performance. Incremental validity was found when predicting the CJDM scores and in predicting task performance over and above several control variables, including general mental ability.

Study 3 was designed to extend the findings to field settings. Data were collected from 103 foreign professionals and their supervisors who were working at an information technology consulting firm in Singapore, Japan. The surveys were completed online. With regard to correlations between the Big Five and the CQS, it was found that Openness to Experience was again related to all four dimensions (Ang, Van Dyne, & Koh, 2006). Because the theory of CQ is based on the theory of multiple intelligences (Sternberg, 1986), it would seem that CQ should relate in expected ways to other forms of intelligence as well. With regard to general mental ability (GMA; Schmidt & Hunter, 2000) and emotional intelligence (EI; Mayer, Caruso, &

Salovey, 2000), it was expected that EI (e.g., a general ability to perceive and manage emotions in one's own culture) would be distinct from CQ (Earley & Ang, 2003). However, CQ was not found to be a distinct construct from EI (Ward, Fischer, Lam, & Hall, 2009).

The major finding was that Metacognitive CQ and Behavioral CQ predicted supervisor-rated task performance; however, the incremental validity of the CQS over and above personality and GMA in predicting outcomes was not shown, contrary to expectations. The CQS also did not explain additional variance in psychological, sociocultural, and academic adaptation over and above the variance explained by personality and EI.

With regard to the applicability of the dimensions to the military domain, certain CQ dimensions seem appropriately operationalized, but others do not. For example, Cognitive CQ (Earley & Ang, 2003) items include "I know the marriage systems of other cultures" and "I know the arts and crafts of other cultures." Though these items may be construct valid, their applicability to 3C in military missions is questionable. Motivation is an important construct to assess for any type of performance; however, the way the authors conceptualize Motivational CQ may have more to do with self-efficacy than with motivation itself. Though self-efficacy may be an important predictor of performance across domains, it is not the same construct as motivation itself. I point this out not to nit-pick, but because the authors state that Motivational CQ is founded upon expectancy theory (Campbell & Pritchard, 1976; Vroom, 1964). This theory, as well as others based upon it (e.g., Naylor, Pritchard, & Ilgen, 1980; Pritchard & Ashwood, 2008), propose that individuals are motivated by the anticipation of how their efforts will lead to satisfying their needs. As such, motivation is defined as a process whereby individuals allocate energy across actions in such a way as to maximize expected need satisfaction (Pritchard,

22

Harrell, DiazGranados, & Guzman, 2008). The items in the CQ-Motivation subscale do not appear to be based on this conceptualization of motivation.

Nevertheless, some of the items in this subscale may be appropriately adopted to assess related constructs in the literature that are also hypothesized to predict effectiveness across cultures (e.g., willingness to engage, self-efficacy). Additionally, a recent study by Imai and Gelfand (2010) found that Motivational and Behavioral CQ predicted integrative, cooperative behavior in intercultural negotiation, leading to better outcomes for both parties. Here, both negotiation processes and outcomes were measured, while controlling for other types of intelligence (e.g., GMA, EI), personality, and international experience. Results were promising, and demonstrated that these two CQ subscales, which were assessed one week before the negotiations took place, predicted the extent to which the negotiators were able to display integrative and cooperative behaviors, which in turn predicted profit over and above other individual differences.

Summary: Literature Review

Most of the approaches taken with regard to 3C in other domains have led to the development of a variety of self-report instruments for use among expatriates, students, and other civilians. Each of the aforementioned self-report measures has merit and most are worthwhile and validated for the purpose for which they were designed. However, due to the important differences between the military realm and other domains, some of the items may not be directly applicable to a military population (Abbe et al., 2007).

The important differences between the U.S. Military and other civilians include, among others, the power differential between military members and the local population, along with the

23

resulting focus on security concerns (Selmeski, 2007). Unlike most expatriates working abroad, military members serving in radical Islamic war zones are under the very real and continual threat of attack from foreign nationals. Security concerns must remain foremost in their minds, despite the "hearts and minds" focus conveyed from top levels down (Selmeski, 2007). However friendly a local native may appear, this person may be a suicide bomber or an insurgent planting an improvised explosive device. Such a threat is usually not a top concern for an expatriate working in Europe or Japan. Additionally, early termination of an assignment is not an option for military personnel. Unlike students abroad, Peace Corps volunteers, and expatriate managers, a soldier cannot abandon his/her post during a battle (Abbe et al., 2007). The implications of this difference should not be taken lightly. The individual actions of military members may have far-reaching international consequences.

For all of these reasons, what is needed is a measure designed for and validated with military personnel in mind. Following is the criterion-centric approach taken here, as advocated by researchers (e.g., Bartram, 2005; Cascio & Aguinis, 2005), to facilitate the identification of valid predictors of performance. Such a mission-centric focus demands starting with the performance domain and working backwards to the predictors of performance. Rather than asking what can these variables predict, such a focus asks how do we best predict this criterion? Therefore, by identifying the desired mission-specific performance criteria first, this will shed light on which of the foregoing constructs in the literature are relevant to predicting such performance.

CHAPTER THREE: MISSION-SPECIFIC PERFORMANCE

The Multidimensional Nature of Performance

Performance is defined as observable things that people do that are relevant for the goals of the organization (Campbell, McCloy, Oppler & Sager, 1993). Up until about 20 years ago, performance was conceived of mainly as task performance. Task performance is the extent to which workers fulfill their responsibilities and roles pre-specified in their job descriptions. However, as researchers in organizational psychology encountered problems associated with criterion deficiency, the performance domain expanded to include other behaviors that are not directly related to the performance of the required tasks of a job, such as contextual performance (e.g., Borman & Motowidlo, 1993; Campbell et al., 1993; Ilgen & Hollenbeck, 1991). Contextual performance refers to the degree to which workers contribute to organizational effectiveness by supporting the organizational and psychosocial aspects of work even when this support is not directly related to their proscribed roles or recognized and rewarded formally by the organization (Borman & Motowidlo, 1993). To be successful at any job, including military jobs, one must be competent in both dimensions of performance. That is, in addition to possessing the knowledge, skills, and abilities associated with effective task performance, it is essential that soldiers also possess 3C to enable effective cross-cultural performance. Cross-cultural performance, in turn, is expected to lead to overall job performance, and to the more distal, and ultimate, criterion of mission success (*see* Figure 1).

Figure 1. Hypothesized relationship of cross-cultural competence to mission success

Other researchers have disaggregated the performance domain even further. Cascio and Aguinis (2005) suggest that performance criteria comprise five dimensions: (1) a psychological dimension (e.g., interpersonal skills); (2) an ecological dimension (e.g., how a person performs under varying environmental work conditions); (3) a physical dimension (e.g., the calories used per minute); (4) an economic dimension (e.g., dollar cost of errors); and (5) a temporal dimension (e.g., immediate, intermediate, and summary criteria). What they have found is that in order to be successful at any job, one must be proficient in several dimensions of performance, which differ according to the different requirements of the jobs.

Another model of the criterion domain was proposed by Campbell and colleagues (1993), who offer eight factors that make up a general model of work performance: (1) Job-specific task proficiency; (2) Non-job-specific task proficiency; (3) Written and oral communication; (4) Demonstrating effort; (5) Maintaining personal discipline; (6) Facilitation team and peer performance; (7) Supervision and leadership; and (8) Management and administration. Some are necessary for some types of jobs, but not as much for other types (e.g., those in leader and non-leader roles). Again, certain predictors of performance are expected to lead, differentially, to improvement in the prediction of certain aspects of performance more than in others. For example, Nyfield, Gibbons, Baron, and Robertson (1995, as cited in Bartram, 2005) reported consistent patterns of correlations between Big Five and different aspects of job performance measured by manager's ratings. For instance, how conscientious people are will likely predict how well they perform their tasks, and extraversion may be expected to predict performance in more interpersonally-oriented occupations, such as sales.

A military related study, albeit not related to 3C, was conducted by Campbell, McHenry, and Wise (1990), who uncovered five dimensions of performance of entry-level U.S. Army soldiers, namely: (1) Core proficiency; (2) General soldier proficiency; (3) Effort and leadership; (4) Personal discipline; and (5) Physical fitness and military bearing. Again, it seems that performance in the military is also multidimensional and also consists of task as well as contextual performance. As such, 3C represents one aspect of contextual performance for the military and as such, in addition to learning about tactics and war-fighting skills, it is essential that soldiers are also competent cross-culturally.

A criterion-centric approach was taken by Bartram (2005) in coming up with the "Great Eight" competencies of job performance, a meta-analysis of 29 validation studies and 112 competencies. After performing factor analysis on both the predictors and criteria to derive the great eight, he was able to examine the relationships between predictors and competencies, showing that both sets of measures mapped onto the Great Eight. The correlations between the aggregated multiple predictors and the aggregated multiple criteria were examined. It was found that the predictive power of the aggregated composites was substantially higher than between the predictors and an overall job performance rating. This suggests that having a strong rationale to aggregate and match the predictors and criterion one-to-one increases the likelihood of finding a clear pattern of results.

A Criterion-Centric Approach

Mission Success: The Ultimate Criterion

Conceptually, the predictors of the processes of performance lead to the outcomes that enable mission success. However, when one takes a criterion-centric approach, one works

backward, starting with the conceptual criteria that define what mission success *is* for that particular organization. In this way, predictor measures are developed with a criterion in mind and thus, are more likely to be relevant, given the definition of success used by stakeholders in the organization (e.g., not deficient or contaminated). By not taking this criterion-centric approach, one risks deriving metrics that predict processes that do not lead to the important results the organization values. Identifying the desired mission-related performance outcomes *first* will allow better explication of those constructs that are likely to lead to mission success. This increases the likelihood of being able to identify the relevant predictors of mission success. (Bartram, 2005; Cascio & Aguinis, 2005).

As 3C entails the capability to interact effectively and appropriately with those from other cultures in order to achieve mission success, it follows that "mission success" must be defined. However, what this broad construct of mission success means really depends upon the particular mission. In order to gain a better understanding of the types of performance expected to lead to mission success, an overview of the primary missions in other cultures is in order.

It would appear that central to military missions today are peacekeeping and stability operations. The five components of stability and reconstruction include: security (ensuring a safe and secure environment); justice and reconciliation (establishing the rule of law); humanitarian assistance (social well-being); participatory governance (promoting a stable governance); and, economic stabilization and infrastructure (providing a sustainable economy) (Brinkerhoff, Johnson, & Hill, 2009). For such missions, the support of the local population is critical; that is, the common theme across all of these endeavors is the need to interact appropriately and effectively with foreign nationals as well as with other coalition forces from other countries.

28

Additionally, the military is increasingly involved in an advising role in many areas of deployment. Missions involving military advising have become key components of the exit strategy in both Iraq and Afghanistan (U.S. Department of Army, 2006, as cited in Zbylut et al., 2009). It is critical for military advisors to interact effectively with their counterparts.

The need to establish good relations with those of another culture is not bound by rank or job description. In a recent article on the "strategic corporal," Marine Corps General Charles C. Krulak (1999) found that lower-ranking personnel were often the most prominent representation of American foreign policy. Across humanitarian assistance, peacekeeping, and traditional operations, the general discovered that outcomes often hinged on decisions made by small-unit leaders and not always the officer in charge. It turned out that these strategic corporals were influencing not only immediate tactical situations but also higher operational and strategic levels. If anything, this is more applicable today. Non-commissioned officers (i.e., enlisted personnel) may perform such divergent duties as serving as town mayor of an Iraqi village, negotiating with tribal leaders in Afghanistan, or training indigenous forces worldwide (Stringer, 2009). Therefore, it would seem that military personnel, by their individual actions, can turn the local populace against our men and women in uniform, which in turn will decrease the odds of even indirect support for our efforts overseas (Chandler, 2005). "We simply cannot afford to collaterally alienate the people we are trying to influence, liberate, protect, or aid" (Sargent, 2005, p.12, as cited in Chandler, 2005). Therefore, no matter what the job, rank, or specific mission, the importance of building interpersonal relationships across cultural boundaries is essential.

Uncovering the Performance Domain

To uncover the specific behaviors amenable to being scaled in terms of each individual's proficiency was the next step (Campbell, 1990). The performance criteria are the behaviors of military members, and not the more distal results of those behaviors (e.g., mission success). To derive the specific behaviors comprising any performance domain, Borman (1991) suggests interviews with subject matter experts (SMEs) to accompany a thorough literature review. As such, qualitative data were collected.

Qualitative Data Collection

In-depth interviews with SMEs were conducted in order to derive initial validation of the 3C dimensions, as well to relate 3C to mission success (Ross, 2008). That is, what does 3C look like in practice and how is it manifested by Soldiers, Airmen, and Marines? To determine this, nine higher-ranking enlisted Army soldiers and officers who had been deployed outside the U.S. were interviewed. CTA and critical incident interviews were conducted using a semi-structured format, allowing for variations in structure to facilitate the exploration of the important dimensions of performance.

First, participants were asked to engage in a peer-ranking task by placing their team members on a performance continuum with regard to the amount of 3C each team member possessed. SMEs were then asked to discriminate as to what specifically about the person caused each one of them to be ranked at that level. This task allowed the linking of descriptions of 3C from the field to the constructs uncovered in the literature review. When possible, Ross (2008) also gathered critical incidents based on instances mentioned during the ranking task to further explicate the dimensions of 3C. This qualitative exercise provided an initial content validation

effort that linked the factors of 3C identified in the literature with the mission-specific performance dimensions uncovered during the interviews.

Results of Interviews

All nine participants related important observations as to what they considered to be the dimensions of performance and of these, several had sufficient experience to consider themselves competent in terms of cross-cultural interactions (Ross, 2008). Prior to conducting the interviews, the researcher had informally hypothesized that the proficiency level of 3C needed would vary, depending on the nature of the mission. However, the critical incidents led her to conclude that circumstances often place people in situations where cross-cultural interactions are required. A leader cannot predict which members of the unit will need to interact effectively with those of other cultures. Some have an obvious need for 3C given their duties; however, for others, it may be an emergent requirement that arises during crisis situations. As mentioned earlier, 3C is also an integral part of counterinsurgency operations (COIN) across ranks, from capturing insurgents to stabilizing a region's economy and security. Such COIN experiences make up the interview data and provide insight into how 3C is essential for all phases of operations and their supporting efforts, across ranks and levels. This is truer now more than ever, as our efforts in Iraq and Afghanistan illustrate.

The interviews with SMEs revealed several performance dimensions. Specifically, successfully influencing, persuading, and negotiating with foreign nationals, as well as presenting oneself appropriately during interactions, were the specific performance behaviors most often associated with effective performance (Ross, 2008). Such behaviors are likely to lead the type of rapport-building necessary to move about safely in a threatening environment as well

31

as to build longer-term relationships, which are critical to mission success. The literature confirms these findings. For example, a performance factor including both a teaching component (e.g., influencing) and an interpersonal component (Smith, 1966) emerged in a study of Peace Corps volunteers. Displaying warmth toward the native students, showing consideration toward the indigenous adults, and using tact during interactions were found to be critically important indicators of competence to the host nationals. The ability to show respect while maintaining a "nonjudgmental stance" was the most essential component during cross-cultural communications (Ruben & Kealey, 1979, as cited in Sinicrope et al., 2007). Therefore, based upon the interview data and the relevant literature, three main dimensions of performance were identified as: (1) Displaying respect and assuming a non-judgmental posture during interactions with people of other cultures; (2) Demonstrating tolerance and patience with different cultural customs, norms, and practices; and (3) Leveraging influence (e.g., negotiating, persuading, training), which has become even more important recently due to the various training and advising roles assumed by military personnel.

Measuring the Performance Domain

The approach taken to assess the specific behaviors relevant to performance was to obtain supervisory ratings of performance on military missions. Supervisory ratings often serve as criteria for research purposes (Cascio & Aguinis, 2005). The immediate supervisor is usually the best rater to assess the individual in terms of organizational goals; however, it is important that the supervisor have had direct observation of the subordinate. To enhance the lowered reliability and validity inherent in having only one supervisor rater per ratee, it is advised that multiple criterion dimensions be assessed rather than only using a global measure of overall performance

(Bartram, 2005). In this article, the author demonstrated that measuring multiple criteria provided a more reliable and more valid measure of performance. Although he reported that the average correlation among the great eight dimensions was .45, indicating a general factor of performance, Bartram was able to illustrate how separating the performance dimensions out and weighting them provided better predictability than using only a global measure of performance. In this way, the performance items can then be aggregated to form a composite performance score in addition to the overall performance item.

The type of rating system must be considered as well, that is, whether to use a relative or an absolute system. Relative rating systems include simple ranking, where raters order the ratees from highest to lowest, as in the peer ranking task used above. A main advantage of the ranking system is better control for leniency, severity, and central tendency errors. Disadvantages include the lack of behavioral specificity, unreliability, and the difficulty in ascertaining the difference between ratees (i.e., how much better or worse one ratee is from another), due to the ordinal nature of the data. Also, some ratees may be either all good or all bad in one area, and when this is the case, this method can increase error (Cascio & Aguinis, 2005). Absolute rating systems include behavioral checklists and the Likert method. BARS (behaviorally anchored rating scales) have the main disadvantage of being very time-consuming to develop. Moreover, research suggests that they demonstrate no better or worse reliability and validity than other methods. . Therefore, it was decided to use supervisor ratings in the form of a Likert scale with individual performance criteria as well as overall job performance being assessed (*see* Figure 2).
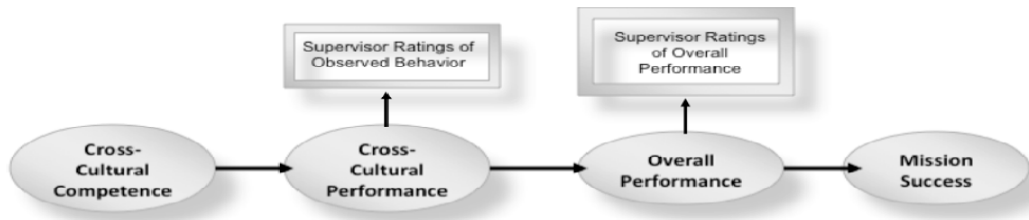
Figure 2. Hypothesized relationship of 3C to mission success with performance indicators

Summary: Chapter Three

In order to further explicate and operationalize 3C and the factors that comprise this construct, interview data were examined in addition to the literature review conducted in Chapter Two. Such a two-tiered approach allows detailed explications of what mission success looks like, which can be tied to all of the important and relevant dimensions of performance. As elucidated above, mission-specific performance involves those behaviors that reflect successful interactions with people from other cultures in order to achieve mission success. Thus, the performance domain includes such behaviors as assuming a non-judgmental posture during interactions, demonstrating patience, and expressing respect to host nationals, as well as effectively persuading, influencing, and negotiating with host nationals, where applicable. Only after establishing the performance criteria upon which mission success is based, can the predictors, or antecedents, of such performance be identified.

CHAPTER FOUR: INSTRUMENT DEVELOPMENT

The Dimensions of Cross-Cultural Competence

In order for the military to prepare and train its forces to interact effectively and appropriately with foreign nationals in other cultures and regions across the globe, the individual

difference variables that comprise this multidimensional construct must be elucidated and operationalized. Via an integration of the foregoing literature review and interview data, nine candidate constructs hypothesized to predict mission-specific performance were proposed as holding the most promise for a military measure of 3C. Each construct is defined and the reasons why each was chosen for inclusion in the prototype instrument follows.

Cross-Cultural Openness

Cross-cultural openness is defined as an individual's extent of interest and drive to learn about and to gain new experiences, including cross-cultural experiences (Ang et al., 2004). Being culturally open means that one has less dogmatic views of what is right and wrong. This results in an unbiased attitude toward different cultural norms and values. Conversely, research suggests that those who are less open are more likely to be ethnocentric in their views. That is, they seem to hold the belief that their own ideas and norms are superior to those of other cultures (Black 1990, as cited in Templer et al., 2006). Thus, someone who is cross-culturally open is capable of considering alternative points of view that s/he would not have considered before, based on their own life experience (Matsumoto et al., 2001).

Openness, in all of its forms, has been one of the most oft-studied variables with regard to intercultural effectiveness in the literature (e.g., Matsumoto et al., 2001; Van der Zee & Van Oudenhoven, 2000). In a review of the relevant literature, Hannigan (1990) cites openness as the most important determinant for expatriate success. In a recent meta-analysis, it was found that openness was able to predict both task and contextual performance ratings by both the expatriate and a coworker (Mol et al., 2005). In another study, international employees rated cross-cultural openness as one of the most important predictors of success (Arthur and Bennett, 1995).

Openness has also been found to be related positively to cross-cultural training performance (Lievens, Harris, Van Keer, & Bisqueret, 2003). Thus, in any cross-cultural interaction, including military interactions with foreign nationals, being open to the many ways people of other cultures think and act is essential.

Cross-Cultural Empathy

Cross-cultural empathy involves the expression of empathic thoughts (e.g., perspective taking) and feelings (e.g., empathic emotions) toward members of other cultures (Wang et al., 2003). Perspective taking is defined as "the ability to see events as another person sees them" (p. 20, Abbe et al., 2007), whereas the affective component is "the ability to feel as another person feels" (p. 16, Abbe et al.).

During Ross' (2008) interviews with soldiers recently deployed to Iraq and Afghanistan, examples of the cognitive component of empathy, perspective-taking, were documented 31 times. The literature supports such a finding because higher levels of empathy are expected to lead to being able to clearly project an interest in others and reflect back a reasonably accurate sense of their thoughts and feelings during communications (Ruben, 1976, as cited in Sinicrope et al., 2007). Additionally, as discussed in Chapter Two, it seems that collectivistic cultures are better able to take the perspective of others than those from individualistic cultures. Therefore, because the Middle East is an area where 3C is critical to the military, and is also a collectivistic culture, American military personnel may be at a disadvantage if they lack this skill. Compounding this lack of a natural tendency to take others' perspectives are the conditions under which military personnel operate. One study demonstrated that perspective-taking occurs more slowly under time pressure. That is, as time pressure increased, participants became less

able to adjust their perspectives from their initial egocentric interpretations (Abbe et al., 2007). Therefore, assessing cross-cultural empathy seems integral to assessing 3C.

Willingness to Engage

Willingness to engage has been defined as one's tendency to actively seek out and explore unfamiliar situations, including cross-cultural situations (Earley & Ang, 2003; McCroskey, 1992). Because 3C is the ability to interact effectively with those from other cultures, willingness to engage seems to encompass the fundamental essence of 3C.

When measuring this construct, most of the research seems to examine the predictors of willingness to engage (e.g., extraversion, openness to new experiences) rather than the construct itself. However, in one study that examined willingness to engage directly, it was found that for Japanese expatriates living in the U.S., the willingness to engage positively and significantly related to interaction adjustment (Takeuchi, Yun, & Russell, 2002). Likewise, Black (1990, as cited in Templer et al., 2006) examined essentially the same construct, given a different label (willingness to communicate), and found that it predicted both expatriate performance as well as job satisfaction. Moreover, the research seems to suggest that being willing to engage, displaying respect, and most importantly, being generally personable, are more important (e.g., rated more highly by locals) than language skills, although expatriates rate one another higher in 3C when they possess language skills (Abbe et al., 2007). A relevant study supporting this notion found that Americans gave higher ratings on the performance of Peace Corps volunteers who had higher levels of proficiency in the local dialect; however, the local people consistently gave higher ratings for other characteristics, such as the personality of the volunteer (Abbe et al., 2007). This seems to suggest that being proficient in another language is only helpful when it is

37

accompanied by a *willingness to engage*. It is the attitude and friendly demeanor, and not the skill in another language, that matter more. This would imply the positive correlations found between foreign language ability and outcomes related to mission-specific performance are spurious, with this third factor accounting for the variance in performance.

Because the role of deployed personnel in the military often includes peacekeeping and stability operations, an unwilling attitude would likely be an obstacle to gaining valuable intelligence from foreign nationals. It would also tend to limit the amount of information received from host nationals, thereby hindering acquiring important information about the customs, norms, and manners associated with socially appropriate behaviors. . Therefore, willingness to engage is a critical component of 3C that offers a promising avenue of exploration in military populations.

Self-Efficacy

The focal point of Bandura's social cognitive theory (1997) is self-efficacy, which is the belief in one's ability to perform in a specific manner to attain certain goals. Self-efficacy is not the same as self-esteem, which refers to a person's overall sense of self-worth. Self-efficacy refers to a person's perception of his/her ability to reach a particular goal. Unlike efficacy, however, which is the *power* to produce an actual effect (i.e., competence), self-efficacy is one's *belief* that one has the power to produce that effect (Ang et al., 2004; Schwarzer & Jerusalem, 1995). As such, self-efficacy beliefs are important in determining whether individuals think in self-enhancing or in self-debilitating ways about any task that is set before them (Bandura, 2002). Therefore, these beliefs are important in motivating oneself to persevere in the face of difficulty.

Several studies have related this variable to cross-cultural outcomes (Harrison, Chadwick, & Scales, 1996). A study of U.S. expatriates showed that higher levels of self-efficacy were associated with higher levels of work and interaction adjustment (Palthe, 2004). A meta-analysis confirmed this finding (Bhaskar-Shrinivas et al., as cited in Abbe et al., 2007), whereby those with higher self-efficacy chose to engage in more cross-cultural interactions. Conversely, those with lower self-efficacy levels may harbor feelings of self-doubt and either may not engage at all or may withdraw prematurely from such encounters. This, in turn, further lowers expectations of success (Earley & Peterson, 2004). As such, low self-efficacy would likely hinder the ability to interact effectively with host nationals and thus, 3C. Those who are low in self-efficacy and encounter initial frustration may react by isolating themselves from dealing with the new culture. For these reasons, self-efficacy is worthy of further investigation as to its role in military 3C.

Emotional Self-Regulation

This construct refers to the ability to regulate or control emotions effectively so they do not interfere with performance (Gross & John, 2003). It is similar to the lay term, self-control. Those who are able to self-regulate are expected to perform better because they are not distracted by negative emotions.

Self-regulation is an oft-cited construct in 3C measures (Matsumoto et al., 2001; Van der Zee & Van Oudenhoven, 2000), as well as being a component of emotional intelligence (Matthews, Zeidner, & Roberts, 2002). Although this construct is correlated with the Big Five trait of emotional stability, which is also correlated with intercultural outcomes (e.g., Caligiuri, 2000; Shaffer, Harrison, Gregerson, Black, & Forzani, 2006), research suggests that self-regulation may be a skill that can also be trained (Abbe et al., 2007).

39

The ability to regulate one's emotions also appears to be related to the choice of coping strategies. Such strategies may be problem-focused (e.g., active attempts to manage the environment or the source of the stressor), or symptom-focused (e.g., active attempts to relieve the symptoms caused by the distressing emotions) (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Problem-focused coping strategies have been shown to positively relate to adjustment, whereas symptom-focused strategies have been shown to negatively relate to adjustment (Selmer, 1999, as cited in Abbe et al., 2007). Thus, it may be that problem-focused coping strategies are superior strategies. As such, regulating one's emotions that arise due to the stress of interacting in a foreign culture is a desirable skill to possess.

Historically, this type of self-control has been conceived of as especially important for those in leadership roles in the military. However, being able to regulate one's emotions, especially under stress, is also important in today's military across all ranks and job types, given the complexity and challenges of current military missions. Controlling one's emotions so they do not interfere with cross-cultural performance is a critical skill across missions, especially in the stressful environments in which the military operate. Losing control of one's emotions, or losing patience with foreign nationals, would likely hinder the ability to interact effectively with them. Therefore, emotional self-regulation seems to be a critical skill that is necessary for effective cross-cultural performance.

Cognitive Flexibility

Cognitive flexibility involves being open to learning from one's mistakes and then adjusting one's behavior accordingly (Van der Zee & Van Oudenhoven, 2000). Such flexibility

is also expected to enable someone to adapt to changing circumstances, to switch more easily from a strategy that does not appear to be working to a new strategy (Abbe et al., 2007).

There is not a great deal of support in the literature for cognitive flexibility, although the theory seems promising for a military measure of 3C. In a study on cross-cultural training, flexibility predicted training performance in expatriate managers working in Japan (Lievens, Harris, Van Keer, & Bisqueret, 2003). Those who were more willing and able to adjust their behavior to changing demands performed better in training and scored higher on tests of foreign language acquisition. In a sample of Japanese expatriates working in the U.S., Black (1990, as cited in Templer et al., 2006) found that flexibility correlated with adjustment

Being open to choosing an appropriate strategy rather than relying on the tried and true, and being able to switch strategies when one becomes ineffective, is an important skill to possess in the military, especially in a leadership role. The ability to be flexible in one's approach is theorized to allow military personnel to solve a range of problems across complex and dynamic situations, which is essential to mission success (Gompert, Lanchow, & Perkins, 2005).

Self-Monitoring

Self-monitoring involves the observation of cues in the environment, followed by the adjustment to one's own behavior in socially (or culturally) appropriate ways in response to those cues. According to theory, individuals differ meaningfully in the extent to which they can and do engage in expressive control (Gangestaad & Snyder, 2000). Three dimensions of self-monitoring include: (1) Concern for behaving in an appropriate manner; (2) Sensitivity to cues in the environment; and (3) Changing one's behavior in response to what the environment demands (Snyder, 1974).

It seems that some individuals engage in impression management more than others due to their concern over the appropriateness of their behavior. They adjust their self-presentation to achieve a certain persona, or desired public appearance. Therefore, the behavior of high self-monitors is highly responsive to social and cultural cues. Others, who are low self-monitors, do not appear to deliberately control their behavior according to situational cues, but behave in a way that is a true reflection of their inner emotions, attitudes, and personalities. High self-monitors, on the other hand, seem to be more interpersonally skilled, and are both willing and able to project the persona that will best impress others. Low self-monitors may not only be unable, but unwilling, to project a desirable social persona. They seem to believe projecting such a persona is a falsehood that is ethically wrong, as it is not a true reflection of the self (Gangestaad & Snyder, 2000).

Harrison et al. (1996) showed that those expatriates who scored higher on self-monitoring reported feeling more comfortable interacting with host nationals. Thus, high self-monitors may be more willing to engage with others. With regard to self-monitoring and job performance, however, results have been mixed. When American expatriates working in other cultures provided ratings on contextual performance and task performance, it was found that low self-monitors received higher ratings on contextual performance, whereas high self-monitors received higher ratings on task-specific performance (Caligiuri & Day, 2000). Therefore, these results indicate that although self-monitoring influences performance, the direction of the relationship will depend on the type of performance being evaluated. Because the theory of self-monitoring predicts that those who are higher self-monitors should have higher levels of 3C, despite the

mixed results, the initial instrument was constructed to include this construct and explore whether or not self-monitoring is predictive of military mission-specific performance.

Low Need for Cognitive Closure

The need for cognitive closure is defined as the extent to which a person, faced with a decision or judgment, desires any answer rather than exist in a state of confusion and ambiguity (Webster & Kruglanski, 1994). It has to do with the need to find immediate answers and solutions as well as to resist new information that conflicts with already-held beliefs (Kruglanski & Webster, 1996). Being high on the need for closure is associated with a need for structure and predictability, a tendency toward decisiveness, and a low tolerance for ambiguity (Webster & Kruglanski, 1994).

Research on the need for closure is limited, but suggests that those high in a need for closure are more likely to depend on stereotypes when making attributions, as well as to persist in those stereotypes, despite conflicting information (Kruglanski & Webster, 1996). Those higher in the need for closure also rely more heavily on implicit personality and cultural theories, and therefore may make more ethnocentric attributions instead of taking cultural context into account (Chui, Morris, Hong, & Menno, 2000, as cited in Abbe et al., 2007). Due to the nature of this construct, it would seem that having a *low* need for cognitive closure would be associated with being open to other solutions and possibilities, as well as the tendency not to reply on stereotypes or implicit theories of culture. As this seems integral to 3C, it was felt that an instrument designed to assess 3C in the military should include it.

Tolerance for Ambiguity

A similar construct to cognitive closure is tolerance for ambiguity. This construct is not well-defined in the literature. Similar to the high need for cognitive closure, it seems that being low in tolerance for ambiguity is also characterized by rigidity, dichotomous thinking, authoritarianism, and ethnocentrism (Abbe et al., 2007).

Research support into tolerance for ambiguity is limited. In a study of Japanese students in the U.S., participants and the researcher rated students on seven interpersonal communication skills. The students rated themselves on their level of cross-cultural adaptation (e.g., culture shock, psychological adjustment, and feelings toward life in America). The students were also rated on their interaction effectiveness as assessed by the researcher. The behavioral ratings of tolerance for ambiguity were significantly correlated with self-reported culture shock (Nishida, 1985, as cited in Abbe et al., 2007). Because cross-cultural interactions are ambiguous by their very nature, the ability to tolerate uncertainty may be an important component of 3C and is thus included in the prototype measure.

It should be kept in mind that although Abbe and colleagues (2007) report that this construct is not the same as the need for cognitive closure, they do not state explicitly how the two constructs are different. From the literature, it seems that there is considerable overlap between the two. However, for exploratory purposes, these constructs were assessed with different subscales, keeping in mind that they may really be measuring the same thing.

Item/Scale Development

Based upon an integration of the foregoing literature review and interview data, an initial pool of items for pilot administration was generated according to the construct validation

approach advocated by psychometricians (Clark & Watson, 1995; Nunnally & Bernstein, 1994). To assess the nine hypothesized dimensions of 3C elucidated above, items were adapted from validated scales or were written based upon the interview data as well as the operational definition of the construct. For example, one of the items used to measure Willingness to Engage was adapted from the Motivational CQ subscale, specifically, "I enjoy interacting with people from different cultures." To measure Self-Efficacy, two other items from this subscale were adapted as well, namely, "I am confident that I can socialize with locals in a culture that is unfamiliar to me," and "I am sure I can deal with the stresses of adjusting to a culture that is new to me." Four of the Need for Cognitive Closure Scale (Webster & Kruglanski, 1994) subscales were also adapted, namely those written to assess: (1) Need for Cognitive Closure, (2) Tolerance for Ambiguity, (3) Cross-Cultural Openness, and (4) Cognitive Flexibility. This scale also contains a "Lie Scale," comprised of five items to screen for social desirability bias, which was adopted as is (*see* Appendix A). These steps were taken to ensure content coverage of each domain as well as to ensure that all items were phrased carefully, simply, and unambiguously, as recommended by psychometricians (Rust & Golombok, 1989). Following these steps, a total of 144 items, not including the five Lie Scale items, were included in the initial prototype to assess the nine hypothesized predictors of 3C. The 149 items, representing the nine dimensions of 3C and the five social desirability items, were then randomized for administration.

Method: Pilot Study

Prototype Instrument

The prototype Cross-Cultural Competence Inventory was used to assess the nine hypothesized dimensions of 3C derived from the literature review and interview data: (1) Cross-

Cultural Openness; (2) Cross-Cultural Empathy; (3) Willingness to Engage; (4) Self-Efficacy; (5) Emotional Self-Regulation; (6) Cognitive Flexibility; (7) Self-Monitoring; (8) Low Need for Cognitive Closure; and, (9) Tolerance of Ambiguity. A six-point Likert scale was used throughout the inventory, facilitating both scoring and the respondents' ability to complete the entire inventory in a timely manner. Participants rated the extent to which they (1) "Strongly Disagree" to (6): "Strongly Agree" with each statement.

Procedure

The prototype instrument was uploaded to the Defense Equal Opportunity Management Organizational Climate Survey (DEOCS), an electronic survey routinely administered to all services across ranks and geographic locations. The DEOCS is managed by DEOMI, who deploys the DEOCS as an online instrument at the request of military commanders. When requested, all members of the commander's organization are invited to complete the DEOCS via an online invitation containing a web link. Instructions regarding the purpose of the research were included and the participants were assured that all data they provide will be treated as strictly confidential. No names were collected or directly associated with any data. Further, the information provided throughout participation has been stored in such a way that the data cannot be connected to any individual, thus ensuring privacy. All the data collected from each individual were pooled with data collected from other participants and no one's name or personal information (e.g., SSN) was collected or maintained in the data file. Further, full confidentiality of all individuals was maintained in data handling and reporting. The published results of this study do not, and will not, include anyone's name or any other information that would personally identify anyone in any way.

46

Participants

The total number of completed surveys analyzed was 792. Of those participants who reported gender, 486 were male (75.8%) and 155 were female (24.2%). The ages ranged from 18 to 40 years of age, with the largest percentage of participants (34.3%) between 21 and 24 years of age. Of the 528 total participants who reported their Branch of Service, most were in the Army (28.2), Marine Corps (23.2%), or the Navy (27.9%). Age Category correlated positively with Years in Service ($r = .72$; $p < .01$), with Pay Grade ($r = .53$, $p < .01$), and with Gender ($r = .10$, $p < .05$). That is, the older one is and the longer one is in the service, the higher is the Pay Grade, as expected. It also suggests that females in the services tend to be of a slightly older average age than males, but this correlation is small in magnitude.

Results: Pilot Study

Exploratory Factor Analysis

The purpose of using factor analysis in the construction of a scale is to "examine the stability of the factor structure and provide information that will facilitate the refinement of a new measure" (Hinkin, 1995, p. 977). This data reduction technique is used here to establish the multidimensional nature of 3C. Therefore, an exploratory factor analysis (EFA) was carried out ($N = 792$), using SPSS Version 12.0 and specifying principal-axis factoring (PAF) as the extraction method (cf. Gorsuch, 1983; Nunnally & Bernstein, 1994). Based on the resulting scree plot (Cattell, 1966) and interpretability, six factors were retained and rotated to simple structure using an oblique rotation (e.g., Oblimin with Kaiser Normalization.), which converged in 30 iterations. Items were screened on the basis of their rotated factor patterns. The items with the lowest factor loadings (<. 30) and those that cross-loaded onto other factors were discarded (see

47

Appendix B). The six factors appeared interpretable and accounted for 28.7% of the total variance.

Examination of Scale Properties

Cronbach's coefficient alpha and item-total correlations were examined and those items with low item-total correlations (<. 30) were discarded. In addition to this empirical approach, a rational approach was taken so as not to merely seek a high coefficient alpha, which can be achieved simply by having items with maximally similar distributions (Nunnally & Bernstein, 1994), but also by examining the content of each item. Following this procedure, five more items were eliminated, resulting in a final 80-item scale, yielding six factors, as described below.

Summary: Pilot Study

Following scale development, the Cross-Cultural Competence Inventory (3CI) consisted of 80 items to assess six hypothesized dimensions of 3C, preliminarily named: (1) Culture-General factor; (2) Tolerance of Uncertainty factor; (3) Self-Monitoring factor; (4) Focused factor; (5) Rule-Oriented factor; and (6) Interpersonal factor.

The Culture-General factor was comprised of items that were originally designed to assess several of the foregoing hypothesized constructs, such as the Willingness to Engage (with other cultures), Self-Efficacy, Cross-Cultural Empathy, Cross-Cultural Openness, and Cognitive Flexibility. The second factor was named Tolerance of Uncertainty, as the items loading onto this factor contained those representing both the Tolerance for Ambiguity as well as the Low Need for Cognitive Closure. The third factor, named the Self-Monitoring factor, was comprised of items originally designed to assess the ability to self-monitor. The items underlying the fourth factor, the Focused factor, came from different scales, but seemed to represent the tendency to be

48

both determined and focused on reaching one's goals. The fifth factor was named the Rule-Oriented factor, as the items seemed to indicate that someone scoring high on this factor would likely be someone who is sincere, maintains discipline, follows the rules, and enjoys a structured work environment, as shown by the negative loadings of the items onto Self-Monitoring and Tolerance of Uncertainty. The final factor was named the Interpersonal factor, as this factor was comprised mainly of items designed to assess the Willingness to Engage (in general).

The next three chapters involve psychometric evaluation and validation in order to examine the factor structure, reliability, and criterion-related validity of this new instrument. In Chapter Five, which is immediately following, I will outline the steps taken to further refine the scale. To that end, a Construct Validation study was conducted.

CHAPTER FIVE: CONSTRUCT VALIDATION

At this point, the Cross-Cultural Competence Inventory (3CI) consisted of 80 items to assess six hypothesized dimensions of 3C, namely: (1) Culture-General factor; (2) Tolerance for Uncertainty factor; (3) Self-Monitoring factor; (4) Focused factor; (5) Rule-Oriented factor; and an (6) Interpersonal factor. Further refinement of the scale follows, wherein the scale is administered to a new sample of participants. Results from this sample will help provide evidence of a stable factor structure (Hinkin, 1995). A confirmatory approach in scale development is recommended to allow more precision in evaluating the measurement model.

Method: Construct Validation Study

Materials

The Cross-Cultural Competence Inventory (3CI) was an 80-item self-report instrument to assess the six hypothesized dimensions of 3C, namely: (1) Culture-General factor; (2) Tolerance for Uncertainty factor; (3) Self-Monitoring factor; (4) Focused factor; (5) Rule-Oriented factor; and an (6) Interpersonal factor. The 85 items, representing the six dimensions of 3C and the five social desirability items, had been randomized for administration and an introduction and an online informed consent included (*see* Appendix C). A six-point Likert scale was used throughout the inventory, whereby respondents rated the extent to which they (1) "Strongly Disagree" to (6): "Strongly Agree" with each statement.

Procedure

In order to re-examine the factor structure of the instrument, as well as to further select items, following IRB approval (*see* Appendix D), the 85-item 3CI, including the five social desirability items adopted from the Need for Cognitive Closure Scale (Webster & Kruglanski,

1994), was uploaded to the DEOCS using the identical procedure described above in the Pilot Study.

<p align="center">*Participants*</p>

The total number of usable inventories collected was 4,840. Of those, 3,872 participants were male (80%) and 968 were female (20%). Their ages ranged from 18 to 40 years of age, with the largest percentage of participants being between 21 and 24 years of age (42%). Most reported a mid-level pay grade between 4 and 6 (50.9%). Of the 4,026 participants who reported their Branch of Service, most were in the Army (40.6%), the Marine Corps (17.5%), and the Navy (33.5). In this sample, Age Range and Pay Grade were significantly correlated ($r = .60$, p < .01).

<p align="center">**Results: Construct Validation Study**</p>

<p align="center">*Reselecting Items*</p>

Confirmatory factor analysis (CFA) was carried out using LISREL (version 8.30; Jöreskog & Sörbom, 1999) in order to confirm the factors determined by the exploratory factor analysis. As the sample size was of such magnitude, the first-round of confirmatory factor analysis was carried out a randomly selected two-thirds of the total sample (N = 3,000. This purpose of this analysis is to re-select the items based upon their estimated loadings on the expected factors. The remaining sample was reserved for cross validation.

The measurement model was specified on the basis of the pattern of item–latent factor loadings found in the exploratory step. Specifically, for each item, the path from its respective latent factor (i.e., regression weight for the factor or path coefficient) was allowed to be freely estimated and the paths from other factors were constrained to be zero. Examining the extent to which the model fit the data was the next step, and was accomplished by using a combination of

<p align="center">51</p>

several fit indexes (i.e., Chi-square, the goodness of fit index [GFI], the root mean square error

of approximation [RMSEA], the standardized root mean square residual [SRMR], and the

comparative fit index [CFI]). This resulted in the elimination of 22 items on the basis of the

magnitudes of their loadings on the assigned factors ($< .40$) as well as the elimination of those

items that cross-loaded onto other factors. Following item elimination, the model showed

reasonable fit (Chi-square = 18,975.94, df = 1,580, $p < .01$; GFI = .82; RMSEA = .061; SRMR =

.058; CFI = .82), confirming the six-factor structure found in the exploratory analysis. Therefore,

58 items were retained to represent the six factors.

<p style="text-align:center">Cross-Validation to Confirm Factor Structure</p>

A second confirmatory factor analysis was carried out, this time on the remaining one

third of the total sample (N = 1,840), using LISREL (version 8.30; Jöreskog & Sörbom, 1999), as

above. This step was critical in order to test whether fit held once the 22 items were eliminated

from the model. This is because the fit found in the previous confirmatory analysis could have

been due to capitalization on chance, having maximized factor loadings in the exploratory step.

Therefore, once the 22 items were eliminated, conducting CFA on this sample, based on the 58

items, was necessary in order to reconfirm the fit of the final model.

Again, fit was examined using a combination of several fit indexes (i.e., Chi-square, the

goodness of fit index [GFI], the root mean square error of approximation [RMSEA], the

standardized root mean square residual [SRMR], and the comparative fit index [CFI]). Results

showed an acceptable fit (Chi-square = 9,714.23, df = 1,580, p = .00; GFI = .85; RMSEA = .053;

SRMR = .057; CFI = .87) and the loadings of all the items were reasonably large ($> .40$).

Therefore, fit was maintained despite the elimination of the 22 items and the 58-item scale was

confirmed to represent the six factors of 3C (*see* Appendix E).

Examination of Subscale Properties

According to the domain sampling model, reliability reflects the extent to which a score

correlates highly with its "true" score (more exactly, it is the square of the correlation between

the observed score and the true score). Cronbach's coefficient alpha is the formula most often

used to obtain an estimate of reliability; more specifically, it is a measure of the internal

consistency of a scale (or subscale). Internal consistency depends upon three things: the number

of items, the item variance, and the observed score (total score) variance (Nunnally & Bernstein,

1994). For this analysis, the entire sample ($N = 4,840$) was used to estimate internal consistency

reliability. Table 1 displays the means, standard deviations, and internal consistency reliability

(i.e., Cronbach's coefficient α) of the six subscales.

Table 1. *Subscale Means, standard deviations, and internal consistency reliabilities*

Scale Dimension	Scale Mean	Standard Deviation	Cronbach's Alpha
Cultural Adaptability *(18 items)*	4.78	.96	.94
Determination *(7 items)*	4.21	.86	.70
Tolerance of Uncertainty *(11 items)*	3.16	.82	.84
Self-Presentation *(4 items)*	3.01	1.19	.75
Mission Focus *(7 items)*	4.71	.92	.88
Cultural Exploration *(11 items)*	4.31	.87	.88

Intercorrelations of Subscales

The intercorrelations of the six subscales, reinterpreted and renamed following CFA and

item elimination, are displayed in Table 2. As shown, all subscales were significantly correlated

with one another. As 3C is a multidimensional construct, and theorized to predict overall

mission-specific performance, it was expected that the six scales would be moderately correlated

with one another; however, having subscales too highly correlated with one another questions the

need for separate scales and makes it more difficult to demonstrate discriminant validity and

show differential relationships with criteria. Two of the subscales, Tolerance of Uncertainty and

Self-Presentation, were negatively correlated with the other scales, though the magnitude of the

negative correlations was low.

Table 2. *Intercorrelations among the 3CI subscales*

Scale Dimension	2	3	4	5	6
1. Cultural Adaptability	.46**	-.13**	-.05**	.58**	.55*
2. Determination	--	.07**	-.19**	.48**	.50**
3. Tolerance of Uncertainty		--	-.06**	-.29**	-.10**
4. Self-Presentation			--	-.17**	-.12*
5. Mission Focus				--	.73**
6. Cultural Exploration					--

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Correlations of Subscales and Demographics

Table 3 displays the correlations between the subscales and demographics. As data were

again collected via the DEOCS, age was reported as a range instead of as a continuous variable.

Several significant correlations were found, the highest of which was between Age Range and

Self-Presentation, though in the negative direction. That is, the older an individual was in this

sample, the less likely s/he was to report engaging in self-presentation tactics. Significant

positive correlations were found between Age Range and the other subscales of the 3CI, except

for Tolerance of Uncertainty, which though significantly negatively correlated, did not differ

substantively from zero.

54

Table 3. *Correlations between subscales and demographic variables*

Scale	Gender[a]	Pay Grade[b]	Age Range[c]
Cultural Adaptability	-.02	.04**	.10**
Determination	.00	.15**	.20**
Tolerance	.02	-.01	-.03*
Self-Presentation	-.02	-.19**	-.29**
Mission Focus	-.01	.14**	.24**
Cultural Exploration	-.01	.08**	.17**

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).
[a] Male=1, Female=2
[b] (1-3)=1, (4-6)=2, (7-8)=3, (9-10)=4, (11-13)=5, (14-15)=6.
[c] (18–20)=1, (21–24)=2, (25–29)=3, (30-35)=4, (36-40)=5, (40+)=6.

Summary: Construct Validation

Following construct validation, an examination of the items that loaded on each of the six factors resulted in reinterpreting and renaming these factors as: (1) Cultural Adaptability; (2) Determination; (3) Tolerance of Uncertainty; (4) Self-Presentation; (5) Mission-Focus; and (6) Cultural Exploration. The first factor, the Cultural Adaptability factor, was comprised of items from different scales that were originally developed to assess willingness to engage, self-efficacy, cross-cultural empathy, self-monitoring, openness, and cognitive flexibility. An example item is: "When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me." A preliminary definition of this construct might be: *the tendency to enjoy cross-cultural experiences in an open, confident, and adaptable manner, as well as to empathize with those from other cultures.* Therefore, it was hypothesized that those scoring high on this factor may be more adaptable in cross-cultural interactions, especially those requiring diplomacy, an open mind, and an ability to empathize with people from other cultures.

Upon collection of criterion data, I expected that this subscale would correlate significantly with the performance criteria.

The items loading onto the second factor, Determination, seemed to represent *the tendency to be determined, task-focused, and decisive in the pursuit of one's goals.* An example item from this subscale is: "After an interruption, I don't have any problem resuming my concentrated style of working." Although this construct does not seem to be related to working in other cultures, specifically, it was expected to correlate with overall performance.

Factor III is the Tolerance of Uncertainty factor. A preliminary definition might be *the tendency to be at ease in uncertain, ambiguous situations.* An example item from this scale, reverse-scored (greater agreement signifies less tolerance), is: "I like to have a plan for everything and a place for everything." This construct has been theorized to be important for adaptive leadership in the military (Abbe et al., 2007). Therefore, I expected this scale to correlate with performance dimensions related to leveraging influence, such as negotiating with foreign nationals.

Following CFA, the Self-Presentation factor was comprised of four items originally designed to assess self-monitoring. A sample item is: "In different situations and with different people, I often act like very different persons." A preliminary definition is However, as mentioned above, this subscale was negatively correlated with the other subscales (*see* Table 2). Partly, this may be due to the negative loadings of self-monitoring items on some of the other scales, which scales seem to indicate sincerity and honestly. As research shows, this construct has had mixed results in predicating supervisory-rated performance in the literature. Theoretically, however, it was thought that these items, like Tolerance above, would indicate

56

someone who is better at leveraging influence on military missions (e.g., persuasion, negotiation), as they might be better able to conceal their impatience or frustration when dealing with different cultural norms.

The Mission-Focus factor was comprised of items indicating the tendency to be rule-oriented (containing items originally *reverse-coded* to assess tolerance of ambiguity), as well as being high in conscientiousness. A preliminary definition is *the tendency to be disciplined and to follow the rules (similar to conscientiousness).* Therefore, this factor was expected to correlate positively with ratings of supervisor performance, especially in the military, where members abide by regimented and fixed schedules, bound by regulations. An example item from this scale is, "I think that having clear rules and order at work is essential for success."

Finally, the last factor, previously named the Interpersonal factor, was renamed the Cultural Exploration factor because it was mainly willingness to engage items, along with cross-cultural openness, and the self-regulation. A preliminary definition of Cultural Exploration, in keeping with the items loading on this factor, might be *the tendency to explore new situations, including cross-cultural situations, and to interact with others in a positive and non-egotistical manner*. An example item from this subscale is: "Even after I've made up my mind about something, I am always eager to consider a different opinion." It was expected that this subscale would be positively correlated with the mission-specific performance criteria associated with displaying respect and patience toward those of other cultures.

Now that the scale development and item selection had taken place, the next step before criterion-related validation involved assessing the stability of scores over time. As such, a Test-Retest Study was conducted, the results of which are presented in the next chapter, in order to

examine the extent to which rank order of subjects based scores on the 3CI subscales remain

consistent over time (Nunnally & Bernstein, 1994).

CHAPTER SIX: TEST-RETEST RELIABILITY

Reliability may be thought of as the extent to which the measurements of a test remain consistent over repeated administrations of the same respondent under similar conditions. Therefore, an instrument is considered to be reliable if it yields consistent results using the same measure, and is unreliable if repeated measurements give different results (Nunnally & Bernstein, 1994). The correlation coefficient between two sets of responses is the coefficient of stability, and may be used as a quantitative measure of the reliability of an instrument. This type of reliability assumes that there will be no change in the construct being measured. In most cases, reliability will be higher when little time has passed between administrations.

Method: Test-Retest Study

Participants

A total of 150 U.S. Army cadets participated in this study. Cadets were chosen for this study because unlike active-duty military personnel, they are tend to remain in one place for at least the two-week time period required to assess reliability. Cadets, unlike civilian college students, also have some exposure to military cultural issues; therefore, their responses are more relevant to the larger population of interest. Out of the 150 surveys given to cadets at Time 1 and Time 2, a total of 73 completed both. Upon elimination of data indicating social desirability bias, the total sample analyzed was 67 completed surveys. Out of those, 52 were male (79%), 13 were female (13%), and one did not specify. Their ages ranged from 18 to 24 years of age, with the vast majority being between 19 and 22 years of age (97%). The mean, mode, and median age were all 20. Other demographics included the number of languages they were fluent in ($M = .12$),

the number of countries they had visited outside the US ($M = 1.77$), the total number of weeks spent outside the US ($M = 17.7$), and the number of language courses taken ($M = 1.5$).

Materials

The 85-item 3CI, as described above, was used to measure the six hypothesized dimensions of 3C. An introduction and informed consent briefly explaining the purpose of the research and advising the cadets that they would be taking the same survey again in two weeks was also included, as well as a demographics form at Time 1 (*see* Appendix F). A six-point Likert scale was used throughout the inventory, with respondents again indicating the extent to which they (1) "Strongly Disagree" to (6): "Strongly Agree" with each statement. Five items to identify those participants likely engaging in social desirability bias were again included, as above.

Procedure

Following initial contact with the Chair of the Intercultural Competence Center for Languages, Cultures and Regional Studies at the United States Military Academy in West Point, NY, a Fact Sheet outlining this effort was forwarded for consideration (*see* Appendix G) with a copy of the 3CI and demographics form. Upon approval, Time 1 survey data were collected online via email from the cadets during early December 2009, and again just before their holiday break, two weeks later at Time 2.

Results: Test-Retest Study

Subscale Characteristics

Table 4 displays the means, standard deviations, and internal consistency reliability estimates for this sample at both Time 1 and Time 2. The internal consistency reliabilities of four

of the subscales were lower from Time 1 to Time 2 for Determination (from .73 to .64) and for

Cultural Exploration (from .89 to .85). A good range for the reliability coefficient of a

psychological measure is approximately .80 or higher (Cohen, Cohen, Aiken, & West, 2002).

For the sample obtained in this study, the subscales of Cultural Adaptability, Tolerance of

Uncertainty, and Cultural Exploration all have good internal consistency (.80 - .93). However, in

this sample, the remaining three subscales do not meet the commonly accepted range of .70 to

.90 or higher at Time 2 (.64 - .66).

Table 4. *Subscale means, standard deviations, internal consistency reliabilities*

Scale Dimension	Mean Time 1	Mean Time 2	SD Time1	SD Time2	Alpha Time 1	Alpha Time 2
Cultural Adaptability *(18 items)*	4.82	4.82	.70	.61	.92	.93
Determination *(7 items)*	3.39	3.50	.53	.65	.73	.64
Tolerance of Uncertainty *(11 items)*	3.45	3.49	.67	.61	.76	.80
Self-Presentation *(4 items)*	3.37	3.39	.97	.98	.66	.64
Mission Focus *(7 items)*	4.49	4.52	.58	.51	.68	.66
Cultural Exploration *(11 items)*	4.25	4.28	.75	.67	.89	.85

Test-Retest Reliabilities

The Pearson Product Moment Correlation (*r*) was used to estimate the test-retest

reliability of the six 3CI subscales. All correlations between the scales at Time 1 and Time were

significant at the *p* < .01 level. As shown in Table 5, the uncorrected correlation coefficients

between scores of the same subscales across times ranged from .40 for Mission Focus to .73 for

the Self-Presentation subscale.

Table 5. *Test-Retest reliability estimates of subscales*

	Uncorrected Correlation	Corrected Correlation
Cultural Adaptability	.44**	.56**
Determination	.49**	.90**
Tolerance of Uncertainty	.57**	.74**
Self-Presentation	.73**	.95**
Mission Focus	.40**	.70*
Cultural Exploration	.51**	.62**

**Correlation is significant at the 0.05 level (2-tailed).

The results of this analysis indicated that although the subscales were significantly correlated with one another, at Time 1 and Time 2, the correlations were not large. This may be partly due to attenuation resulting from indirect range restriction (Hunter, Schmidt, & Le, 2006); that is, extremely restricted samples may produce spuriously low test-retest coefficients. This is demonstrated by the standard deviations in the test-retest sample being much smaller than those in the Construct Validation sample. As this sample was composed of all West Point Military Academy cadets, the participants were drawn from a very select group of individuals. To be selected for admission to a military academy, high school seniors must meet stringent criteria. Therefore, the resulting homogeneity of this restricted sample may have attenuated the correlation coefficients. As noted above, a comparison of the standard deviations of this restricted sample with those of the larger construct validation sample used to develop the scales revealed that there were substantial differences between the two. Consequently, I followed the six steps outlined in Table 2 of Hunter et al. (2006), and corrected for indirect range restriction. As shown in Table 5, once indirect range restriction is taken into account, the differences between the uncorrected and corrected test-retest reliability estimates are rather substantial.

Summary: Test-Retest Study

Despite the corrected test-retest reliability estimates being substantially higher than the uncorrected estimates, the correlations between two of the subscales (e.g., Cultural Adaptability and Cultural Exploration) remained rather low. It must be kept in mind, however, that to show consistency, test-retest reliability should only be estimated for measures of constructs that are stable over time, such as intelligence. Other constructs may be more malleable, such as those at which training objectives are directed. For example, one would not use test-retest reliability to measure the height of a child between one year and the next, as substantial and real changes are expected to occur in the construct being measured. However, expecting the height of a full-grown adult to stay the same from one year to the next is feasible. Because the 3C was developed to assess more malleable attributes than stable personality traits, in the hopes that 3C might be amenable to training, it is not unexpected or undesired that there could be some real changes in the construct itself. To allow for this, retests are administered a short time later.

However, because the internal consistency reliabilities of four of the subscales were lower between Time 1 and Time 2, this may also help to explain why the test-retest correlations were also somewhat lower than expected. It might be speculated that because Test 2 occurred on the last day of classes right before the long holiday break, at the end of the Fall semester, there was not as much attention being paid to taking this survey as there was for Test 1. It seems likely that responses may have been more random at Time 2.

Therefore, at this point in the process, a measure of a 3C had been developed, and construct validity was examined via factor analysis, internal consistency, and test-retest reliability. Further empirical work was still necessary to finalize scale development. Thus, the

final validation study entailed gathering criterion-related validity evidence by relating the 3CI to criteria external to it, as well as examining the relationships of the 3CI constructs to those of other instruments designed to assess 3C. That is, if this new instrument measures 3C and has good psychometric properties, and if 3C predicts the performance criteria, then subscale scores on this new instrument should be related to each other and to external criteria in ways predicted by theory (Nunnally & Bernstein, 1994).

CHAPTER SEVEN: FINAL VALIDATION STUDY

Some researchers have suggested that separate notions of validity (e.g., content, construct, criterion) are illusory; all validity is essentially construct validity (Cronbach & Meehl, 1955). The crux of the issue is whether or not researchers are making sound inferences regarding theoretical constructs based only upon observed manifestations of those constructs and their relationships. As all measures are fallible, there is never a one-to-one correspondence between our inherently faulty measures and the theoretical construct we seek to capture. Therefore, we must rely upon an accumulation of evidence based only on what we can observe. As such, if an operationalization of a theoretical construct is sound, scores on the measure of that construct should correspond with outside criteria (criterion-related validity) and with other measures of the same construct (convergent validity) in predictable ways. Consequently, the final validation study examined convergent and discriminant evidence, which are normally considered part of "construct validation," as well as criterion-related validity evidence. The 3CI was therefore compared to two other popular civilian measures of 3C (e.g., MPQ and CQS).

Method: Final Validation Study

Participants

Recruitment

No particular Service or rank was required. The only requirement for subordinate respondents was that they were military members who had recently returned from overseas deployment and who had interacted with host nationals during the course of their missions. In addition, it was necessary for each military member to be rated by at least one supervisor who had enough of a working relationship with their subordinates as to have directly observed their

interactions with foreign nationals. This placed a limit on the number of available participants for this study. Therefore, recruitment efforts started early, beginning in September 2009 and going through the end of June of 2010. Facts Sheets and other recruitment materials were constructed and forwarded to a great many individuals working in the U.S. Military and U.S. Government in an effort to solicit assistance in this regard (*see* Appendix H). These materials, and others, were forwarded to each Commander or other person of authority who had a working relationship with us (e.g., Army Research Institute, DEOMI, Battle Command Knowledge System, Army Knowledge Online, 361 Interactive, etc.).

Sample Demographics

Although the original goal of this effort was to collect 300 usable instruments for the criterion validation; however, despite my best efforts, logistical constraints associated with data collection in the military precluded this (*see* Appendix I). Therefore, the total number of completed surveys collected following three data collection trips was 83. Upon elimination of data from those who had engaged in social desirability bias or clear-cut random responding, the total number of participants was 74 active duty military members, 73 of whom answered the demographics items. Of those, 70 participants were male (95.9%) and 3 were female (4.1%) and one did not report gender. Their ages ranged from 21 to 53 years of age ($M = 31.27$; $SD = 8.06$). Rank ranged from E3 through O6, with the highest percentage being E5 (24.3%). There were 32 Army MiTT soldiers (43.24%), eight Army Civil Affairs soldiers (10.81%), and 34 Marines (45.9%). The average number of countries outside the U.S. to which the participants had been deployed was 2.05 ($SD = 0.61$); the average number of countries outside the U.S. to which the participants had visited or lived was .61 ($SD = 1.24$); the average number of months spent

outside the U.S. on deployments was 25.69 (*SD* = 22.81); and the average number of months on deployment spent in a leadership role was 12.88 (*SD* = 9.77).

Because the overall sample was comprised of data from three separate samples, basic sample characteristics regarding each of the three data collections, are reported below:

Sample 1. Survey data were collected from 39 U.S. Marines in February of 2010, and ratings of performance were collected from their supervisors. After eliminating the data of those who engaged in social desirability and random responding, the number of completed surveys was reduced to *N* = 34. All Marines were young males; their ages ranged from 21 to 32 years of age, with a mean age of 25.2, and a median age of 25.

Sample 2. Survey packets and supervisor ratings forms were collected during a deployment preparation weekend in March of 2010 from eight U.S. Army Civil Affairs Soldiers. Although the number of respondents assembled in the classroom was greater than 40, the supervisors were not available. No data were eliminated due to social desirability bias or random responding. Ages ranged from 24 to 53 years of age, with a mean age of 39.7 and a median age of 47. There were three females and four males who answered demographic items, though there were four females in this sample (and in the final sample as well). One female Soldier suspected the surveys were similar to "psychological tests like that MMPI," and so refused to provide demographic data.

Sample 3. Survey data were collected from 40 U.S. Army MiTT Soldiers and ratings forms were collected from their Team Chiefs (supervisors) in May of 2010. The Soldiers had only returned from lengthy deployments to Afghanistan 48 hours prior to data collection. Upon arrival in the States, the previous two days were spent attending mandatory debriefings (6:00 am

to 6:00 pm). My data collection was scheduled following the second day of debriefings, before

they were to leave for dinner and home. As such, although the class size was large ($N = 69$),

many decided not to participate and of those who stayed, several engaged in random responding,

bringing the completed surveys to 32 for this data collection. The respondents were all male and

their ages ranged from 26 to 44 years of age, with a mean age of 35.7, and a median age of 37.

<div align="center">*Materials*</div>

Measures of 3C

   Cross-Cultural Competence Inventory. The 58-item 3CI was used to measure the six

hypothesized dimensions of 3C, as outlined above: (1) Cultural Adaptability; (2) Determination;

(3) Tolerance of Uncertainty; (4) Self-Presentation; (5) Mission-Focus; and (6) Engagement. As

the development of this instrument, outlined in previous sections, includes details on the various

constructs assessed, as well as representative items (see Appendix J), I will refrain from

elucidating further in this section.

   The Multicultural Personality Questionnaire. The MPQ (Van der Zee, & Van

Oudenhoven, 2000) is a 91-item self-report instrument available in both Dutch and English. The

MPQ assesses five dimensions: (1) Cultural Empathy (18 items); (2) Open-Mindedness (18

items); (3) Social Initiative (17 items); (4) Emotional Stability (20 items); and (5) Flexibility (18

items). Respondents are asked to "Please circle the answer that is most applicable to you," to

which they respond on a five-point scale, ranging from not at all applicable (1) to totally

applicable (5). Four reliable constructs were uncovered in exploratory factor analysis: Openness,

Emotional Stability, Social Initiative, and Flexibility (Van der Zee, & Van Oudenhoven, 2000).

The correlations between these constructs and operationalizations of related personality constructs were in the expected directions (Van der Zee, & Van Oudenhoven, 2000).

  Cultural Intelligence Scale. The CQS (Earley & Ang, 2003) is a 20-item self-report instrument that was developed for expatriates working overseas. It contains four subscales to measure the four dimensions of cultural intelligence (CQ): (1) Metacognitive CQ (4 items); (2) Cognitive CQ (6 items); (3) Motivational CQ (5 items); and (4) Behavioral CQ (5 items). It is a one-page paper-and-pencil instrument with a selected response Likert-type format used throughout (1=strongly disagree; 7=strongly agree). Participants know which construct is being measured, unlike the 3CI and MPQ, so that the first subscale has "CQ-Strategy" written above the four items that assess Metacognitive CQ (*see* Appendix K). An example item is: "I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds." Likewise, "CQ-Knowledge" is written above the six items that measure Cognitive CQ, an example of which is: "I know the cultural values and religious beliefs of other cultures." The next set of items has "CQ-Motivation" written above the five items that measure Motivational CQ. An example from this subscale is: "I am confident that I can get accustomed to the shopping conditions in a different culture." The final items have "CQ-Behavior" written above them. An example of a Behavioral CQ item is: "I vary the rate of my speaking when a cross-cultural situation requires it." In the three studies used to validate the measure, using U.S. samples as well as expatriates from other countries, internal consistency reliability estimates ranged from .70 for Metacognitive CQ to .89 for Cognitive CQ. CFA conducted at the item level for the three studies demonstrated good fit for the four-factor model, with factor loadings ranging from .42 to .96 (Ang et al., 2007).

Demographic Data. A brief demographics form was included (*see* Appendix L) to collect

basic demographic information such as Age, Rank (E3-O6) Gender, and Deployment History, in

order to assess the influence of certain demographic factors on performance (e.g., Number of

Months spent outside the U.S., both on deployment and outside the military; Months spent in a

Leadership position, etc.).

Performance Criteria

Supervisor packets included an instruction sheet for supervisors and the ratings form.

Specifically, a letter to the supervisor was written, explaining the purpose and goals of the study

and ensuring confidentiality. Also included were explicit instructions for rating subordinates on

the attached Ratings Form. The ratings form had been constructed in a way designed to assess

the specific performance dimensions identified. Five items assessed specific observable

behaviors associated with displaying respect, tolerance, patience, and sensitivity toward those of

other cultures; three items assessed how well the ratees negotiated and persuaded those of other

cultures. One item was used to obtain an overall rating of mission performance: "To what extent

did this person's interactions with those of other cultures contribute to mission success?" For all

items, supervisors were asked to rate "to what extent" they observed each of the behaviors on a

6-point scale, with anchors on the endpoints only, from 1 ("To NO Extent or NOT Observed") to

6 ("To a GREAT Extent"). An extra column was included for supervisors to check if any of the

performance criteria (e.g., behaviors) had not been relevant to the mission. Two additional items

were exploratory in nature and as they were not theoretically included in the development of the

3CI, I have not reported on their results here (e.g., Items 9 and 10). They asked how well the

subordinates interacted with those within and outside their organization (*see* Appendix M).

Procedure

Upon arrival to each of the three military installations across where data were collected, I met personally with the military point of contact (POC) for the unit and explained the purpose of the study. I outlined the steps that would be taken in order to ensure the data collection process went smoothly and did not take away too much time from military personnel, who often were on a tight schedule. Any questions or concerns the POC had with regard to the study were addressed at this time and they were thanked for assisting with this collection. (A formal follow-up thank-you letter was mailed to the Commander of each installation as well.) The method of assigning anonymous ID codes in order to link the subordinate survey and demographic packets to supervisor ratings forms was also discussed and worked out ahead of time with the POC.

On the day of data collection, military participants (e.g., Army, Marines) were assembled in a large classroom, where the POC gave the introduction and provided a brief explanation that this was research. I presented a brief description of the purpose and importance of the study and assurances that participation was voluntary and data would be kept strictly confidential, whereupon participants reviewed the Explanation of Research and signed the Informed Consent if they agreed to participate (*see* Appendix N). They were also given the opportunity to ask any questions. The packets for subordinates and supervisors were presented to each. The order that the three predictor instruments was presented was counterbalanced, so that each instrument (e.g., 3CI, CQ, MPQ) appeared first, second, and last in approximately one-third of the survey packets used for data collection. After completing the materials, participants turned them in, were thanked and debriefed, and allowed to leave.

Supervisors spent approximately five minutes to read the instruction page and complete the short ratings form; none were left incomplete. The overwhelming majority of subordinates spent between 20 minutes to 50 minutes to complete all three surveys and demographics form, with most completing everything in about 35 minutes. A few respondents turned in their surveys only after five to ten minutes; some others took over one hour, expressing severe "jet lag."

Results: Final Validation Study

Examination of Subscale Properties

First, I examined the subscale properties of the 3CI and the two other self-report measures administered as part of this study. The two predictor instruments chosen, the MPQ and the CQS, were described in detail in Chapter Two. Table 6 displays the scale means, standard deviations, and internal consistency reliability estimates (i.e., Cronbach's coefficient α) of the three measures of 3C in the overall sample ($N = 74$). As the rating scales differ, being from 1 to 6 for the 3CI, from 1 to 5 for the MPQ, and from 1 to 7 for the CQS, the midpoints of each scale are 3.5, 3, and 4, respectively. Therefore, it is first noted that the means for most of the subscales are above the midpoints of each scale. The exceptions are Tolerance of Uncertainty and Self-Presentation on the 3CI, and Cognitive CQ on the CQS. All MPQ subscale means are above the midpoint. With regard to internal consistency reliability estimates, three of the subscales of the 3CI (e.g., Cultural Adaptability, Tolerance of Uncertainty, and Cultural Exploration) showed acceptable reliabilities, ranging from .77 to .90; however, three did not (.55-.67). The MPQ reliability estimates ranged from .75 for Emotional Stability to .87 for Open-Mindedness; whereas the CQS reliability estimates ranged from .80 for Cognitive CQ (CQ-Knowledge) to .89 for Metacognitive CQ (CQ-Strategy).

Table 6. *Means, standard deviations, and internal consistency reliabilities of subscales*

	Mean	Standard Deviation	Cronbach's Alpha
3CI Subscales			
Cultural Adaptability *(18 items)*	4.76	.69	.90
Determination *(7 items)*	4.15	.73	.55
Tolerance of Uncertainty *(11 items)*	2.96	.78	.80
Self-Presentation *(4 items)*	3.50	1.16	.67
Mission Focus *(7 items)*	4.64	.59	.55
Cultural Exploration *(11 items)*	4.22	.68	.77
MPQ Subscales			
Cultural Empathy *(18 items)*	3.66	.47	.84
Open Mindedness *(18 items)*	3.68	.52	.87
Social Initiative *(17 items)*	3.77	.50	.85
Emotional Stability *(20 items)*	3.54	.40	.75
Flexibility *(18 items)*	3.17	.46	.80
CQ Subscales			
Metacognitive CQ *(4 items)*	5.57	1.09	.89
Cognitive CQ *(6 items)*	3.94	1.06	.80
Motivational CQ *(5 items)*	5.45	1.24	.88
Behavioral CQ *(5 items)*	5.10	1.30	.88

Convergent-Discriminant Validity

Next, I examined the degree to which the operationalization of 3C (e.g., the 3CI) converged on, or was similar to, other operationalizations to which it theoretically should be similar. Table 7 displays the relationships of the 3CI subscales to the other two 3C instruments used in this study. As expected, 3CI Cultural Adaptability was highly correlated with both MPQ Openness ($r = .70$, $p < .01$) and MPQ Cultural Empathy ($r = .49$, $p < .01$), as well as with CQ Strategy ($r = .61$, $p < .01$) and CQ Motivation ($r = .71$, $p < .01$), attesting to the similar nature of these constructs. Likewise, 3CI Cultural Exploration was highly correlated with both MPQ Cultural Empathy ($r = .61$, $p < .01$) and MPQ Social Initiative ($r = .46$, $p < .01$), as well as with

all CQ subscale scores ($r = .30-.47, p < .01$). 3CI Tolerance of Uncertainty, being a very

similarly defined construct as MPQ Flexibility, also showed high correlations ($r = .70, p < .01$).

Finally, it should be noted that the overall 3CI Composite score is significantly correlated with

both the MPQ and the CQ Composite scores, lending credence to the idea that all three measures

are measuring a similar phenomenon, namely 3C.

Table 7. *Relationship of 3CI to MPQ and CQ*

	Cultural Adapt	Determin	Tolerance	Self-Present	Mission Focus	Cultural Explor	3CI Composite
MPQ Subscales							
Empathy	.49**	.22	.07	-.13	.40**	.61**	.44**
Openness	.70**	.35**	.28*	-.04	.33**	.46**	.58**
Social Initiative	.28*	.51**	.23*	-.16	.47**	.42**	.47**
Emot Stability	.14	.50**	.36**	-.12	.16	.16	.34**
Flexibility	.30*	.18	.70**	-.25*	-.03	.09	.27**
MPQ Composite	.52**	.48**	.44**	-.18	.37**	.48**	.58**
CQ Subscales							
Strategy	.61**	.30	-.04	.00	.46**	.36**	.47**
Knowledge	.29*	.31**	.20	-.15	.09	.38**	.30**
Motivation	.71**	.28*	.17	-.14	.31**	.42**	.47**
Behavior	.53**	.13	.03	.00	.33**	.36**	.39**
CQ Composite	.69**	.33**	.13	-.10	.37**	.50**	.52**

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Because it is not sufficient merely to test convergent validity, as if a measure is broad

enough, it will tend to correlate with other measures even if they measure very different

constructs, I examined discriminant validity between the 3CI subscales and the subscales of the

other two instruments as well. Discriminant correlations demonstrate that the 3CI subscales

were specific enough to target the construct of interest and were not related to other constructs

to which they should not theoretically be related. This was demonstrated in Table 7, which

shows that 3CI Tolerance of Uncertainty and MPQ Empathy were uncorrelated ($r = .01, n.s.$) ,

as there is no theoretical reason to expect these two different constructs to be related. As shown

above, this subscale (3CI Tolerance of Uncertainty) was uncorrelated with each of the CQ

subscales (-.04 to .20, *n.s.*), indicating that the sources of variance for these two constructs are

unrelated.

Aggregating Performance Items

Before correlating the performance criteria with the 3CI, I took steps to aggregate the

separate performance items into meaningful performance composites to accurately reflect the

dimensions of performance, as meaningful composite dimensions allows for more targeted

predictions of the criteria. Therefore, a qualitative exercise using subject matter experts (SMEs)

was conducted, whereby graduate students in an industrial-organizational psychology doctoral

program ($N = 14$) categorized the eight individual items on the Ratings Form (*see* Appendix M)

into three performance categories: (1) Displaying respect toward other cultures; (2)

Demonstrating tolerance and patience with different cultural norms; and (3) Leveraging

influence over those of other cultures. Categorizing the two items dealing with negotiating and

persuading (Items 4 and 5) into the Leveraging Influence dimension was fairly straightforward.

However, the SMEs had a great deal of difficulty in differentiating between displaying respect

and demonstrating tolerance toward those of other cultures. Additionally, Items 6 and 7, asking

about strategy and sensitivity, gave some difficulty. As the categories had been provided to the

SMEs beforehand, an empirical approach was also undertaken. An exploratory factor analysis

using PAF with an oblique rotation was performed on the supervisor data. The rotated factor

matrix converged in five iterations, revealing that four items (Items 1, 2, 3, and 8) represented

one factor/dimension, and so were aggregated to form the first performance dimensions of

Displaying Respect/Patience. The two straightforward items representing persuading and

75

negotiating loaded together, as expected, and so were aggregated to form the second dimension of performance, Leveraging Influence. The two items that did not seem to fit showed factor loadings less than .30, and were discarded. The one item asking the supervisor to rate the overall contribution of their subordinate's 3C to mission success stands alone as the third dimension. The final and fourth dimension, the Performance Composite, is the composite (mean) of all the ratings. It was appropriate to aggregate to this level because an analysis of the supervisor ratings ($N = 74$) showed high intercorrelations among the three performance dimensions (.64 -.94).

Descriptives of Performance Criteria

Upon analysis of the supervisor data ($N = 74$), I examined the means, standard deviations, and internal consistency reliability estimates of the four performance dimensions. The results are displayed in Table 8, below. Here, it was revealed that supervisors tended to rate their subordinates somewhat above the midpoint of the scale, which was four ($M = 4.74 – 4.87$). There also may have been more discrimination made by the supervisors when rating the Leveraging Influence items and Overall performance than when rating the Displaying Respect items, as shown by the standard deviations being greater than one.

Table 8. *Means, standard deviations, and internal consistency reliabilities of criteria*

	Mean	Standard Deviation	Cronbach's Alpha
Displaying Respect/Patience	4.75	.87	.90
Leveraging Influence	4.66	1.22	.93
Overall Performance Item	4.87	1.21	N/a
Performance Composite	4.74	.91	.92

Despite the dimension of Leveraging Influence being made up of only two items, internal consistency is high, at .93; likewise, Displaying Respect/Patience, comprised of four items, shows high internal consistency as well (.90).

Relationship of 3CI to Performance Criteria

The last step of the final validation study was to examine the extent that scores on the predictor (3CI) were related to the performance criteria. Depending on the timing of administration of the predictor measure and the criterion measure, such a study may be deemed a predictive validation study or a concurrent validation study (Cronbach & Meehl, 1955). Whereas predictive validity refers to the correlation between the predictor scores and the criterion when performance is assessed at a later time, concurrent validity refers to the correlation between the predictor scores and the criterion scores when both measures are given at the same time. As such, this study was a concurrent validation study.

Intercorrelations Among the Subscales

Table 9 displays the zero-order correlations for the 3CI subscales, 3CI Composite Score, and the four performance dimensions. Upon examination of the intercorrelations among the scales, four of the six subscales (e.g., Cultural Adaptability, Determination, Mission Focus, and Cultural Exploration) demonstrated moderately high correlations with one another (.35 - .64.). This is not unexpected, given that these subscales are all measuring different aspects of 3C. Unlike reliability coefficients, however, we would not expect these subscales to be highly correlated; yet, we would not expected them to be close to zero either, as they are related to one other. In fact, the intercorrelations among the more established measures of 3C were of similar magnitude. As can be seen below in Tables 10 and 11, the intercorrelations between the MPQ

77

subscales ranged from .32 to .68 for all five MPQ dimensions, and from .31 to .64 for all four

CQ subscales.

Correlations Between the Subscales and Performance

Turning to an examination of the zero-order correlations between the subscales, or

dimensions, of 3CI, and the performance criteria, it was discovered that the 3CI dimension of

Cultural Exploration was significantly and positively correlated with several performance

criteria. That is, Cultural Exploration was found to be predictive of (1) Display of

Respect/Patience toward those of other cultures ($r = .25, p < .05$); (2) Leveraging Influence with

those of other cultures ($r = .28, p < .05$); and (3) the Performance Composite score ($r = .26, p <$

.05); that is, all performance criteria except for the Overall performance item ($r = .12, n.s.$).

Table 9. *Intercorrelations between the 3CI and performance criteria*

	2	3	4	5	6	7	8	9	10	11
1. Cultural Adaptability	.35*	.03	-.04	53**	56**	68**	.09	.23	.14	.16
2. Determination	--	.10	.14	46**	44**	74**	-.01	.01	.04	.00
3. Tolerance		--	-.10	-.26*	-.07	.23	.07	-.01	.04	.05
4. Self-Presentation			--	-.15	-.15	40**	-.14	-.22	-.13	-.18
5. Mission Focus				--	.64**	56**	.21	.19	.16	.22
6. Cultural Exploration					--	63**	25*	.28*	.12	.26*
7. 3CI Composite Score						--	.10	.08	.07	.10
8. Display Respect							--	70**	64**	94**
9. Leverage Influence								--	67**	89**
10. Overall Rating									--	79**
11. Perf Composite										--

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Of note, although the relationship between Mission Focus and performance was not statistically

significantly, this subscale was moderately and positively correlated with the performance

dimensions ($r = .16 - .22, n.s.$). Cultural Adaptability also was not statistically significant,

although it is modestly correlated with Leveraging Influence ($r = .23, n.s.$).

Upon examination of the zero-order correlations between the 3CI and performance criteria, multiple linear regression was performed to examine how well all six 3CI subscales predicted the performance criteria when combined. Following this step, the criterion validity of the 3CI would have been compared to the other two measures of 3C (e.g., MPQ and CQ) and the incremental validity of the 3CI in predicting the performance criteria would have been assessed. However, upon entering the 3CI subscales into the regression model, it was found that the adjusted R^2 for each of the four models (e.g., four performance dimensions) was not statistically significant. Therefore, I undertook an alternative method so that I could compare the 3CI with the other 3C instruments. Here, I also examined the zero-order correlations between the each of the other two scales, and their subscales, and the performance criteria

MPQ and Performance

Table 10 displays the zero-order correlations for the MPQ subscales, MPQ Composite Score, and the four performance dimensions. First, it is noted that all five subscales are significantly positively correlated with one another, and with the composite score (.32 - .68). Similar to the 3CI Cultural Exploration subscale, Social Initiative is also significantly and positively correlated with the performance criteria (.27 - .33), including the Overall performance item ($r = .33$, $p < .05$). Additionally, Open-Mindedness is significantly correlated with Leveraging Influence ($r = .31$, $p < .01$), as well as the Performance Composite score. The MPQ Composite score also correlates with all performance criteria (.25 - .28), except the Overall item.

Table 10. *Intercorrelations between the MPQ and performance*

	2	3	4	5	6	7	8	9	10
1. Cultural Empathy	.68**	.47**	.28*	.25*	.73**	.16	.17	.04	.16
2. Open Mindedness	--	.43**	.41**	.44**	.81**	.19	.31**	.15	.25*
3. Social Initiative		--	.64**	.32**	.78**	.27*	.30**	.33*	.33**
4. Emotional Stability			--	.40**	.73**	.12	.11	.08	.12
5. Flexibility				--	.64**	.20	.08	.18	.17
6. Composite Score					--	.25*	.27*	.20	.28*
7. Display Respect						--	.70**	.64**	.94**
8. Leverage Influence							--	.67**	.89**
9. Overall Rating								--	.79**
10. Performance Composite									--

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

CQS and Performance

Table 11 displays the zero-order correlations for the CQ subscales, CQ Composite Score, and the four performance dimensions. First, it was noted that all four subscales were significantly and positively correlated with one another, and with the composite score (.31 - .82). Two subscales, Metacognitive CQ and Behavioral CQ were significantly correlated with Leveraging Influence, as was the Composite CQ score (.27 - .31). Metacognitive CQ and the Composite CQ score were also correlated with the Performance Composite (.25 - .31). However, none of the CQ subscales was significantly correlated with Displaying Respect/Patience toward those of other cultures.

Table 11. *Intercorrelations between the CQS and performance*

	2	3	4	5	6	7	8	9
1. CQ-Strategy	.31**	.57**	.64**	.78*	.21	.30*	.18	.26*
2. CQ-Knowledge	--	.36**	.35**	.68**	.10	.20	.08	.15
3. CQ-Motivation		--	.50**	.80**	.12	.20	.12	.16
4. CQ-Behavior			--	.82**	.15	.27*	.15	.21
5. CQ Composite Score				--	.19	.31*	.17	.25*
6. Display Respect					--	.70**	.64**	.94**
7. Leverage Influence						--	.67**	.89**
8. Overall Rating							--	.79**
9. Performance Composite								--

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

The Subscales and Demographic Variables

Several demographic variables had been collected in order to examine their relationships with the performance criteria. To first assess whether any of the demographics were associated with the predictor measures, I examined the zero-order correlations between the subscales of the three instruments and the demographic variables. Results are displayed in Table 12. Here, it can be seen that the only significant correlations between the subscales of the 3CI and demographic variables were for Rank and for Age. That is, higher ranking individuals in this sample scored higher on the 3CI Cultural Adaptability scale. Age, however, was negatively correlated with the Self-Presentation subscale. As a whole, older individuals scored lower on this subscale than younger individuals.

Table 12. *Correlations of scales and performance criteria with demographics*

	Gender[a]	Rank[b]	Age	Months Deploy[c]	Non-Deploy[d]	Total Months[e]	Months Leader[f]
Correlations with 3CI							
Cultural Adaptability	.04	.36**	.14	-.04	.17	.12	-.01
Determination	-.03	-.03	-.04	.05	.11	.08	.01
Tolerance	-.06	-.03	-.08	-.02	.06	-.15	-.16
Self-Presentation	-.12	-.19	-.26**	.03	.10	.08	-.01
Mission Focus	-.01	-.04	-.06	.02	-.04	-.05	-.13
Engagement	.09	.03	.11	.01	-.04	-.12	-.12
3CI Composite	-.10	-.01	-.11	.02	.13	.00	-.12
Correlations with MPQ							
Cultural Empathy	.06	.09	.12	.13	.04	-.04	-.05
Open Mindedness	.02	.24*	.18	.06	.14	.10	-.03
Social Initiative	.09	-.10	-.08	.12	.04	-.05	-.05
Emotional Stability	-.15	-.03	.02	.03	.04	-.02	.04
Flexibility	.02	.10	-.05	.08	.03	-.13	-.10
MPQ Composite	.01	.09	.06	.11	.08	-.03	-.05
Correlations with CQS							
CQ-Strategy	.03	.34**	.13	-.07	.14	.03	-.07
CQ-Knowledge	.20	.39**	.31**	.07	.26*	.07	-.07
CQ-Motivation	.12	.29*	.23*	-.01	.10	-.01	-.13
CQ-Behavior	.12	.27*	.14	.02	.22	.24*	-.16
CQ Composite	.16	.42**	.27*	.01	.24*	.11	-.14
Correlations w/Criteria							
Display Respect	.24*	-.01	-.03	.21	-.06	-.15	-.33**
Leverage Influence	.23	.18	13	.18	.06	.02	-.09
Overall Perf Item	.20	.02	-.14	.20	-.14	-.08	-.15
Performance Comp	.25*	.07	.01	.23	-.04	-.09	-.24*

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).
[a] Male=1, Female=2
[b] 1 through 12 = E3 through O6
[c] Number of non-US countries deployed to while serving in the military.
[d] Number of non-US countries lived in or visited for purposes other than military deployments.
[e] Total number of months spent in non-US countries for military or non-military reasons.
[f] Number of months spent in a leadership role while on military deployment(s).

The MPQ correlations revealed only one subscale, Open-Mindedness, to be significantly

correlated with any demographic variable, namely Rank, again showing higher ranks were

associated with higher scores on Open-Mindedness. The CQ subscales had the greatest number

of significant correlations with the demographic variables. Rank was significantly and positively

correlated with all four CQ dimensions and Composite CQ score. Age was significantly and positively correlated with two of the subscales (CQ-Knowledge and CQ-Motivation), and the Composite score; however, it should be noted that Rank and Age were significantly and positively correlated with one another ($r = .53, p < .01$). The on subscales to correlate with the number of countries visited or lived in outside the US (non-deployment related) were CQ-Knowledge and the CQ Composite None of the other relationships between any of the subscales and demographics were statistically significant.

The Demographic Variables and Performance

As Table 12 reveals, only two demographic variables were found to be correlated with the performance criteria. As noted above, several of the demographic variables were significantly correlated with the predictor subscales, yet most of those subscales were not significantly correlated with the performance dimensions. Gender was found to be significantly and positively correlated with Displaying Respect/Patience toward foreign nationals, and this relationship was also reflected in the Performance Composite score ($r = .24, .25; p < .05$). This implies that being female was associated with higher ratings on these performance dimensions. However, this finding should be interpreted in light of the very small sample size, as well as the predominantly male composition of this sample. Therefore, this finding may not be stable.

The other demographic variable to show any relationship with the performance criteria was the Number of Months spent on deployment in a Leadership Role. This relationship was negative; that is, the more months spent someone spent in a leadership role, the less likely s/he was to be rated high on displaying respect and patience toward those of other cultures ($r = -.33, p < .01$), which also carried over into the Performance Composite as well ($r = -.24, p < .01$). .

Summary: Final Validation Study

Validity evidence was demonstrated between the 3CI and various subscales of other predictors of performance, that should have, in theory, related to one another. That is, the convergent-discriminant patterns of the 3CI subscales with the subscales of two other validated measures of 3C were examined and demonstrated evidence of convergence and discrimination.

The main finding with regard to criterion-related validity was the relationship of Cultural Exploration to mission-specific cross-cultural performance. Specifically, it was shown that this dimension of 3C predicted three of the four performance dimensions. That is, those scoring higher on Cultural Exploration were consistently rated higher on displaying respect and patience toward people of other cultures. These individuals were also rated more highly on negotiating and successfully persuading people of other cultures in order to achieve their missions, as observed by their supervisors on deployment. Although Mission Focus and Cultural Adaptability were not statistically significantly correlated with the performance dimensions in this sample, they were nevertheless positively correlated with performance.

I also found that, in this sample, higher ranking officers were more likely to score higher on Cultural Adaptability. However, for age, the reverse was true. Those scoring lower on Self-Presentation were more likely to be older individuals. Although females were found to be rated higher on displaying respect and patience toward other cultures, there were only three people who reported being female in this study. The number of months in a leadership role being related to lower ratings on displaying respect and patience was an unexpected finding in this study and will be discussed further in the following chapter.

CHAPTER EIGHT: DISCUSSION

The 3CI was developed for the Department of Defense as a way for Commanders and individual Warfighters to assess the readiness of our troops to work closely with foreign nationals, multinational coalition forces, and other individuals, agencies and organizations in the context of military missions, across the Services. Heretofore, no other instruments have been developed that are specifically based on research into the unique cross-cultural challenges of the military operating environment. Consequently, this investigation was the first of its kind to develop a military-based measure of 3C, applicable across the Services, as well as to relate 3C to the relevant performance dimensions. The overarching goal of this effort was to enable the Services to prepare and train our forces to interact effectively and appropriately with other cultures. However, before we can train 3C and provide meaningful feedback, we must first thoroughly understand and assess the relevant components of 3C.

Criterion-Related Validation

Cultural Exploration and Performance

The main finding of this study was that scores on the Cultural Exploration subscale were significantly related to mission-specific performance on deployment, as rated by supervisors. Cultural Exploration was a significant predictor of three of the four mission-specific performance dimensions. Most notably, Cultural Exploration was highly related to displaying respect and patience toward those of other cultures. This is a critical component of mission-specific performance, based on both the SME interviews and the civilian literature regarding expatriates, Peace Corps volunteers, and students abroad. With regard to the military, it was found during the interviews that displaying respect toward those of other cultures led to the type of rapport-

85

building necessary to move about safely in threatening environments, which is essential for security and peacekeeping operations. Such rapport-building is often the first step toward establishing the types of longer-term relationships that one must foster and encourage on deployment. Only by establishing and nurturing these fragile relationships can our men and women in uniform stay safe. Such relationships enable the gathering of valuable intelligence and information, such as the placement of improvised explosive devices (IEDs) as well as where insurgents intent on doing harm to military personnel and civilians may be hiding. The civilian literature is replete with examples of displaying respect and maintaining a nonjudgmental stance toward those of other cultures (Ruben & Kealey, 1979, as cited in Sinicrope et al., 2007).

Secondly, Cultural Exploration was found to be significantly related to another important dimension of performance, leveraging influence (e.g., persuading, and negotiating with foreign civilians) in order to achieve mission success. Leveraging this type of influence is essential for military performance and may be of higher criticality for military members in the battlefield than for business men and women in the boardroom. Lives as well as international security often hinge on the successful outcome of such negotiations. Interview data were filled with such instances (Ross, 2008). Oftentimes, a military leader is required to negotiate, perhaps with a tribal village elder in Afghanistan, in order to persuade him to provide valuable intelligence, as above, on the location of IEDs or to ascertain where dangerous insurgents are hiding. Given the performance ratings by supervisors on deployment, this study suggests that military members who score higher on Cultural Exploration may be expected to arrive at mutually beneficial outcomes following such negotiations (e.g., saving the lives of military members as well as the

civilians). Finally, Cultural Exploration was also significantly related to the performance composite, which was the aggregation of the three performance dimensions.

<center>*Other Scales and Performance*</center>

In exploring the subscale properties of the 3CI dimensions, as well as the other civilian measures of 3C, general support was found for the ways in which the subscale scores were related to one another, to other subscales assessing similar constructs, and to external criteria. For example, it is interesting to note that 3CI Cultural Exploration contains items originally designed to assess both the original Willingness to Engage dimension as well as Cultural Openness. As such, 3CI Cultural Exploration is very similar in nature to MPQ Social Initiative and MPQ Open-Mindedness. And, like 3CI Cultural Exploration, MPQ Social Initiative was significantly related to the performance criteria associated with both displaying respect and leveraging influence, as well as with the performance composite. The MPQ subscale was also correlated with the overall performance item. Additionally, MPQ Open-Mindedness was found to be related to leveraging influence with those of other cultures. The 3CI Cultural Adaptability subscale was also highly related to both MPQ dimensions of Open-Mindedness and Cultural Empathy, although 3CI Cultural Adaptability and MPQ Empathy were not found to be predictive of performance in this sample.

With regard to the CQ Scale, 3CI Cultural Exploration was found to be related to all four CQ dimensions: (1) CQ Strategy; (2) CQ Knowledge; (3) CQ Motivation; and (4) CQ Behavior. Although none of the subscales of the CQ were related to displaying respect and patience toward those of other cultures during interactions, both CQ Strategy and Behavioral CQ were significantly related to leveraging influence with those of other cultures. Cultural Adaptability

<center>87</center>

was also highly related to CQ Strategy and CQ Motivation. As CQ Strategy assesses planning, monitoring, and revising mental models of cultural norms for countries or groups of people, this makes sense. Likewise, CQ Motivation has to do with reaching out to people of other cultures, again, reflecting the essence of Cultural Adaptability, though neither CQ Motivation nor 3CI Cultural Adaptability were related to performance in this sample.

Because the 3CI was based on the military-relevant predictors of performance found in the civilian literature as well as the mission-specific performance dimensions extracted from qualitative interview data with U.S. Military experts, it was expected that the 3CI would outperform the two civilian measures of 3C, which were developed on expatriates and students in Europe and Japan. However, as I was unable to show the superiority of the more military-based 3CI in predicting performance on deployment, more research comparing the 3CI with civilian measures is warranted before further conclusions might be made in this regard.

Limitations

This study was the first of its kind to compare two civilian predictor instruments with a military-derived instrument in predicting cross-cultural performance on deployment. Each step taken during scale development was done so in order to ensure coverage of the content domain, via an integration of the scientifically-based research literature from the civilian realm as well as the in-depth interviews with military experts. This blended approach resulted in six factors of military 3C, which were subsequently confirmed as well as cross-validated, and their stability over time was also assessed. Only after careful construct validation was the final validation study conducted. However, limitations are inherent in any study and must be addressed. Therefore, the

88

following main limitations are discussed, and several practical recommendations to overcome these limitations are offered in the following Future Research section.

The most notable limitation of this study was the small sample size ($N = 74$) of the final criterion-related validation sample. As such, this limitation greatly reduced the power to detect statistically significant correlations between the 3CI subscales and performance, as well as precluding the use of multiple regression analysis to show how the subscales differentially accounted for variance in the performance criteria. The minimum sample size needed for the number of independent variables used as predictors in this study was 300. However, despite my most diligent efforts, due to the logistical constraints involved with collecting criterion-related data (e.g., supervisor ratings) in the military, who are continually reassigned and separated from their supervisors, this could not be achieved (*see* Appendix I).

A second and related limitation is that when supervisory ratings were available, there was no more than one rater per ratee, so that interrater reliability could not be assessed. Moreover, it is not known how much opportunity each of the individual supervisors had to observe their subordinates interacting with foreign nationals, or how much of that information they recalled when rating their subordinates, which might call the validity of the criteria into question. Because of the cognitive processes that raters go through (e.g., observing, encoding, storing, retrieving, judging, and evaluation/rating) errors may be likely at any one or more of these stages. Additionally, even if supervisors observed their subordinates interacting with foreign nationals, and encoded, stored, and recalled that information correctly, due to the nature of team relationships in the military, they may have been reluctant to report negative information about their subordinates. Despite steps taken to assure anonymity, due to logistical constraints, the

supervisors were co-located in the same room as their subordinates, although every effort was made to keep the two groups apart, on opposite sides of the classrooms.

A final limitation is that the final validation study military sample was overwhelmingly male (95.9%), unlike the developmental sample used in the Pilot Study, or the Construct Validation or Test-Retest samples, which were approximately 80% male. Thus, future research should address this issue in larger military samples, perhaps in military organizations with more balanced proportions of females and males.

Future Research

To reiterate, the overarching goal of this study was to enable the U.S. Military to prepare and train its forces in 3C, specifically allowing the military to: (1) better assess troop readiness to engage other cultures; (2) target training to those skills that help achieve missions in the field; (3) help design more authentic cross-cultural training exercises; (4) assess the effectiveness of cross-cultural training; and (5) guide the development of future cultural training efforts.

Practical Recommendations

As the above goals demonstrate, training 3C is of tantamount importance to the military, in order to achieve missions and save lives. Therefore, four of the five goals involve cross-cultural training efforts. However, before we can train 3C, we must be able to define and assess it. Therefore, the first and foremost goal of this study was to design a military-relevant instrument to assess 3C. As this was the first of its kind, this newly-developed instrument was subjected to rigorous construct and criterion-related validation efforts. However, given the small sample size for the final validation study, results are preliminary, pending further research.

The main recommendation I would suggest for future researchers is that they re-examine the validity of the 3CI vis-à-vis other validated measures of 3C. To make such meaningful comparisons, it is recommended that alternative methods for collecting data from military participants be used to overcome some of the logistical constraints and to increase sample size.

One suggested alternative to obtaining a larger sample is to collect data during military exercises where individual performance can be rated by trained observers. Another alternative might be to conduct data collection using simulation-based performance with SME observers willing to serve as raters. Additionally, online data collection is the most expedient way to collect a great deal of data in a short amount of time. Although every effort was made to collect online data, as outlined in Appendix I, this was not possible for the final validation study; however it may be feasible for researchers working inside military firewalls, or those who are already on the approved list of websites, to do so.

Additionally, although only one subscale was correlated with performance in this small sample, I recommend a dimensional approach as important with regard to the practical implications inherent in training and feedback. In order for the dimensions of 3C to be thoroughly understood and explored, each subscale score, and not merely the total composite 3C score, is certainly necessary. Because training 3C across general purpose forces is the ultimate goal, and providing targeted and useful feedback is a part of this goal, such a dimensional approach is advised. That is, the type of diagnostic information given to trainees with regard to where they stand on different dimensions necessitates such a dimensional approach.

Theoretical Implications

To further guide future researchers, the following ways in which the 3CI dimensions are expected to relate to performance are offered. Cultural Adaptability, for example, assesses the tendency to seek out and adapt to cross-cultural experiences in an open and confident manner, as well as to empathize with those from other cultures. An example item from this subscale is: "When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me." Therefore, one might expect that those scoring high on this subscale would be more adaptable in cross-cultural interactions, especially those requiring diplomacy, an open mind, and the ability to relate to a variety of people from different cultural and ethnic backgrounds. Likewise, with regard to the Mission-Focus subscale, which measures the tendency to follow the rules and remain focused on the task at hand (similar to conscientiousness), although this subscale isn't culturally based, it may be important in a military context. In such an organization, it is critical to maintain structure and discipline. An example item from this subscale is: "I think that having clear rules and order at work is essential for success." Therefore, those scoring high on this subscale would likely be high in conscientiousness, enjoy regularity and routine, and tend to be good "team players" who are respected by leaders and peers.

Similarly, the Determination subscale is not culturally based but assesses the tendency to be determined, single-minded, and decisive in the pursuit of one's goals. This may also be important for the military, especially a military leader. An example item from this subscale is: "After an interruption, I don't have any problem resuming my concentrated style of working." Therefore, from the items that load on this subscale, those scoring high would likely be determined problem-solvers who tend to arrive at solutions quickly, while remaining confident in

their ability to do so. Although this is especially important in a military context, it must be kept in mind that being able to solve problems does not indicate someone who is able to solve cross-cultural problems, per se. The other subscale scores must be taken into account as well. Conversely, someone scoring low on this subscale, but high on Cultural Exploration and Adaptability, on the other hand, might do well in exploring other cultures and interacting with those from other cultures in a civilian setting, or on holiday, but lacking Determination and Mission Focus, may not do so well in a military setting.

Therefore, although Cultural Exploration was the only subscale to reach significance in this sample, given a larger sample, and given the theory upon which the 3CI was based, one might expect that the foregoing differential relationships could be realized in future samples. Such theory building can be used to promote understanding and guide new hypotheses in our understanding of military 3C through the development of a nomological network (Cronbach & Meehl, 1955).

Leadership Experience and Performance

An unexpected and counterintuitive finding in this study was that the *greater* the number of months spent on deployment in a leadership role, the *less likely* this person was to display respect and patience toward those of other cultures. That is, this demographic variable was significantly and negatively related to supervisor ratings related to displaying respect and patience toward those of other cultures. As leaders in the military have a greater opportunity and need to interact with those of other cultures, they were expected to have more practice displaying respect and patience toward foreign civilians, thus becoming better at this type of performance.

Although this finding must be confirmed in future studies with a larger military sample, such a finding may be interpreted in light of the tremendous amount of stress military leaders are under while on military missions. It may help the reader to imagine what it must be like to be a leader serving at war in a foreign land. Being divided between the dual purposes of hunting down some members of the civilian population (e.g., insurgents), while trying to form relationships with other members of the civilian population, all the while placing yourself and your teammates under continual threat of attack, would result in tremendous strain. Given the rise in suicide and post-traumatic stress disorder, it is not difficult to surmise that the manifestation of burnout on the job is also involved.

In the occupational literature, the strain of burnout has been studied as it relates to job stress (Maslach, 1982), especially for those individuals who work in service- or people-oriented occupations, such as registered nurses or police officers, while working under less-than-ideal conditions. Burnout is characterized as a syndrome of three dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. The dimension of *depersonalization* is particularly noteworthy here, as it is characterized by *a detached and cynical reaction to the recipients of one's service*. Naturally, displaying respect and patience toward individuals from whom one feels detached and cynical would be a challenge. Therefore, this might explain the growing lack of respect for the civilians one must deal with and serve under the most trying of circumstances.

International Experience and Performance

It is noted that although the number of months spent in a leadership role were related, negatively, to lower levels of displaying respect and patience toward other cultures, other aspects

94

of experience were not related at all to performance, which was also unexpected. An interesting interpretation of this, to be explored in future studies, is that experience itself may be more complex than originally thought (Abbe et al., 2007). Some researchers have proposed that *international experience* itself is a multidimensional construct, where different types of experiences have differential impacts on performance outcomes (Takeuchi, Tesluk, Yun, & Lepack, 2005). There may also be various moderators at play. For example, in a study of Japanese expatriates working in the U.S., current assignment tenure was positively correlated with work and general adjustment. However, the length of previous work experience was found to moderate this relationship. Specifically, for those expatriates who had experienced shorter durations on international assignments, their current tenure had a more positive effect on work adjustment than for those who had been on longer assignments. Perhaps research should examine more closely the nature and type of international experience (Abbe et al., 2007).

Empathy and Flexibility

As the initial impetus behind the development of the 3CI was that there were no military-relevant instruments in existence, it should not be surprising to find that other dimensions previously predictive of civilian performance were not related to military performance in this sample. For example, MPQ Flexibility (*the ability to adjust behavior to new and unknown situations*), although found to predict cross-cultural adjustment for expatriates, was not related to military performance in this sample. As mentioned above, 3CI Tolerance of Uncertainty was highly correlated with MPQ Flexibility and was also unrelated to performance.

A seemingly counterintuitive finding, given the civilian literature in this regard, was that Cultural Empathy on the MPQ subscale (*the capacity to identify with the feelings, thoughts and*

95

behavior of individuals from different cultural backgrounds) was *unrelated* to any of the

performance criteria. Keeping in mind the inadvisability of over-interpreting results from this

small sample, this finding did not come as a complete surprise to me. Via interviews with

military personnel, it seemed that although it may be important to *appear* to have empathy when

interacting with people from other cultures, being consistently empathetic or compassionate

toward foreign civilians may actually be a hindrance to mission success. This was another reason

I thought that self-monitoring, or Self-Presentation, would predict performance. From the

interviews, however, it seems that having higher levels of empathy, to the point where one feels

for and relates to people from another culture, can cause personnel to let down their guard and

expose themselves, their teammates, their unit, and innocent civilians to more danger. This

brings to light again how the military is different from the civilian world. Unlike expatriates or

students, who might perform better if they can relate to and feel for others, military personnel are

at war, regardless of the "hearts and minds" focus, and so security and safety are their top

concerns due to the very real threats under which they function.

Self-Presentation Subscale

Self-Presentation is made up of items originally designed to assess the construct of self-

monitoring. An example item from this subscale is: "*In different situations and with different

people, I often act like very different persons.*" Therefore, it was expected that high self-monitors

would be adept at adjusting their behavior in response to subtle environmental and cultural cues,

which should result in higher levels of cross-cultural performance. Being able to adjust one's

persona across situations should theoretically contribute to performance across situations.

However, because high self-monitors are those individuals who engage in impression

management more than others, adjusting their self-presentation to achieve a certain persona, this skill may not uniformly be considered desirable across contexts. Some speculate that rather than being socially unskilled, low self-monitors behave in ways that transmit a true reflection of their inner emotions, attitudes, and personalities (Gangestaad & Snyder, 2000. Therefore, it has been speculated that low self-monitors may not only be *unable* to project a false persona, but may be *unwilling* to do so, given their belief that projecting such a persona is a falsehood that is ethically wrong and insincere, as it is not a true reflection of the self (Gangestaad & Snyder, 2000).

Contrary to expectations, Self-Presentation was not significantly correlated with any of the performance criteria. It might be speculated that because the military is such a strong culture, unto itself, perhaps this dimension is not predictive of military performance. That is, although self-monitoring has been shown to relate to job performance in corporate settings, it may not be as relevant to military job performance. Given that insincerity and deceptiveness run contrary to the norms of military culture (e.g., honor, duty, etc.), this construct may not be as useful to assess in military contexts, where honesty and fairness are esteemed and highly regarded, rather than changing behavior according to situational cues (Snyder, 1974). It should also be noted that MPQ Flexibility (e.g., *the tendency and ability to adjust one's behaviors to different cultures and situations*), with which Self-Presentation shares a common definition, was also not significantly correlated with any of the performance criteria. Therefore, due to the limitations inherent in any single study, and given the small size of the criterion sample in this study, future research is necessary to explore this construct further before determining one way or the other whether it should be included in future iterations of the 3CI.

97

Tolerance of Uncertainty

This subscale is made up of items originally developed to assess both the tolerance for ambiguity and the low need for cognitive closure. As speculated in the literature, those scoring high on tolerance for ambiguity should be more comfortable with the ambiguity inherent in cross-cultural interactions, particularly those involving persuading, influencing, and negotiating with foreign civilians. This construct has been speculated to be very important for higher ranking officers in leadership roles, or for adaptive leadership. However, these samples were mostly made up of general purpose forces.

It might be speculated that because the military is such a strong culture, again, and is an institution of rules and regulations. In the military culture, there are standard operating procedures for every situation one might encounter; therefore, being tolerant of uncertainty is not a desirable characteristic to possess. Tolerance of uncertainty implies a certain spontaneity in thought and deed that the military may not attract in its general purpose forces. That is, self-selection into an all-volunteer military may preclude those who tend toward spontaneity and who do not like to follow the rules from signing up to serve in the first place. As Schmidt, Hunter, and Outerbridge (1986) noted about the military, there is a "de-emphasis on spontaneous and creative problem solving in performing the job (p. 433)." As such, future research should further explore this issue and the relative utility of assessing this construct for general purpose forces or whether this construct is more applicable to training military leadership.

In this sample, upon elimination of the two negatively correlated or uncorrelated subscales, the 3CI Composite Score, similar to Cultural Exploration, is also found to be significantly and positively correlated with displaying respect and patience toward those of other

cultures ($r = .25$, $p < .05$). Internal consistency reliability is also increased. That is, for the 58-item 3CI, the internal consistency of the measure was $r = .85$; the internal consistency of the 43-item 3CI is $r = .90$. Therefore, upon further research with larger and more diverse samples and using the 58-item scale, should the same two subscales show similar patterns of results, a 43-item 3CI is offered for future research as well (*see* Appendix O).

Conclusion

This was the first and only investigation to explore 3C in the U.S. Military and to relate the important constructs uncovered in the civilian literature to military performance. Being the first validation study to explore and potentially find significant relationships between 3C and military performance adds to the literature in essential ways. Although more research is needed, this study offered the unique perspective gained by administering two popular civilian instruments along with a military-based tool, suggesting that the constructs underlying military 3C may not be as straightforward as 3C in the civilian realm. Due to the context under which performance takes place (i.e., not the boardroom but the battlefield), military 3C may be a more complex phenomenon than civilian 3C.

In summary, as this study was the first validation effort of a brand new measure of military 3C, an emphasis was made on important theoretical contributions that could be useful in the development of future empirical research. Therefore, this study took strides in answering as well as raising new questions in its attempt to create a military-relevant measure of 3C. It is my fervent hope that this study will be the first step to support our forces in the field, who put their lives at risk each and every day, to guide the military establishment in making decisions on training, education, and operations in the context of mission success.

APPENDIX A:

INITIAL ITEM POOL – NINE FACTORS PROPOSED

Cross-Cultural Empathy (Wang et al., 2003):

1. When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me.
2. It is easy for me to understand what it would feel like to be a person from a different culture.
3. I feel offended when I hear people make jokes about or use slang words to describe people from other ethnic backgrounds or cultures.
4. I rarely think about the impact of an ethnic joke on people who are targeted. *(To be reverse-scored)*
5. I feel sorry for people of other ethnicities or cultures if I think they are being taken advantage of.
6. I share the anger of those who face injustice because of ethnic or cultural differences.
7. It is difficult for me to put myself in the shoes of someone from another culture. *(To be reverse-scored)*
8. When making a group decision, I think that considering each person's perspective is more important than making a decision that's completely fair and impartial.
9. I feel irritated when people of different ethnic or cultural backgrounds speak their native language around me. *(To be reverse-scored)*
10. I feel impatient when communicating with people of different ethnicities or cultures than mine, regardless of how well they can communicate. *(To be reverse-scored)*
11. I think the best decisions are made when we can remove any personal concerns, because emotions lead to biased decisions. *(To be reverse-scored)*
12. I try to act based on the truth of a situation, not what others might want to believe or wish were true. *(To be reverse-scored)*
13. Making sure that everyone gets along in my team is one of my priorities.
14. I try to look for a logical explanation or solution to almost every problem I encounter. *(To be reverse-scored)*
15. I don't understand why people of different ethnicities or cultures feel they have to cling to their own values and traditions. *(To be reverse-scored)*

Self-Efficacy (Ang, Van Dyne, Koh, & Ng, 2004; Schwarzer & Jerusalem, 1995)

1. I am confident that I will be able to socialize with people from different cultures.
2. I am unsure of my abilities to deal with the local population if placed in a different culture. *(To be reverse-scored)*

3. I am sure I would be able to handle all of the stresses of adjusting to a culture that is new to me.

4. Having to live in a culture that is drastically different from my own would be a problem for me. *(To be reverse-scored)*

5. I am confident that I can get used to the unusual conditions of living in another culture.

6. I am uncertain how much I would be able to influence the local population of another culture. *(To be reverse-scored)*

7. I expect I would get along very well with people from other cultures.

8. I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.

9. I can always manage to solve difficult problems if I try hard enough.

10. It is easy for me to stick to my aims and accomplish my goals.

11. I am confident that I could deal efficiently with unexpected events.

12. I can solve most problems if I invest the necessary effort.

13. I can remain calm when facing difficulties because I can rely on my coping abilities.

14. When I am confronted with a problem, I can usually find several solutions.

15. If I am in trouble, I find it difficult to think of something to do. *(To be reverse-scored)*

16. No matter what comes my way, I'm usually able to handle it.

Willingness to Engage (McCroskey, 1992; Ross, 2008):

1. I would enjoy visiting other cultures that are unfamiliar to me.

2. I would enjoy interacting with people from different cultures.

3. Traveling to other countries is something I would enjoy.

4. I seek opportunities to speak with individuals from other cultural or ethnic backgrounds about their experiences.

5. If I have a job to do with other people, I like to get to know them well.

6. A job is often successful because you understand the people you are working with well.

7. I spend just enough time with other people as I need to in order to get the job done. *(To be reverse-scored)*

8. I tend to get to know my neighbors well.

9. I can be more successful at my job if I understand what is important to other people.

10. Knowing others well is not important to my job. *(To be reverse-scored)*

11. I tend to start conversations with strangers like people in the checkout line at the store or beside me on an airplane.

12. If I see someone I know, I usually stop and talk to them.

13. If I see someone I know, I sometimes avoid speaking to them. *(To be reverse-scored)*

14. When I go to the doctor, I feel comfortable telling him/her everything s/he needs to known in order to accurately diagnose me.

15. I do not like giving presentations to a group of strangers. *(To be reverse-scored)*

16. If I have to wait in line, I often strike up a conversation with someone nearby.

17. I enjoy talking in a large meeting of friends and acquaintances.

18. I try to say as little as possible if confronted by a police officer. *(To be reverse-scored)*

19. In small groups of strangers, I tend to keep my own counsel. *(To be reverse-scored)*

20. I enjoy presenting to a group of friends.

21. In a large meeting of strangers, I usually remain pretty quiet. *(To be reverse-scored)*

Cross-Cultural Openness (Webster & Kruglanski, 1994):

1. Once I find the right way to do something, I stick to it. *(To be reverse-scored)*

2. I enjoy coming up with new plans and new ideas.

3. I believe variety is the spice of life.

4. Our society's ideas of right and wrong may not be right for all people in the world.

5. I believe that it's better to stick to your ethics and principles than to be open-minded. *(To be reverse-scored)*

6. People should honor traditional family values and not question them. *(To be reverse-scored)*

7. I enjoy reflecting on why things are the way they are.

8. I am not interested in abstract ideas. *(To be reverse-scored)*

9. I do not enjoy spending time imagining possibilities. *(To be reverse-scored)*

10. Even after I've made up my mind about something, I am always eager to consider a different opinion.

11. I dislike questions which could be answered in many different ways. *(To be reverse-scored)*

12. I feel irritated when one person disagrees with what everyone else in a group believes. *(To be reverse-scored)*

13. When considering most conflict situations, I can usually see how both sides could be right.

14. When thinking about a problem, I consider as many different opinions on the issue as possible.

15. I prefer interacting with people whose opinions are very different from my own.

16. I always see many possible solutions to problems I face.

17.   I do not usually consult many different options before forming my own view. *(To be reverse-scored)*

Emotional Self-Regulation (Gross & John, 2003):

1.   When I want to feel less negative emotions (anger, frustration, or sadness), I change the way I'm thinking about the situation.
2.   When I want to feel more positive emotions (happiness or amusement), I change the way I'm thinking about the situation.
3.   It is difficult for me to suppress thoughts that interfere with what I need to do. *(To be reverse-scored)*
4.   I can control my thoughts from distracting me from the task at hand.
5.   When I worry about something, I cannot concentrate on an activity. *(To be reverse-scored)*
6.   After an interruption, I don't have any problem resuming my concentrated style of working.
7.   I have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way. *(To be reverse-scored)*
8.   When I want to feel more positive emotion (happiness or amusement), I change what I'm thinking about.
9.   When I want to feel less negative emotion (sadness, frustration, or anger), I change what I'm thinking about.
10.   When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.
11.   I control my emotions by changing the way I think about the situation I'm in.
12.   When feeling stressed, I'm able to calm myself by thinking of other things.

Self-Monitoring (Ang, Van Dyne, Koh, & Ng, 2004; Snyder, 1974):

1.   I find it difficult to imitate the behavior of other people. *(To be reverse-scored)*
2.   My behavior is usually an expression of my true inner feelings, attitudes, and beliefs. *(To be reverse-scored)*
3.   In meetings or discussions, I do not attempt to do or say things that others will like. *(To be reverse-scored)*
4.   I can only argue for ideas which I already believe. *(To be reverse-scored)*
5.   I can make impromptu speeches even on topics about which I have almost no information.

6. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

7. I sometimes appear to others to be experiencing deeper emotions than I actually am.

8. In different situations and with different people, I often act like very different persons.

9. I am not particularly good at making other people like me. *(To be reverse-scored)*

10. Even if I am not enjoying myself, I often pretend to be having a good time.

11. I'm not always the person I appear to be.

12. I would not change my opinions (or the way I do things) in order to please someone else or win their favor. *(To be reverse-scored)*

13. I have trouble changing my behavior to suit different people and different situations. *(To be reverse-scored)*

14. If necessary, I am able to look anyone in the eye and tell a lie with a straight face.

15. I am able to fool people by being friendly when I really dislike them.

16. When I interact with people from other cultures or ethnic backgrounds, I show my appreciation of their cultural norms.

17. I change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction requires it.

18. I would be able to change my non-verbal behaviors if dealing with those of other cultures or backgrounds.

Tolerance for Ambiguity (Webster & Kruglanski, 1994):

1. I don't like situations that are uncertain. *(To be reverse-scored)*

2. I feel uncomfortable when I don't understand the reason why an event occurred in my life. *(To be reverse-scored)*

3. When I am confused about an important issue, I feel very upset. *(To be reverse-scored)*

4. In most social conflicts, I can easily see which side is right and which is wrong. *(To be reverse-scored)*

5. I like to know what people are thinking all the time. *(To be reverse-scored)*

6. I dislike it when a person's statement could mean many different things. *(To be reverse-scored)*

7. It's annoying to listen to someone who cannot seem to make up his or her mind. *(To be reverse-scored)*

8. I feel uncomfortable when someone's meaning or intention is unclear to me. *(To be reverse-scored)*

9. I'd rather know bad news than stay in a state of uncertainty. *(To be reverse-scored)*

Low Need for Cognitive Closure (Webster & Kruglanski, 1994):

1. I think that having clear rules and order at work is essential for success. *(To be reverse-scored)*
2. I find that a well-ordered life with regular hours suits my temperament. *(To be reverse-scored)*
3. I hate to change my plans at the last minute. *(To be reverse-scored)*
4. My personal space is usually messy and disorganized.
5. I believe orderliness and organization are among the most important characteristics of a good student. *(To be reverse-scored)*
6. I think that I would learn best in a class that lacks clearly stated objectives and requirements.
7. I find that establishing a consistent routine enables me to enjoy life more. *(To be reverse-scored)*
8. I enjoy having a clear and structured mode of life. *(To be reverse-scored)*
9. I like to have a plan for everything and a place for everything. *(To be reverse-scored)*
10. I dislike the routine aspects of my work.
11. I like to have friends who are unpredictable.
12. I enjoy the uncertainty of going into a new situation without knowing what might happen.
13. When dining out, I like to go to places where I have been before so that I know what to expect. *(To be reverse-scored)*
14. I think it is fun to change my plans at the last moment.
15. I don't like to be with people who are capable of unexpected actions. *(To be reverse-scored)*
16. I prefer to socialize with familiar friends because I know what to expect from them. *(To be reverse-scored)*
17. I don't like to go into a situation without knowing what I can expect from it. *(To be reverse-scored)*
18. I dislike unpredictable situations. *(To be reverse-scored)*

Cognitive Flexibility (Ross, 2008; Webster & Kruglanski, 1994):

1. I would never describe myself as indecisive. *(To be reverse-scored)*
2. When I go shopping, I have no trouble deciding exactly what it is I want. *(To be reverse-scored)*
3. When faced with a problem I usually see the one best solution very quickly. *(To be reverse-scored)*

4.   I usually make important decisions quickly and confidently. *(To be reverse-scored)*

5.   It takes me time to make important decisions as I see all sides of a situation.

6.   When trying to solve a problem I often can foresee several long-term consequences of my actions.

7.   If my approach to a problem isn't working with someone, I can easily change my tactics.

8.   I prefer to stick to doing something the way it's always worked in the past. *(To be reverse-scored)*

9.   I know how to gain insight from another person to get a job done.

10.   I believe that there is a right way and a wrong way to do most things. *(To be reverse-scored)*

11.   I am able to work well with others to help them find better ways to accomplish their tasks.

12.   If there is already a good way of addressing a problem, it's a waste of time to consider alternatives. *(To be reverse-scored)*

13.   I don't bother discussing alternative solutions with others if I've already made up my mind. *(To be reverse-scored)*

14.   If there is already a process in my organization that works well, then it should work well in other organizations. *(To be reverse-scored)*

15.   When working with someone from another culture, it's important to change my behavior if we aren't successful.

16.   I have different ways of working with different people.

17.   People have different methods that can be equally successful in solving a problem.

18.   Sometimes you have to bend the rules to do the right thing.

Lie Scale (Webster & Kruglanski, 1994)

1. I have never been late for an appointment.
2. I have never known someone I did not like.
3. I believe that one should never engage in leisure activities.
4. I feel that there is no such thing as an honest mistake.
5. I have never hurt another person's feelings.

Scoring (Webster & Kruglanski, 1994):

     1. Reverse code items that are reverse-scored, so that higher sums indicate that respondent possesses a greater amount of the attribute.

2. Sum each participant's responses except for the lie scale items.

3. Sum the lie scale items.

4. Remove the participant's answers if the lie score is greater than 15 (using 1 to 6 rating scale)

APPENDIX B:

ROTATED FACTOR MATRIX

	Factor					
	1	2	3	4	5	6
I would enjoy visiting other cultures that are unfamiliar to me.	.629					
I am sure I would be able to handle all of the stresses of adjusting to a culture that is new to me.	.591					
I would enjoy interacting with people from different cultures.	.585					
I am confident that I will be able to socialize with people from different cultures.	.579					
I am confident that I can get used to the unusual conditions of living in another culture.	.556					
Having to live in a culture that is drastically different from my own would be a problem for me.-R	-.520					
It is difficult for me to put myself in the shoes of someone from another culture.-R	-.513					
When I interact with people from other cultures or ethnic backgrounds, I show my appreciation of their cultural norms.	.502					
Traveling to other countries is something I would enjoy.	.499					
People have different methods that can be equally successful in solving a problem.	.486					
When thinking about a problem, I consider as many different opinions on the issue as possible.	.434					
I expect I would get along very well with people from other cultures.	.426				.347	
I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.	.418					
I would be able to change my non-verbal behaviors if dealing with those of other cultures or backgrounds.	.412					.383
I seek opportunities to speak with individuals from other cultural or ethnic backgrounds about their experiences.	.408					.336

When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me.	399						
When considering most conflict situations, I	.389						
can usually see how both sides could be right.							
It is easy for me to understand what it would feel like to be a person from a different culture.	.377						
A job is often successful because you understand the people you are working with well.	.373						
I could change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction required it.	.366						
I feel irritated when people of different ethnic or cultural backgrounds speak their native language around me.-R	-.361						
I am unsure of my abilities to deal with the local population if placed in a different culture.-R	-.357						
When trying to solve a problem I often can foresee several long-term consequences of my actions.	.352						
Our society's ideas of right and wrong may not be right for all people in the world.	.344						
If I have a job to do with other people, I like to get to know them well.	.316						
I do not usually consult many different options before forming my own view.-R	-.310						
I dislike unpredictable situations.-R		.655					
I don't like to go into a situation without knowing what I can expect from it.-R		.580					
I don't like situations that are uncertain.-R		.575					
I think it is fun to change my plans at the last moment.		-.478					
I prefer to socialize with familiar friends because I know what to expect from them.-R		.468					
I find that a well-ordered life with regular hours suits my temperament.-R		.465					
I like to have friends who are unpredictable.		-.445	.423				
I prefer to stick to doing something the way it's always worked in the past.-R		.432					

Item					
Once I find the right way to do something, I stick to it.-R	.431				.366
I like to have a plan for everything and a place for everything.-R	.431				
I hate to change my plans at the last minute.-R	.429				
I find that establishing a consistent routine enables me to enjoy life more.-R	.424				.334
In a large meeting of strangers, I usually remain pretty quiet.-R	.423				
I feel uncomfortable when someone's meaning or intention is unclear to me.-R	.418				
I enjoy the uncertainty of going into a new situation without knowing what might happen.	-.395				
I dislike it when a person's statement could mean many different things.-R	.393				
I feel uncomfortable when I don't understand the reason why an event occurred in my life.-R	.375				
When dining out, I like to go to places where I have been before so that I know what to expect.-R	.371				
I don't like to be with people who are capable of unexpected actions.-R	.359				
I believe that there is a right way and a wrong way to do most things.-R	.348				
It's annoying to listen to someone who cannot seem to make up his or her mind.-R	.347				
I'm not always the person I appear to be.		.560			
If necessary, I am able to look anyone in the eye and tell a lie with a straight face.		.517			
I am able to fool people by being friendly when I really dislike them.		.512			
Sometimes you have to bend the rules to do the right thing.		.432			
If I see someone I know, I sometimes avoid speaking to them.-R		.398			-.314
I dislike the routine aspects of my work.		.379			
I rarely think about the impact of an ethnic joke on people who are targeted.-R		.330			
I feel offended when I hear people make jokes		-.312			

112

Item						
about or use slang words to describe people from other ethnic backgrounds or cultures.						
In different situations and with different people, I often act like very different persons.			.312			
I would never describe myself as indecisive.-R				.467		
It is easy for me to stick to my aims and accomplish my goals.				.456		.345
After an interruption, I don't have any problem resuming my concentrated style of working.				.445		
When I worry about something, I cannot concentrate on an activity-R				-.435		
I can control my thoughts from distracting me from the task at hand.				.431		
I am confident that I could deal efficiently with unexpected events.				.417		.352
I can make impromptu speeches even on topics about which I have almost no information.				.417		
No matter what comes my way, I'm usually able to handle it.	.347			.410		
I can remain calm when facing difficulties because I can rely on my coping abilities.				.402		.376
If I am in trouble, I find it difficult to think of something to do.-R				-.398		
I can always manage to solve difficult problems if I try hard enough.	.319			.377		.307
I have a whole bunch of thoughts and feelings that interfere with my ability to work in a focused way.-R			.318	-.366		
It is difficult for me to suppress thoughts that interfere with what I need to do.-R				-.333		
When I am confused about an important issue, I feel very upset.-R				-.327		
I do not like giving presentations to a group of strangers.-R				-.318		
When I go shopping, I have no trouble deciding exactly what it is I want.-R				.309		
When I am confronted with a problem, I can usually find several solutions.					.634	
I think that having clear rules and order at work is essential for success.-R					.611	
					.581	

Item	1	2	3	4	5	6
I can be more successful at my job if I understand what is important to other people.						
I enjoy having a clear and structured mode of life.-R					.577	
I am able to work well with others to help them find better ways to accomplish their tasks.					.536	
My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.- R					.510	
I try to look for a logical explanation or solution to almost every problem I encounter.-R					.426	
When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.					.420	
When faced with a problem I usually see the one best solution very quickly.-R				.331	.417	
People should honor traditional family values and not question them.-R					.415	
When I want to feel less negative emotion (sadness, frustration, or anger), I change what I'm thinking about.						.642
When I want to feel less negative emotions (anger, frustration, or sadness), I change the way I'm thinking about the situation.						.634
I control my emotions by changing the way I think about the situation I'm in.						.547
If I see someone I know, I usually stop and talk to them.						.499
When I want to feel more positive emotions (happiness or amusement), I change what I'm thinking about.						.451
I tend to start conversations with strangers like people in the check-out line at the store or beside me on an airplane.						.438
I tend to get to know my neighbors well.						.437
If my approach to a problem isn't working with someone, I can easily change my tactics.						.429
I have different ways of working with different people.	.317					.394
Making sure that everyone gets along in my team is one of my priorities.						.371
I believe orderliness and organization are among the most important characteristics of a good student.-R		.335				.369

Even after I've made up my mind about something, I am always eager to consider a different opinion.							.368
If I have to wait in line, I often strike up a conversation with someone nearby.							.349
I enjoy talking in a large meeting of friends and acquaintances.							.345
I always see many possible solutions to problems I face.							.344
I enjoy presenting to a group of friends..							.344
It takes me time to make important decisions as I see all sides of a situation.							.343
When feeling stressed, I'm able to calm myself by thinking of other things.							.336
When I am uncertain how to act in a social situation, I look to the behavior of others for cues.							.332
When I want to feel more positive emotions (happiness or amusement), I change the way I'm thinking about the situation.							.328
I know how to gain insight from another person to get a job done.	.311						.325

Extraction Method: Principal Axis Factoring. Rotation Method: Obliging with Kaiser Normalization.
a Rotation converged in 30 iterations.
Note: Factor loadings < .30 are not reported
Note: Items retained in final scale are bolded

APPENDIX C:

80-ITEM 3CI

CROSS-CULTURAL COMPETENCE INVENTORY

Please read this carefully before you decide to complete this survey.

BACKGROUND: The Department of Defense has identified *cross-cultural competence* (the ability to interact effectively with foreign nationals) as one of the most critical determinants of success in military missions today. By completing this survey, you are contributing to important research toward understanding cross-cultural competence for the Department of Defense.

Participation in this study is voluntary. If you choose not to participate, this action will not affect your relationship with the Defense Equal Opportunity Management Institute and there will be no loss of benefit to which you would otherwise be entitled. If you do decide to participate, you are free to withdraw and discontinue participation at any time without penalty. Your responses are anonymous and cannot be linked to you in any way. You are not waiving any legal claims, rights, or remedies because of your participation in this research study.

If you have any questions about this research, you may contact Carol Thornson at carol@cognitiveperformancegroup.com or 407-430-2402.

If you agree to consent to participating in this study, please click to continue.

INSTRUCTIONS: You will read a series of statements. For each statement, please indicate your level of agreement with that statement, from **1** being that you *STRONGLY DISAGREE* with the statement, to **6** being that you *STRONGLY AGREE* with the statement.

Try not to spend too much time on any one question, as your *FIRST* answer is usually your *BEST* answer. Thank you for taking the time to respond as honestly as you can to each item. There are no right or wrong answers.

1. When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me.

2. I am confident that I can get used to the unusual conditions of living in another culture.

3. A job is often successful because you understand the people you are working with well.

4. I feel impatient when communicating with people of different ethnicities or cultures, regardless of how well they can communicate.

5. I would enjoy interacting with people from different cultures.

6. People have different methods that can be equally successful in solving a problem.

7. When thinking about a problem, I consider as many different opinions on the issue as possible.

8. When considering most conflict situations, I can usually see how both sides could be right.

9. I am sure I would be able to handle all of the stresses of adjusting to a culture that is new to me.

10. I could change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction required it.

11. I am confident that I would be able to socialize with people from different cultures.

12. When trying to solve a problem I often can foresee several long-term consequences of my actions.

13. I am unsure of my abilities to deal with the local population if placed in a different culture.

14. If I have a job to do with other people, I like to get to know them well.

15. I have never known someone I did not like.

16. Having to live in a culture that is drastically different from my own would be a problem for me.

17. When I interact with people from other cultures or ethnic backgrounds, I show my appreciation of their cultural norms.

18. I would enjoy visiting other cultures that are unfamiliar to me.

19. I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.

20. I feel irritated when people of different ethnic or cultural backgrounds speak their native language around me.

21. It is difficult for me to put myself in the shoes of someone from another culture.

22. It is easy for me to understand what it would feel like to be a person from a different culture.

23. Traveling to other countries is something I would enjoy.

24. Our society's ideas of right and wrong may not be right for all people in the world.

25. I do not usually consult many different options before forming my own view.

26. I would never describe myself as indecisive.

27. When I go shopping, I have no trouble deciding exactly what it is I want.

28. It is difficult for me to suppress thoughts that interfere with what I need to do.

29. After an interruption, I don't have any problem resuming my concentrated style of working.

30. I can control my thoughts from distracting me from the task at hand.

31. When I worry about something, I cannot concentrate on an activity.

32. No matter what comes my way, I'm usually able to handle it.

33. I have never been late for an appointment.

34. If I am in trouble, I find it difficult to think of something to do.

35. I can make impromptu speeches even on topics about which I have almost no information.

36. I do not like giving presentations to a group of strangers.

37. I enjoy the uncertainty of going into a new situation without knowing what might happen.

38. I prefer to stick to doing something the way it's always worked in the past.

39. I dislike unpredictable situations.

40. I find that a well-ordered life with regular hours suits my temperament.

41. I believe that one should never engage in leisure activities.

42. I like to have a plan for everything and a place for everything.

43. I think it is fun to change my plans at the last moment.

44. I prefer to socialize with familiar friends because I know what to expect from them.

45. I don't like to go into a situation without knowing what I can expect from it.

46. I hate to change my plans at the last minute.

47. When dining out, I like to go to places where I have been before so that I know what to expect.

48. I dislike it when a person's statement could mean many different things.

49. I don't like situations that are uncertain.

50. It's annoying to listen to someone who cannot seem to make up his or her mind.

51. I feel uncomfortable when I don't understand the reason why an event occurred in my life.

52. I feel uncomfortable when someone's meaning or intention is unclear to me.

53. Sometimes you have to bend the rules to do the right thing.

54. I dislike the routine aspects of my work.

55. If necessary, I am able to look anyone in the eye and tell a lie with a straight face.

56. I'm not always the person I appear to be.

57. I feel that there is no such thing as an honest mistake.

58. In different situations and with different people, I often act like very different persons.

59. I am able to fool people by being friendly when I really dislike them.

60. I rarely think about the impact of an ethnic joke on people who are targeted.

61. I feel offended when I hear people make jokes about or use slang words to describe people from other ethnic backgrounds or cultures.

62. When I am confronted with a problem, I can usually find several solutions

63. I think that having clear rules and order at work is essential for success.

64. I can be more successful at my job if I understand what is important to other people.

65. I enjoy having a clear and structured mode of life.

66. I am able to work well with others to help them find better ways to accomplish their tasks.

67. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.

68. I try to look for a logical explanation or solution to almost every problem I encounter.

69. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

70. If I have to wait in line, I often strike up a conversation with someone nearby.

71. When feeling stressed, I'm able to calm myself by thinking of other things.

72. I tend to start conversations with strangers like people in the check-out line at the store or beside me on an airplane.

73. I enjoy talking in a large meeting of friends and acquaintances.

74. If my approach to a problem isn't working with someone, I can easily change my tactics.

75. I control my emotions by changing the way I think about the situation I'm in.

76. When I want to feel more positive emotions (happiness or amusement), I change what I'm thinking about.

77. I always see many possible solutions to problems I face.

78. If I see someone I know, I usually stop and talk to them.

79. When I want to feel less negative emotion (sadness, frustration, or anger), I change what I'm thinking about.

80. I enjoy presenting to a group of friends.

81. I tend to get to know my neighbors well.

82. I have never hurt another person's feelings

83. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

84. Even after I've made up my mind about something, I am always eager to consider a different opinion.

85. Making sure that everyone gets along in my team is one of my priorities.

APPENDIX D:

IRB APPROVAL LETTER

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
           FWA00000351, IRB00001138

To: **Carol Thornson**

Date: **December 01, 2009**

Dear Researcher:

On 12/1/2009, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Project Title:	The Validation of the Cross-Cultural Competence Inventory
Investigator:	Carol Thornson
IRB Number:	SBE-09-06559
Funding Agency:	Cognitive Performance Group(CPG), DOD, Research and Engineering Development, Inc.
Grant Title:	Technically, this is not a grant, but a federally-funded subcontract. As such, there is a Statement of Work outlining deliverables for Red Inc., submitted by CPG. This SOW will be attached.
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Joseph Bielitzki, DVM, UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 12/01/2009 12:30:45 PM EST

IRB Coordinator

cc: Director, Defense Research and Engineering, DOD

Page 1 of 1

APPENDIX E:

SIX FACTORS OF 3C

Cultural Adaptability:

1. When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me.

2. I am confident that I can get used to the unusual conditions of living in another culture.

3. A job is often successful because you understand the people you are working with well.

4. I would enjoy interacting with people from different cultures.

5. People have different methods that can be equally successful in solving a problem.

6. When thinking about a problem, I consider as many different opinions on the issue as possible.

7. When considering most conflict situations, I can usually see how both sides could be right.

8. I am sure I would be able to handle all of the stresses of adjusting to a culture that is new to me.

9. I could change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction required it.

10. I am confident that I would be able to socialize with people from different cultures.

11. When trying to solve a problem I often can foresee several long-term consequences of my actions.

12. If I have a job to do with other people, I like to get to know them well.

13. When I interact with people from other cultures or ethnic backgrounds, I show my appreciation of their cultural norms.

14. I would enjoy visiting other cultures that are unfamiliar to me.

15. I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.

16. It is easy for me to understand what it would feel like to be a person from a different culture.

17. Traveling to other countries is something I would enjoy.

18. Our society's ideas of right and wrong may not be right for all people in the world.

Determination:

1. I would never describe myself as indecisive.

2. When I go shopping, I have no trouble deciding exactly what it is I want.

3. It is difficult for me to suppress thoughts that interfere with what I need to do.

4. After an interruption, I don't have any problem resuming my concentrated style of working.

5. I can control my thoughts from distracting me from the task at hand.

6. If I am in trouble, I find it difficult to think of something to do.

7. I can make impromptu speeches even on topics about which I have almost no information.

Tolerance of Uncertainty:

1. I dislike unpredictable situations. *(To be reverse-scored)*

2. I find that a well-ordered life with regular hours suits my temperament. *(To be reverse-scored)*

3. I like to have a plan for everything and a place for everything. *(To be reverse-scored)*

4. I prefer to socialize with familiar friends because I know what to expect from them. *(To be reverse-scored)*

5. I don't like to go into a situation without knowing what I can expect from it. *(To be reverse-scored)*

6. I hate to change my plans at the last minute. *(To be reverse-scored)*

7. When dining out, I like to go to places where I have been before so that I know what to expect. *(To be reverse-scored)*

8. I dislike it when a person's statement could mean many different things. *(To be reverse-scored)*

9. I don't like situations that are uncertain. *(To be reverse-scored)*

10. I feel uncomfortable when I don't understand the reason why an event occurred in my life. *(To be reverse-scored)*

11. I feel uncomfortable when someone's meaning or intention is unclear to me. *(To be reverse-scored)*

Self-Presentation:

1. If necessary, I am able to look anyone in the eye and tell a lie with a straight face.
2. I'm not always the person I appear to be.
3. In different situations and with different people, I often act like very different persons.
4. I am able to fool people by being friendly when I really dislike them.I enjoy coming up with new plans and new ideas.

Mission Focus:

1. When I am confronted with a problem, I can usually find several solutions.
2. I think that having clear rules and order at work is essential for success.
3. I can be more successful at my job if I understand what is important to other people.
4. I am able to work well with others to help them find better ways to accomplish their tasks.
5. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.
6. I try to look for a logical explanation or solution to almost every problem I encounter.
7. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

Engagement:

1. When feeling stressed, I'm able to calm myself by thinking of other things.
2. I enjoy talking in a large meeting of friends and acquaintances.
3. If my approach to a problem isn't working with someone, I can easily change my tactics.
4. I control my emotions by changing the way I think about the situation I'm in.
5. When I want to feel more positive emotions (happiness or amusement), I change what I'm thinking about.
6. If I see someone I know, I usually stop and talk to them.
7. When I want to feel less negative emotions (sadness, frustration, or anger), I change what I'm thinking about.
8. I enjoy presenting to a group of friends.
9. I tend to get to know my neighbors well.
10. Even after I've made up my mind about something, I am always eager to consider a different opinion.

11. Making sure that everyone gets along in my team is one of my priorities. hen I am confronted with a problem, I can usually find several solutions.

Lie Scale (Webster & Kruglanski, 1994)

1. I have never been late for an appointment.
2. I have never known someone I did not like.
3. I believe that one should never engage in leisure activities.
4. I feel that there is no such thing as an honest mistake.
5. I have never hurt another person's feelings.

APPENDIX F:

TEST-RETEST STUDY (TIME 1) AND DEMOGRAPHICS

CROSS-CULTURAL COMPETENCE INVENTORY

Please read this carefully before you decide to complete this survey.

First of all, we would like to thank you very much for your time. We understand that time is valuable and we appreciate your giving us some of your valuable time, now and in two weeks.

Your participation involves completing a questionnaire at two different times, now and two weeks from now. It is crucial that the second questionnaire you complete is exactly two weeks from when you take the first survey.

BACKGROUND: The Department of Defense has identified *cross-cultural competence* (the ability to interact effectively with foreign nationals) as one of the most critical determinants of success in military missions today. By completing this survey, you are contributing to important research toward understanding cross-cultural competence for the Department of Defense.

Participation in this study is voluntary. If you choose not to participate, there will be no loss of benefit to which you would otherwise be entitled. If you do decide to participate, you are free to withdraw and discontinue participation at any time without penalty. Your responses are confidential and will not be linked to you in any way. You are not waiving any legal claims, rights, or remedies because of your participation in this research study.

If you have any questions about this research, you may contact Carol Thornson at carol@cognitiveperformancegroup.com or 407-430-2402.

If you agree to consent to participating in this study, please click to continue.

INSTRUCTIONS: You will read a series of statements. For each statement, please indicate your level of agreement with that statement, from **1** being that you *STRONGLY DISAGREE* with the statement, to **6** being that you *STRONGLY AGREE* with the statement.

Try not to spend too much time on any one question, as your *FIRST* answer is usually your *BEST* answer. Thank you for taking the time to respond as honestly as you can to each item. There are no right or wrong answers.

1. When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me.

2. I am confident that I can get used to the unusual conditions of living in another culture.

3. A job is often successful because you understand the people you are working with well.

4. I feel impatient when communicating with people of different ethnicities or cultures, regardless of how well they can communicate.

5. I would enjoy interacting with people from different cultures.

6. People have different methods that can be equally successful in solving a problem.

7. When thinking about a problem, I consider as many different opinions on the issue as possible.

8. When considering most conflict situations, I can usually see how both sides could be right.

9. I am sure I would be able to handle all of the stresses of adjusting to a culture that is new to me.

10. I could change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction required it.

11. I am confident that I would be able to socialize with people from different cultures.

12. When trying to solve a problem I often can foresee several long-term consequences of my actions.

13. I am unsure of my abilities to deal with the local population if placed in a different culture.

14. If I have a job to do with other people, I like to get to know them well.

15. I have never known someone I did not like.

16. Having to live in a culture that is drastically different from my own would be a problem for me.

17. When I interact with people from other cultures or ethnic backgrounds, I show my appreciation of their cultural norms.

18. I would enjoy visiting other cultures that are unfamiliar to me.

19. I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.

20. I feel irritated when people of different ethnic or cultural backgrounds speak their native language around me.

21. It is difficult for me to put myself in the shoes of someone from another culture.

22. It is easy for me to understand what it would feel like to be a person from a different culture.

23. Traveling to other countries is something I would enjoy.

24. Our society's ideas of right and wrong may not be right for all people in the world.

25. I do not usually consult many different options before forming my own view.

26. I would never describe myself as indecisive.

27. When I go shopping, I have no trouble deciding exactly what it is I want.

28. It is difficult for me to suppress thoughts that interfere with what I need to do.

29. After an interruption, I don't have any problem resuming my concentrated style of working.

30. I can control my thoughts from distracting me from the task at hand.

31. When I worry about something, I cannot concentrate on an activity.

32. No matter what comes my way, I'm usually able to handle it.

33. I have never been late for an appointment.

34. If I am in trouble, I find it difficult to think of something to do.

35. I can make impromptu speeches even on topics about which I have almost no information.

36. I do not like giving presentations to a group of strangers.

37. I enjoy the uncertainty of going into a new situation without knowing what might happen.

38. I prefer to stick to doing something the way it's always worked in the past.

39. I dislike unpredictable situations.

40. I find that a well-ordered life with regular hours suits my temperament.

41. I believe that one should never engage in leisure activities.

42. I like to have a plan for everything and a place for everything.

43. I think it is fun to change my plans at the last moment.

44. I prefer to socialize with familiar friends because I know what to expect from them.

45. I don't like to go into a situation without knowing what I can expect from it.

46. I hate to change my plans at the last minute.

47. When dining out, I like to go to places where I have been before so that I know what to expect.

48. I dislike it when a person's statement could mean many different things.

49. I don't like situations that are uncertain.

50. It's annoying to listen to someone who cannot seem to make up his or her mind.

51. I feel uncomfortable when I don't understand the reason why an event occurred in my life.

52. I feel uncomfortable when someone's meaning or intention is unclear to me.

53. Sometimes you have to bend the rules to do the right thing.

54. I dislike the routine aspects of my work.

55. If necessary, I am able to look anyone in the eye and tell a lie with a straight face.

56. I'm not always the person I appear to be.

57. I feel that there is no such thing as an honest mistake.

58. In different situations and with different people, I often act like very different persons.

59. I am able to fool people by being friendly when I really dislike them.

60. I rarely think about the impact of an ethnic joke on people who are targeted.

61. I feel offended when I hear people make jokes about or use slang words to describe people from other ethnic backgrounds or cultures.

62. When I am confronted with a problem, I can usually find several solutions

63. I think that having clear rules and order at work is essential for success.

64. I can be more successful at my job if I understand what is important to other people.

65. I enjoy having a clear and structured mode of life.

66. I am able to work well with others to help them find better ways to accomplish their tasks.

67. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.

68. I try to look for a logical explanation or solution to almost every problem I encounter.

69. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

70. If I have to wait in line, I often strike up a conversation with someone nearby.

71. When feeling stressed, I'm able to calm myself by thinking of other things.

72. I tend to start conversations with strangers like people in the check-out line at the store or beside me on an airplane.

73. I enjoy talking in a large meeting of friends and acquaintances.

74. If my approach to a problem isn't working with someone, I can easily change my tactics.

75. I control my emotions by changing the way I think about the situation I'm in.

76. When I want to feel more positive emotions (happiness or amusement), I change what I'm thinking about.

77. I always see many possible solutions to problems I face.

78. If I see someone I know, I usually stop and talk to them.

79. When I want to feel less negative emotion (sadness, frustration, or anger), I change what I'm thinking about.

80. I enjoy presenting to a group of friends.

81. I tend to get to know my neighbors well.

82. I have never hurt another person's feelings

83. When I am uncertain how to act in a social situation, I look to the behavior of others for cues.

84. Even after I've made up my mind about something, I am always eager to consider a different opinion.

85. Making sure that everyone gets along in my team is one of my priorities.

DEMOGRAPHIC DATA

1. **Basic Demographics:**

   Identifier: _____   Age: _____   Rank: _____   Gender: M   F

2. **Educational Information:**

   Year of Expected Graduation: _____

   Major/Minor Area of Study: _____

   Foreign Language Courses taken and level (jr. high, high school, college): _____

   Foreign Languages Spoken fluently: _____

135

APPENDIX G:

FACT SHEET FOR TEST-RETEST STUDY

<div align="center">**FACT SHEET**</div>

<div align="center">**Test-Retest Reliability of the Cross-Cultural Competence Inventory (3CI)**</div>

PURPOSE: The Cross-Cultural Competence Inventory (Ross, Thornson, & Arrastia, 2009) is an 85-item self-report instrument designed to measure the six hypothesized dimensions of cross-cultural competence (3C). The 3CI was developed as a tool for commanders to use in order to assess the readiness of their soldiers to interact effectively and appropriately with foreign nationals, multi-national coalition forces, and other individuals, agencies and organizations.

OBJECTIVE: Part of the validation effort of the 3CI requires assessing the test-retest reliability of this new instrument as a way to measure its stability over time.

REQUIREMENT: Therefore, we require a group of 150 participants to complete the 3CI at one point in time (Time 1) and again approximately two weeks later (Time 2). The greater the correlation between the two administrations, the greater is the test-retest reliability of the 3CI.

The most expedient way of accomplishing this data collection would be if the 3CI is uploaded online, whereby cadets will enter an anonymous identification code which will be used to link the data from the two administrations.

One way to accomplish this might be for cadets to enter the first two initials of their mother's maiden name followed by the last four digits of their social security number. So for example, a person with the SSN of 123-45-6789 and whose mother's maiden name is Smith would enter SM6789. This way, all responses will remain confidential. Additionally, no data from this effort will be reported to any source using the name of any participant. All findings will be reported in terms of group findings.

An informed consent will be included as part of the online administration as well as demographic items to be uploaded and linked to the survey data in the same way.

Any questions regarding this study can be directed to:
POC: Carol Thornson, Cognitive Performance Group, Orlando, FL
        carol@cognitiveperformancegroup.com
        Dr. Dan McDonald, Director of Research, DEOMI, Patrick AFB, FL
        Daniel.McDonald@patrick.af.mil

ATTACHMENTS: Cross-Cultural Competence Inventory
Demographic Items

APPENDIX H:

RECRUITMENT MATERIALS FOR FINAL VALIDATION STUDY

FACT SHEET: Cross-Cultural Competence Inventory (3CI)

PURPOSE: The 3CI was developed as a measure of cross-cultural competence for commanders and individual warfighters to assess their readiness to work closely with foreign nationals, multi-national coalition forces, and other individuals, agencies and organizations in the context of military missions.

BACKGROUND: Working with foreign counterparts to create and maintain stability in fragile regions of the world is critical. The potential for cross-cultural conflict and international-level consequences if our forces are not prepared adequately is high. The Department of Defense has identified 3C as one of the most critical determinants of success in military missions today. The 3CI was developed for the DoD and is currently being tested as part of final development before implementation. No other 3C assessments exist that are specifically based on research into the cultural challenges of the military operating environment. The 3CI will provide information to assess readiness, training, and education, as well as policy requirements.

OBJECTIVE: To validate the utility of the 3CI, we must compare results of the assessment to actual mission performance in the field. The resulting valid assessment tool will allow leaders and individuals to assess readiness and training requirements knowing that the 3CI predicts field performance as rated by experienced military leaders.

REQUIREMENT: The validation activity requires 300 warfighters who have recently returned from overseas deployment to fill out the 3CI, as well as two other brief surveys, and a short demographic form. The time needed to complete all forms is approximately 30-40 minutes. Group administration in a classroom or auditorium will best support the effort, and use the least amount of time for a participating unit. For each warfighter who fills out the assessment forms, a supervisor must fill out a rating form about field performance. The team leader, unit commander or other supervisor must have direct and recent knowledge of the warfighter to be rated in terms of their interactions with foreign nationals and other cross cultural interactions in the field. Warfighter interactions with persons of other cultures during deployment must have been critical to mission performance. The requirement for supervisor participation is not more than five minutes per warfighter. That is, if a leader is rating six members of his/her team or unit, for example, it will take approximately 30 minutes to complete the warfighter ratings. Supervisors can do this task in a separate area, if feasible, at the same time their subordinates are filling out their surveys. No data from this effort will be reported to any source using the name of any participant. Numerical ID numbers will be substituted for names as the data collection takes place. All findings will be reported in terms of group findings.

POC: Carol Thornson, Cognitive Performance Group, Orlando, FL
          carol@cognitiveperformancegroup.com
          Dr. Dan McDonald, Director of Research, DEOMI
          Daniel.McDonald@patrick.af.mil

**FACT SHEET: Requirements for Study to Develop the
Cross-Cultural Competence Inventory (3CI)**

PURPOSE OF THE STUDY: To develop a paper and pencil tool to assess warfighter readiness to work closely with people from other cultures in order to achieve military missions. The current study is being conducted to link the assessment tool to actual performance in theater, as rated by unit leaders, to ensure the tool is valid. A well-developed tool will support decisions about training, education, and operations. The study is being funded by the Department of Defense, specifically the Defense Language Office and carried out under the Research Directorate at DEOMI. Research is being conducted by the Cognitive Performance Group.

CURRENT OBJECTIVE: To obtain survey data from a total of 300 military members (active or reserve) and their supervisors. It is critical that participants have recent experience interacting with people from another culture as part of achieving mission success. It is also critical that someone in a supervisory position is available who can rate how the military member performed in those interactions during deployment. We are seeking to get as many participants as we can from several sources to reach the total needed to statistically validate the assessment instrument.

CONCEPT OF OPERATION:

WHO

- Military members who have had recent experience interacting with local nationals in the context of a mission.

- Each member must be rated by a supervisor who has direct knowledge of the person's performance in cross-cultural interactions.

- No particular Service, MOS, or rank is required.

WHAT

- Each military member (individually or in a group setting) will fill out three surveys and a short demographics form (rank, experience, etc.). No more than 45 minutes of each individual's time is required.

- Each supervisor/leader will be asked to fill out a one-page rating form for each member. No more than 5 minutes of the supervisor's time will be required for each member rated

HOW/WHERE

- Researchers will be available on site to collect the data.

- An auditorium or classroom that can accommodate everyone willing to participate or one group at a time until all participants have completed the surveys and a nearby room for supervisors (team or unit leaders) to fill out a brief rating form on each unit member at the same time.

- The data collection will begin with a five-minute description of the purpose and importance of the study and assurance that participation is anonymous and confidential. All participants will be informed that no data will be maintained with their names on it, no data

- will go in any official file, all data will be used only by the research team, and all data will be reported in a manner that ensures anonymity and privacy. No individual person or unit will be referred to in any report, and we will not provide information that will allow anyone to infer who the participants were.

- A consent form with this information on it will be passed out for signature of each participant.

- We ask that each supervisor/leader bring a list of those unit participants that he or she will rate that includes each participant's name and last four. We will give the leader a form for each participant. The leader will enter the last four of the Soldier and then rate that person's performance.

- The researcher will ensure that the participant and leader forms are handled as follows:
  - collected and stored together in a secure manner
  - only the research team has access to the data
  - the data for the leader and the participant can be matched by the last four, and no names or other personal identifiers will appear on any of the forms.

WHEN

- Our team will accommodate any time period that is available and convenient for the participants.

- Completion as soon as possible is desired.

POCs: Dr. Karol Ross, Cognitive Performance Group, Orlando, FL
karol@cognitiveperformancegroup.com
O: 407-737-8998 M: 763-439-7211

Carol Thornson, Cognitive Performance Group, Orlando, FL
carol@cognitiveperformancegroup.com

Dr. Dan McDonald, Director of Research, DEOMI
Daniel.McDonald@patrick.af.mil

COGNITIVE PERFORMANCE GROUP SUPPORT REQUEST	RSR# 10-06

(1) TITLE: Validation of the Cross-Cultural Competence Inventory (3CI)

(2) BACKGROUND/PROBLEM DESCRIPTION:

The 3CI was developed for the DoD as a measure of cross-cultural competence for commanders and individual warfighters to assess their readiness to work closely with foreign nationals, multi-national coalition forces, and other individuals, agencies and organizations in the context of military missions. No other instruments exist that are specifically based on research into the cultural challenges of the military operating environment. The 3CI is currently being tested as the last stage of development before implementation. This final stage will allow us to link the assessment tool to actual performance in theater, as rated by unit leaders, to ensure the tool is valid. A well-developed tool will support decisions about training, education, and operations. The study is being funded by the Department of Defense, specifically the Defense Language Office and carried out under the Research Directorate at the Defense Equal Opportunity Management Institute.

(3) OBJECTIVES:

To administer three surveys and short demographics form to military members (active or reserve) and rating forms to their supervisors. It is critical that participants have recent experience interacting with people from another culture as part of achieving mission success. It is also critical that someone in a supervisory position is available who can rate how the military member performed in those interactions during deployment.

(4) RESEARCH APPROACH (METHODOLOGY):

The data collection will begin with a five-minute description of the purpose and importance of the study and assurance that participation is voluntary and data will be kept strictly confidential (all data will be used only by the research team, and all data will be reported in a manner that ensures privacy). A consent form with this information will distributed for signature of each subordinate participant. The 3CI and two other surveys will be administered to subordinate participants and participants will enter their last 4 SSN on their packets. The supervisors will rate their subordinates on their performance and enter each subordinate's last 4 SSN on the rating form. Each soldier will be rated by at least one supervisor.

(5) UTILIZATION:

Military members who have recently returned from overseas deployment and who have interacted with host nationals during the course of their mission are required. In addition, each military member must be rated by one supervisor who has direct knowledge of the member's performance in cross-cultural interactions. No particular Service, MOS, or rank is required.

142

COGNITIVE PERFORMANCE GROUP SUPPORT REQUEST

(1a) INSTALLATION: 350th CACOM

Instructions: Boxes (1) thru (9) must be completed before submission

(1b) REQUESTED DATES: Our team will accommodate any time period that is available and convenient for the participants.

(2) WORK UNIT TITLE: Validation of the 3CI

(3) Schedule Of Events	(4) Hrs Per Day	(5) Personnel	(6) Equipment	(7) Remarks
Subordinate Surveys: After obtaining informed consent, each subordinate will fill out three surveys and a short demographics form (rank, experience, etc.). Participant ID will be last 4, to link with supervisor forms. *Supervisor Ratings:* We will provide the leader a form for each subordinate they will rate. The leader (rater) will enter the last 4 of the subordinate whom s/he is rating, on each form. *We ask that each supervisor please bring a list of those subordinates that he or she will rate,* that includes each participant's first name and last four in order to facilitate matching supervisor forms to subordinate surveys.	*Subordinate Surveys:* No more than 45 minutes of each individual's time is required. *Supervisor Ratings:* No more than 5 minutes is required per subordinate rated.	*Subordinates:* Military members who have had experience interacting with host nationals during recent deployment(s). *Supervisors:* Each subordinate will be rated by at least one supervisor. Supervisors will have enough of a working relationship with their subordinates as to have directly observed their interactions with foreign nationals.	Any large room (auditorium or classroom) to accommodate group(s) of participants in one session or several throughout the day, whichever is more convenient for you.	The researchers will ensure that the subordinate surveys and supervisor forms are collected and stored together in a secure manner, that only the research team has access to any data, and that no names or other personal identifiers will appear on any of the forms nor be linked back to anyone individually.

(8) ORGANIZATION POC:

Name(s): Carol Thornson
Dr. Karol Ross

EMAIL: carol@cognitiveperformancegroup.com.
karol@cognitiveperformancegroup.com

RU/Office: Cognitive Performance Group, LLC

COMM #: 407-282-4433   FAX #: 407-384-8822

(9) RESEARCH SPONSOR:

Organization: Defense Equal Opportunity Management Institute

POC Name: Dr. Dan McDonald   Job Title: Executive Director of Research & Development

COMM #: 321-494-2746   DSN: 853-1586

APPENDIX I:

EFFORTS TO OBTAIN AN ADEQUATE CRITERION SAMPLE

TIMELINE OF EFFORTS

Sept '09

- Prior to my Proposal Defense, and upon advice from faculty, I began efforts to coordinate the collection survey data from 100-150 active duty service members who had recently returned from overseas deployment, and their respective supervisors who would rate them on performance in the field (in order to link the two).

- It was noted that online data collection via a military server would have been ideal for this effort, as in the Pilot Study (N = 792) and Construct Validation Study (N = 4,840).

  - However, there was no way to anonymously link my developed survey on 3C to supervisor ratings, nor was there any way to identify the supervisors and send them a link to the ratings forms.

- I therefore pursued in-person data collection by contacting all our company's leads in the area of military research (e.g., CEOs of Consulting Companies with whom we have a working relationship, all of whom have longstanding and positive working relationships with stakeholders and other military sponsors)

- However, serious doubts were expressed early on:

  - *Wow. . . I was thinking you needed maybe 16-20 people.*
  - *You may need to think of how you can do this with less surveys.*
    - *100 soldiers for 30-40 minutes is a pretty monumental undertaking, and I don't think I could pull that off for you.*
    - *Also, the burden on the supervisors to comment on each soldier would be enormous.*
  - *You can do MiTT teams. .. but they are being measured to death right now.*
    - *Getting that kind of time when they are looking to return home is unlikely.*
  - *You are looking at a .0001% chance of getting this many people without a GENERAL backing it.*

Oct '09

- Upon my Proposal Defense, active pursuit of leads continued; however, at the suggestion of a Committee member, I now sought to recruit at least 300 military troops who had recently returned from overseas deployment.

- To that end, I constructed a *Fact Sheet* for military stakeholders regarding Requirements, Purpose, etc. (i.e., so that Commanders could quickly peruse the request in a format that was familiar to them), and sent various targeted versions out to leads via email (*see* Appendix H, *Recruitment Materials*).

145

Nov '09

- Contact with high-ranking retired Army point of contact (POC) led to a Commander of a large Army base in the northeastern United States expressing an interest in assisting with the in-person data collection.

    o I therefore forwarded the *Fact Sheet* to this POC, filled out a formal *Support Request* form, and sent it to the base.

Dec '09

- I followed up with the above POC with regard to the in-person data collection trip to the northeastern U.S. for criterion-related validation evidence and continued to actively pursue other leads as well.

- *NOTE:* During this holiday month, I was also in the process of collecting test-retest reliability, as well as continuing to coordinate the Construct Validation Study (i.e., military IRB approval, military server access, etc.).

Jan '10

- The data collection in the northeast did not materialize; however, I continued with the pursuit of other leads for possible criterion-related data collection locations.

- As such, an Army Civil Affairs officer expressed interest in offering assistance in this regard and communications with this POC continued throughout this month.

Feb '10

- Early this month, a Marine officer also expressed an interest in assisting with data collection, and offered his class of approximately *70 Marines*.

- Therefore, I traveled to a western U.S. state to administer the 3CI, CQS, and MPQ (and demographics forms) to recently deployed Marines, and collected criterion data from supervisors who rated the young Marines' level of performance in the field.

    o Thirty-eight Marines attended this session and upon eliminating the data of those who scored higher than the cut-off score for the "lie scale" (indicating social desirability bias), the number of completed surveys was reduced to 34.

Mar '10

- Upon final coordination with the Army Civil Affairs POC, I traveled to a southeastern U.S. location to administer the subordinate survey packets (3CI, CQS, MPQ, demographics forms) and supervisor packets to what was to be a large classroom.

- Following the in-person meeting with the POC (on a Sunday afternoon), I learned that this was a deployment preparation weekend (i.e., personnel were preparing for extended deployments that weekend to Afghanistan).

- Prior to my introduction, the POC explained the need for the supervisors to rate performance, whereupon she and I learned that most personnel did not have supervisors present and almost all personnel exited the classroom.

- Therefore, although I had prepared 90 packets and more than 40 subordinates were present in the classroom, only a few supervisors were not available to rate them (i.e., their locations, if they were still alive, were unknown by the POC or by the personnel).

- As such, surveys were collected from only *8* Civil Affairs Soldiers, *bringing the total collected after two trips to 42.*

  o It should be noted that I had impressed upon the POC, repeatedly, that the supervisors must be available to rate the subordinates. I was assured they would be there.

April '10

- At the annual SIOP Conference, I presented the results of the Pilot Study, the Construct Validation and Test-Retest Study, and highlighted the fact that criterion data collection was underway.

- Therefore, due to this presentation and networking efforts, several new leads were obtained and requests for more information were sent by other researchers to me.

- However, despite my best efforts, no data collection opportunities presented themselves due to the requirement for supervisors to be present, indicating those surveyed will need to have just returned from deployment. An example of an informal request to a military POC from my supervisor is as follows:

  o We have constructed a military-focused survey type measurement instrument to predict who will be good at intercultural interactions during deployment. We're almost to the end of the project, but just can't get the final data we need to do criterion validation. (The sponsor is really not "connected" in a way that can get us to recently deployed units.)
  Our criterion validation consists of the Warfighter taking three such instruments including ours (no more than 45 min) and then we have his/her supervisor rate

his/her interactions during deployment. So we need recently deployed people who had moderate/high levels of interaction with local nationals and access to their supervisor for a rating of their performance. I say recently because that is the easiest way to track down the supervisor before they get split up after deployment.

Would you know of any commanders of recently returned/returning units (any Service) who would be open to letting us survey their people and have the supervisors rate the people? We're running out of time and have tried everything to find people. We really need the data by June to finish up. Any ideas are appreciated!

Thank you for considering this request.

- Therefore, due to the logistical constraints encountered via in-person data collection, investigations into online data collection efforts began:

    o At SIOP, I met with and interviewed other recent doctoral graduates who had successfully linked supervisor ratings to survey data in order to validate the instruments they administered for their dissertations.

    o I began investigating the feasibility of hiring a computer programmer (e.g., sponsor support, IRB approval, cost, etc.)

May '10

- In early May, Army researchers notified me of an upcoming data collection trip to a returning unit of Military Transition Team members (MiTTs). With a day's notice, I traveled to the Midwestern U.S., where 62 MiTTs were being debriefed over the course of two days.

    o The Soldiers had only returned from lengthy deployments to Afghanistan 48 hours prior to data collection, enduring a 24+ hour plane ride.

        ▪ Upon arrival in the States, the previous two days were spent attending mandatory debriefings (6:00 am - 6:00 pm) and my data collection was scheduled following the second day of debriefings, before they were to leave for dinner and home.

        ▪ As such, although the class size was large ($N = 69$), many decided not to participate and to go home, at last.

        ▪ Of those who stayed, several engaged in random responding.

    o The completed surveys were 32 for this data collection, *bringing the final collection following three data collection trips to 74.*

Online Efforts during May and June '10:

- Due to several communications with the sponsoring organization for this effort regarding the viability of collecting criterion data via the DEOCS, as in the pilot study and construction validation study, it was decided that online collection was feasible.

  - That is, military personnel are able to access websites such as Survey Monkey.

- Therefore, I constructed online replicas of participant surveys and demographics on Survey Monkey, as well as a separate survey for the Supervisor Ratings Form.

- Upon going through the IRB process at the university once again, and obtaining approval for online collection (see attached), I hired a computer programmer to ensure ethical constraints were considered with regard to privacy, anonymity, and confidentiality of research data.

- Therefore the programmer was hired to:

  - Redirect personnel to the Subordinate link on Survey Monkey
  - Assign a unique code to the survey data
  - Redirect the participants to a separate site/database where supervisor information (which was not stored anywhere for IRB purposes) was gathered
  - Forward a personalized email to the supervisor with a link to the Supervisor Ratings Form in Survey Monkey
  - Assign the same unique code to the supervisor form for linking purposes (see attached).

- Following several weeks of work by the programmer and myself and upon successful testing of the program, the sponsor was informed the link was ready to post.

- The link was put on the military server a few weeks later, when the sponsor was ready, whereupon it was discovered access to the site was *denied*.

- Upon this failure to link, I investigated further by contacting other programmers as well as joining several professional organizations dedicated to military research (e.g., APA, LinkedIn, etc.) and frequented by military researchers and consultants (e.g., ARI, HumRRO, etc.), along with other military-based message boards (e.g., military.com, etc.).

  - I discovered that due to DoD security firewalls, only sites on the approved "Certificate of Networthiness (CoN)" list can be accessed from inside any military installation.
  - It was also learned that the process to obtain a CoN is lengthy, at least six months, and most likely would be denied for this project, given the collection of supervisor information (e.g., name, rank, email address), even though such

149

information was not to be saved to any database, nor linked in any way with any other information, as per IRB.

- Due to circumstances beyond my control, despite my pursuit of alternative options, none were available to me.
  - o Therefore, my advisor recommended I analyze the data I have. I did so and wrote the Final Report for this project, which was already past due and out of funds.

CONCLUSION: For all of the reasons cited above, the number of participants fell well short of my original goals for this validation study.

These logistical constraints may be contributing factors for the dearth of military research on 3C, which I noticed when I began my literature review.

This Appendix is offered so that future researches are aware of the barriers that must be overcome for military data collection to proceed.

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Carol Thornson** and Co-PIs if applicable:

Date: **June 04, 2010**

Dear Researcher:

On 6/4/2010, the IRB approved the following activity as human participant research that is exempt from regulation:

Type of Review:	Exempt Determination
Modification Type:	Online system developed to connect supervisor and subordinate survey responses together while keeping both fully anonymous; Consent process revisions (received on 6/4/10)
Project Title:	The Validation of the Cross-Cultural Competence Inventory
Investigator:	Carol Thornson
IRB Number:	SBE-09-06559
Funding Agency:	Cognitive Performance Group(CPG), DOD, Research and Engineering Development, Inc.
Grant Title:	The Validation of the Cross-Cultural Competence Inventory
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Joseph Bielitzki, DVM, UCF IRB Chair, this letter is signed by:

Signature applied by Janice Turchin on 06/04/2010 04:50:52 PM EDT

IRB Coordinator

Page 1 of 1

APPENDIX J:

CROSS-CULTURAL COMPETENCE INVENTORY (53 ITEM)

CROSS-CULTURAL COMPETENCE INVENTORY

BACKGROUND: The Department of Defense has identified *cross-cultural competence* (the ability to interact effectively with foreign nationals) as one of the most critical determinants of success in military missions today. By completing this survey, you are contributing to important research toward understanding cross-cultural competence for the Department of Defense.

INSTRUCTIONS: Please write the anonymous ID code you were assigned in the above space as your Participant ID. This is so that we may link your responses to your supervisor's responses, for research purposes only.

Please read the 63 statements below and for each statement, please indicate your level of agreement with that statement, from *STRONGLY DISAGREE* to *STRONGLY AGREE*.

Try not to spend too much time on any one question, as your *FIRST* answer is usually your *BEST* answer. There are no right or wrong answers. Thank you for taking the time to respond as honestly as you can to each item!

1. I dislike it when a person's statement could mean many different things.

   Strongly Disagree   **Strongly Agree**
   ☐   ☐   ☐   ☐   ☐   ☐

2. I try to look for a logical explanation or solution to almost every problem I encounter.

   Strongly Disagree   **Strongly Agree**
   ☐   ☐   ☐   ☐   ☐   ☐

3. After an interruption, I don't have any problem resuming my concentrated style of working.

   Strongly Disagree   **Strongly Agree**
   ☐   ☐   ☐   ☐   ☐   ☐

4. When dealing with people of a different ethnicity or culture, understanding their viewpoint is a top priority for me.

   Strongly Disagree   **Strongly Agree**
   ☐   ☐   ☐   154   ☐   ☐   ☐

5. I like to have a plan for everything and a place for everything.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

6. I enjoy presenting to a group of friends.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

7. I think that having clear rules and order at work is essential for success.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

8. A job is often successful because you understand the people you are working with well.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

9. If I see someone I know, I usually stop and talk to them.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

10. I would enjoy interacting with people from different cultures.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■
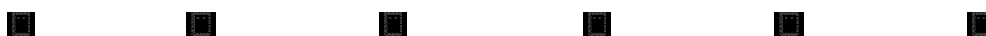
11. I have never known someone I did not like.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

12. When I go shopping, I have no trouble deciding exactly what it is I want.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

13. I am confident that I would be able to socialize with people from different cultures.

Strongly Disagree   **Strongly Agree**

　■　　　　　■　　　　　■　　　　　■　　　　　■　　　　　■

14. When I want to feel more positive emotions (happiness or amusement), I change what I'm thinking about.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

15. I feel uncomfortable when I don't understand the reason why an event occurred in my life.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

16. I would never describe myself as indecisive.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

17. I'm not always the person I appear to be.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

18. I could change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction required it.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

19. I have never been late for an appointment.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

20. I can be more successful at my job if I understand what is important to other people.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

21. When trying to solve a problem I often can foresee several long-term consequences of my actions.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   156   ☐   ☐   ☐

22. I hate to change my plans at the last minute.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

23. I control my emotions by changing the way I think about the situation I'm in.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

24. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

25. If my approach to a problem isn't working with someone, I can easily change my tactics.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

26. If I have a job to do with other people, I like to get to know them well.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

27. I don't like situations that are uncertain.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

28. When I interact with people from other cultures or ethnic backgrounds, I show my appreciation of their cultural norms.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

29. I believe that one should never engage in leisure activities.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

30. In different situations and with different people, I often act like very different persons.

Strongly Disagree   157   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

31. It is easy for me to understand what it would feel like to be a person from a different culture.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

32. I dislike unpredictable situations.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

33. I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

34. I find that a well-ordered life with regular hours suits my temperament.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

35. I am able to fool people by being friendly when I really dislike them.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

36. When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

37. Traveling to other countries is something I would enjoy.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

38. I prefer to socialize with familiar friends because I know what to expect from them.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

39. I enjoy talking in a large meeting of friends and acquaintances.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

40. When thinking about a problem, I consider as many different opinions on the issue as possible.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

41. I feel that there is no such thing as an honest mistake.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

42. I can make impromptu speeches even on topics about which I have almost no information.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

43. When considering most conflict situations, I can usually see how both sides could be right.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

44. I don't like to go into a situation without knowing what I can expect from it.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

45. I can control my thoughts from distracting me from the task at hand.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

46. If I am in trouble, I find it difficult to think of something to do.

Strongly Disagree   **Strongly Agree**

■   ■   ■   ■   ■   ■

47. I am sure I would be able to handle all of the stresses of adjusting to a culture that is new to me.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

48. If necessary, I am able to look anyone in the eye and tell a lie with a straight face.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

49. Making sure that everyone gets along in my team is one of my priorities.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

50. When I am confronted with a problem, I can usually find several solutions.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

51. I would enjoy visiting other cultures that are unfamiliar to me.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

52. I have never hurt another person's feelings.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

53. It is difficult for me to suppress thoughts that interfere with what I need to do.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

54. I am confident that I can get used to the unusual conditions of living in another culture.

Strongly Disagree   **Strongly Agree**

□   □   □   □   □   □

55. I feel uncomfortable when someone's meaning or intention is unclear to me.

Strongly Disagree   **Strongly Agree**

□   □   □   161   □   □   □

56. I tend to get to know my neighbors well.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

57. Even after I've made up my mind about something, I am always eager to consider a different opinion.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

58. When feeling stressed, I'm able to calm myself by thinking of other things.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

59. Our society's ideas of right and wrong may not be right for all people in the world.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

60. When I want to feel less negative emotions (sadness, frustration, or anger), I change what I'm thinking about.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

61. I am able to work well with others to help them find better ways to accomplish their tasks.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

62. When dining out, I like to go to places where I have been before so that I know what to expect.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

63. People have different methods that can be equally successful in solving a problem.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

APPENDIX K:

CULTURAL INTELLIGENCE SCALE

The 20-item four factor CQS (the CQ Scale)

		Strongly Disagree						Strongly Agree

CQ-Strategy:

MC1	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	1 2 3 4 5 6 7
MC2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	1 2 3 4 5 6 7
MC3	I am conscious of the cultural knowledge I apply to cross-cultural interactions.	1 2 3 4 5 6 7
MC4	I check the accuracy of my cultural knowledge as I interact with people from different cultures.	1 2 3 4 5 6 7

CQ-Knowledge:

COG1	I know the legal and economic systems of other cultures.	1 2 3 4 5 6 7
COG2	I know the rules (e.g., vocabulary, grammar) of other languages.	1 2 3 4 5 6 7
COG3	I know the cultural values and religious beliefs of other cultures.	1 2 3 4 5 6 7
COG4	I know the marriage systems of other cultures.	1 2 3 4 5 6 7
COG5	I know the arts and crafts of other cultures.	1 2 3 4 5 6 7
COG6	I know the rules for expressing non-verbal behaviors in other cultures.	1 2 3 4 5 6 7

CQ-Motivation:

MOT1	I enjoy interacting with people from different cultures.	1 2 3 4 5 6 7
MOT2	I am confident that I can socialize with locals in a culture that is unfamiliar to me.	1 2 3 4 5 6 7
MOT3	I am sure I can deal with the stresses of adjusting to a culture that is new to me.	1 2 3 4 5 6 7
MOT4	I enjoy living in cultures that are unfamiliar to me.	1 2 3 4 5 6 7
MOT5	I am confident that I can get used to the shopping conditions in a different culture.	1 2 3 4 5 6 7

CQ-Behavior:

BEH1	I change my verbal behavior (e.g., accent, tone) when a cross-culture interaction requires it.	1 2 3 4 5 6 7
BEH2	I use pause and silence differently to suit different cross-cultural situations.	1 2 3 4 5 6 7
BEH3	I vary the rate of my speaking when a cross-cultural situation requires it.	1 2 3 4 5 6 7
BEH4	I change my non-verbal behavior when a cross-cultural situation requires it.	1 2 3 4 5 6 7
BEH5	I alter my facial expressions when a cross-cultural interaction requires it.	1 2 3 4 5 6 7

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

For additional information see Ang, S., Van Dyne, L., Koh, C. K. S., Ng, K.Y., Templer, K.J., Tay, C., & Chandrasekar, N.A. (in press). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. Management and Organization Review.

APPENDIX L:

DEMOGRAPHICS FORM FOR FINAL VALIDATION STUDY

DEMOGRAPHIC DATA

1. **Basic Demographics:**

   Participant ID: _____ **Age:** _____ **Rank:** _____ **Gender: M   F**

2. **Deployment History (Most recent first):**

Location	Dates	Duration	Rank at Time	Position	MOS	Urban/ Rural

3. **Non-Military International Experiences outside of the U.S.**

Location	Dates	Duration	Position & Purpose (Job, school, etc.)

APPENDIX M:

SUPERVISOR PACKET FOR FINAL VALIDATION STUDY

INSTRUCTION SHEET

Dear Sir or Ma'am:

Thank you for giving us a few minutes of your valuable time today to fill out the attached *Ratings Form*.

Purpose: The purpose of this effort is to predict how an individual might actually perform in cross-cultural encounters (similar to how SAT scores and GPA are good predictors of how a potential student will perform in college). This will enable the Services:

- To better assess the readiness of our forces
- To target training to those skills that help achieve missions in the field
- To assess the effectiveness of cultural training
- To help design more authentic exercises
- To guide the development of future cultural training efforts

Requirement: Each Warfighter (i.e., Soldier, Sailor, Marine, or Airman) has been asked to fill out three surveys that assess characteristics in the civilian realm that have been associated with successful cross-cultural interactions. In order to determine which of these actually *matter* in the military realm, we need you to rate *the extent* to which you observed your warfighter performing each of the 11 behaviors on the following form.

On the *Ratings Form*, please enter the anonymous ID that exactly match the ID your *Warfighter* has on his/her surveys.

Confidentiality: Any and all information you provide is **strictly and completely confidential**. ALL information will be pooled together and no data will be traceable back to any individual. Therefore, please **use the full range (from 1 to 6)** of the scale, wherever necessary.

Please keep this sheet of paper with POC and in case you have any questions or concerns about our research.

POC: Carol Thornson, M.S.
      Cognitive Performance Group
      Orlando, FL
      407-430-2402

RATINGS FORM   *ID of Person Being Rated:_____*

Please indicate **to what extent** you **observed** the following behaviors during deployment by circling a number for each item. Please check "**Not Relevant**" if this dimension was **not relevant to achieving the mission**, and "**1**" if it was **not observed**.

	To NO Extent or NOT Observed					To a GREAT Extent	Not Relevant To Mission
1. Appeared to be non-judgmental during interactions with those of other cultures.	1	2	3	4	5	6	____
2. Showed tolerance of different cultural norms, such as frequent lateness or not following through on promises.	1	2	3	4	5	6	____
3. Consistently displayed respect toward those of other cultures.	1	2	3	4	5	6	____
4. Negotiated with those of other cultures in order to achieve mission success.	1	2	3	4	5	6	____
5. Persuaded foreign citizens to do something, such as perform a task or provide sensitive information.	1	2	3	4	5	6	____
6. Switched strategies mid-course if the current strategy was not working.	1	2	3	4	5	6	____
7. Consistently displayed sensitivity toward cultural practices that are different from his or her own.	1	2	3	4	5	6	____
8. Remained patient (calm and cool-headed) during all cultural encounters regardless of how frustrated she/he may have felt.	1	2	3	4	5	6	____
9. Interacted well with soldiers within his or her own organization.	1	2	3	4	5	6	____
10. Interacted well with others outside of his/her own organization.	1	2	3	4	5	6	____
11. To what extent did this person's interactions with those of other cultures contribute to overall mission success?	1	2	3	4	5	6	____

170

APPENDIX N:

EXPLANATION OF RESEARCH AND INFORMED CONSENT

University of Central Florida

EXPLANATION OF RESEARCH

Title of Project: Validation of the Cross-Cultural Competence Inventory

Principal Investigator: Carol A. Thornson, M.S.

Other Investigators: Barbara Fritzsche, Ph.D. and Huy Le, Ph.D. of the University of Central Florida, and Karol Ross, Ph.D. of Cognitive Performance Group.

Faculty Supervisor: Barbara Fritzsche, Ph.D., University of Central Florida

You are being invited to take part in a research study. Whether you take part is up to you.

- You are being asked to participate in research on cross-cultural competence (3C), defined as the ability to interact effectively with foreign nationals, The DoD has identified 3C DoD as a critical determinant of success in military missions today; therefore, your participation and honest answers are crucial for understanding the role 3C in military missions.

- Your participation will consist of providing demographic information and filling out three surveys. The entire process will take approximately 45 minutes to complete.

- You must be 18 years of age or older to take part in this research study.

Study contact for questions about the study or to report a problem: If you have questions, concerns, or complaints: Carol A. Thornson, Doctoral Candidate, University of Central Florida, Industrial-Organizational Psychology Program, College Sciences, (407) 430-2402 or Dr. Barbara Fritzsche, Faculty Supervisor, Department of Psychology at (407) 823-5350 or by email at bfritzsc@mail.ucf.edu.

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB). This research has been reviewed and approved by the IRB. For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901. Information regarding your rights as a research volunteer may also be obtained from Mr. Jerry Scarpate, IRB Coordinator, Institutional Review Board, by telephone. at (321) 494-2676, or by email at Jerry.Scarpate@patrick.af.mil.

Informed Voluntary Consent to Participate

Please read this consent document carefully before you decide to participate in this study.

You are being asked to participate in research on cross-cultural competence (3C), defined as the ability to interact effectively with foreign nationals, The DoD has identified 3C DoD as a critical determinant of success in military missions today; therefore, your participation and honest answers are crucial for understanding the role 3C in military missions. Your participation will consist of providing demographic information and filling out three surveys. The entire process will take approximately 45 minutes to complete.

Participation in this study is voluntary. If you choose not to participate, this action will not affect your relationship with the Department of Defense and there will be no loss of benefit to which you would otherwise be entitled. If you do decide to participate, you are free to withdraw and discontinue participation at any time without penalty.

Confidentiality of Data: The confidentiality of the information related to your participation in this research will be ensured. Your name will not be directly associated with any data. Further, the information provided throughout participation in this study will be stored in such a way that the data cannot be connected to any individual, thus ensuring privacy. Researchers will combine data collected from you with data collected from other participants and although partial identifiers will be requested, such as rank and deployment history, neither your name nor your SSN will be collected or maintained in the data file. Further, full confidentiality of all individuals will be maintained in data handling and reporting. Your responses will only be viewed by a third party researcher who has NO affiliation with the DoD. The results of this study may be published. However, the data obtained from your responses will be combined with data from others in the publication. The published results will not include your name or any other information that would personally identify you in any way. A copy of any publications resulting from the current study if requested.

Information regarding your rights as a research volunteer may be obtained from:
IRB Coordinator
Institutional Review Board (IRB)
Mr. Jerry Scarpate
Phone: (321) 494-2676
Email: Jerry.Scarpate@patrick.af.mil

Questions about anything having to do with this study can be addressed to:
Carol A. Thornson
Doctoral Candidate, University of Central Florida
Phone: (407) 430-2402
E-mail: cthornson@gmail.com

I have read the procedure described above. I understand all points and agree to participate in the interview process and I have received a copy of this description. I further state and certify that I am at least 18 years of age.

_____   _____
Signature of Participant   Signature of Researcher

_____   _____
Date   **Date**

APPENDIX O:

FUTURE ITERATION OF 3CI (48 ITEMS)

6. I've never known someone I didn't like.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

7. I try to look for a logical explanation or solution to almost every problem.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

8. A job is often successful because you understand the people you're working with well.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

9. When I go shopping, I have no trouble deciding what I want to buy.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

10. I enjoy interacting with people from different cultures.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

11. When I want to feel more positive emotions (happiness or amusement), I change what I'm thinking about.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

12. I've never been late for an appointment.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

13. I can be more successful at my job if I understand what's important to other people.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

14. I'm confident I'd be able to socialize with people from different cultures.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

15. It's often difficult for me to suppress thoughts that interfere with what I need to do.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

16. I could change my verbal behavior (e.g., accent, tone) if a cross-cultural interaction requires it.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

17. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

18. If I have a job to do with other people, I like to get to know them well.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

19. I often control my emotions by changing the way I think about the situation I'm in.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

20. When trying to solve a problem I foresee several long-term consequences of my actions.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

21. I believe that we shouldn't engage in leisure activities.

Strongly Disagree   **Strongly Agree**

☐   ☐   ☐   ☐   ☐   ☐

29. I feel that there's really no such thing as an honest mistake.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

30. I am confident of my ability to communicate well with all kinds of people from all kinds of ethnic and cultural backgrounds.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

31. Making sure everyone gets along in my team is one of my priorities.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

32. When considering most conflict situations, I can usually see how both sides could be right.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

33. I can control my thoughts from distracting me from the task at hand.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

34. I'm sure I'd be able to handle all the stresses of adjusting to a new culture.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

35. When confronted with a problem, I can usually find several different solutions.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

36. I would enjoy visiting other countries that are unfamiliar to me.

Strongly   **Strongly**
Disagree   **Agree**
☐   ☐   ☐   ☐   ☐   ☐

45. Our culture's ideas of right and wrong may not be right for all cultures in the world.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

46. When I want to feel less negative emotions (sadness, frustration, or anger), I change what I'm thinking about.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

47. I'm able to work well with others to help them find better ways to do their job.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

48. People have different methods that are equally successful in solving a problem.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

Disagree

☐ ☐ ☐ ☐ ☐ ☐

Agree

42. If I am in trouble, I find it difficult to think of something to do.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

43. Even after I've made up my mind about something, I'm usually eager to consider a different opinion.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

44. When thinking about a problem, I consider as many different opinions on the issue as possible.

Strongly
Disagree

☐ ☐ ☐ ☐ ☐ ☐

Strongly
Agree

REFERENCES

Abbe, A., Gulick, L. M. V, & Herman, J. L. (2007). *Cross-cultural competence in Army leaders: A conceptual and empirical foundation.* U.S. Army Research Institute for the Behavioral and Social Sciences, Study Report 2008-1. Arlington, VA.

Ali, A., Van der Zee, K., & Sanders, G. (2003). Determinants of intercultural adjustment among expatriate spouses. *International Journal of Intercultural Relations, 27,* 563-580.

Ang, S., Van Dyne, L., & Koh, C. K. S. (2006). Personality correlates of the four-factor model of cultural intelligence. *Group & Organization Management, 31,* 100-123.

Ang, S., Van Dyne, L., Koh, C. K. S., & Ng, K. Y. (2004, August). *The measurement of cultural intelligence.* Paper presented at the 2004 Academy of Management Meetings Symposium on Cultural Intelligence in the 21st Century, New Orleans, LA.

Ang, S., Van Dyne, L., Koh, C. K. S., Ng, K. Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). The measurement of cultural intelligence: Effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review, 3,* 335-371.

Arthur Jr., W., & Bennett, W. (1995). The international assignee: The relative importance of factors perceived to contribute to success. *Personnel Psychology, 48,* 99-114.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* W. H. Freeman: New York.

Bandura, A. (2002). Social cognitive theory in cultural context. *Applied psychology: An international review, 51,* 269-290.

Barrick, M. R., & Mount, M. K. (1991). The Big Five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44,* 1–26.

Bartram, D. (2005). The great eight competencies: A criterion-centric approach to validation. *Journal of Applied Psychology, 90,* 1185–1203.

Bhawuk, D. P. S., & Brislin, R. (1992). The measurement of intercultural sensitivity using the concepts of individualism and collectivism. *International Journal of Intercultural Relations, 16,* 413-436.

Borman, W.C. (1991). *Job behavior, performance, and effectiveness.* I/O Handbook.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco: Jossey-Bass.

Brinkerhoff, D. W., Johnson, R. W., & Hill, R. (2009, June). *Guide to rebuilding governance in stability operations: A role for the military?* PKSOI Papers Series. Carlisle, PA: U.S. Peacekeeping and Stability Operations Institute (PKSOI) and the Strategic Studies Institute (SSI) of the U.S. Army War College.

Buss, D. M. (1991). Evolutionary personality psychology. In M. R. Rosenzweig & L. W. Porter (Eds.), *Annual Review of Psychology*, (Vol. 42, pp. 459-492). Palo Alto, CA: Annual Reviews, Inc.

Caligiuri, P. M. (2000). The big five personality characteristics as predictors of expatriate's desire to terminate the assignment and supervisor-rated performance. *Personnel Psychology, 53,* 67-88.

Caligiuri, P. M., & Day, D. V. (2000). Effects of self-monitoring on technical, contextual, and assignment-specific performance. *Group & Organization Management, 25,* 154-174.

Campbell, J. P. (1990). Modeling the performance prediction problem in Industrial and Organizational Psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology*, (2nd ed., Vol. 1, pp. 687-726). Palo Alto, CA: Consulting Psychologists Press.

Campbell, J. P., McHenry, J. J., & Wise, L. L. (1990). Modeling job performance in a population of jobs. *Personnel Psychology, 43*, 313-333.

Campbell, J. P., McCloy, R. A. Oppler, S. H., & Sager, C. E. (1993). A theory of performance. In N. Schmitt & W. C. Borman (Eds.), *Personnel selection in organizations* (pp. 71-98). San Francisco: Jossey-Bass.

Campbell, J. P., & Pritchard, R. D. (1976). Motivation theory in industrial and organizational psychology. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 63–130). Chicago: Rand McNally College.

Cascio, W. F., & Aguinis, H. (2005). *Applied Psychology in Human Resource Managem*ent (6th ed.). Upper Saddle River, NJ: Prentice-Hall.

Cattell, R. B., (1966). The scree test for the number of factors. *Multivariate Behavioral Research, 1*, 245-276.

Chandler, J. V. (2005). *Why culture matters: An empirically-based pre-deployment training program*. Masters Thesis, Monterey, CA: Naval Postgraduate School.

Clark, L. A., & Watson, D., 1995. Constructing validity: Basic issues in objective scale development. *Psychological Assessment, 7*, 309-319.

Cohen, J., Cohen, P., Aiken, L. S., & West, S. G. (2002). *Applied multiple regression - correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum.

Cohen, R. J., & Swerdlik, M. E. (2002). *Psychological testing and assessment: An introduction to tests and measurement* (5th ed.). New York: McGraw-Hill.

Costa, P. T, Jr., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological Assessment, 4*, 5-13.

Cronbach, L. J., and Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*, 281-302.

Cushner, K. & Brislin, R. (1996). *Intercultural Interactions: A Practical Guide.* CA: Sage.

Dalton, M., & Wilson, M. (2000). The relationship of the Five-Factor model of personality to job performance for a group of Middle Eastern expatriate managers. *Journal of Cross-Cultural Psychology, 31,* 250-258.

Davis, S. L., & Finney, S. J. (2006). A factor analytic study of the cross-cultural adaptability inventory. *Educational and Psychological Measurement, 66,* 318-330.

Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology, 41*, 417-440.

Dunn, T. W., Smith, T. B., & Montoya, J. A. (2006). Multicultural competency instrumentation: A review and analysis of reliability generalization. *Journal of Counseling and Development, 84,* 471-482.

Earley, P. C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures.* Palo Alto, CA: Stanford University Press.

Earley, P. C., & Peterson, R. S. (2004). The elusive cultural chameleon: Cultural intelligence as a new approach to intellectual training for the global manager. *Academy of Management Learning and Education, 3*, 100-115.

Fantini, A. E. (1995). Language, culture and world view: Exploring the nexus. *International Journal of Intercultural Relations, 19*, 143-153.

Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior, 21*, 219-239.

Funder, D. C. (1989). Accuracy in personality judgment and the dancing bear. In D. M. Buss & N. Cantor (Eds.), *Personality psychology: Recent trends and emerging directions* (pp. 210-223). New York: Springer-Verlag.

Gangestad, S. W., & Snyder, M. (2000). Self-monitoring: Appraisal and reappraisal. *Psychological Bulletin, 126*, 530-555.

Gompert, D. C., Lachow, I., & Perkins, J. (2005). *Battle wise: Gaining advantage in networked warfare.* Washington, DC: National Defense University, Center for Technology and National Security Policy.

Gorsuch, R. L. (1983). *Factor analysis.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well being. *Journal of Personality and Social Psychology, 85,* 348–362.

Hammer, M. R., Bennett, M. J., & Wiseman, R. L. (2003). Measuring intercultural sensitivity: The Intercultural Development Inventory. *International Journal of Intercultural Relations, 27,* 421–443.

Haney, C., Banks, W. C., & Zimbardo, P. G. (1973). Interpersonal dynamics in a simulated prison. *International Journal of Criminology and Penology, 1,* 69–97.

Hannigan, T. P. (1990). Traits, attitudes, and skills that are related to intercultural effectiveness and their implications for cross-cultural training: A review of the literature. *International Journal of Intercultural Relations, 14*, 89-111.

Harrison, J. K., Chadwick, M. & Scales, M. (1996). The relationship between cross-cultural adjustment and the personality variables of self-efficacy and self-monitoring. *International Journal of Intercultural Relations 20*, 167–185.

Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of Management, 21*, 967-988.

Hofstede, G. (2003). *Culture's consequences* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Hunter, J. E., Schmidt, F. L., & Le, H. (2006). Implications of direct and indirect range restriction for meta-analysis methods and findings. *Journal of Applied Psychology, 91*, 594-612.

Ilgen, D. R., & Hollenbeck, J. R. (1991). The structure of work: Jobs and roles. In M. D. Dunnette, & L. M. Hough (Eds.). *Handbook of industrial and organizational psychology* (2nd ed., Vol. 2, pp. 165-208). Palo Alto, CA: Consulting Psychologists Press.

Imai, L., & Gelfand, M. J. (2010). The culturally intelligent negotiator: The impact of cultural intelligence (CQ) on negotiation sequences and outcomes. *Organizational Behavior and Human Decision Processes,112*, 83-98.

Jöreskog, K. G., & Sörbom, D. (1999). *LISREL 8.30 and PRELIS 2.30.* Chicago: Scientific Software International.

Kelley, C., & Meyers, J. (1995). *The cross-cultural adaptability inventory (manual).* Minneapolis, MN: National Computer Systems.

Klein, H. A. (2004). Cognition in Natural Settings: The Cultural Lens Model. In M. Kaplan (Ed.). *Cultural ergonomics: Advances in human performance and cognitive engineering research* (Vol. 4, pp. 249-280). Amsterdam: Elsevier Press Ltd.

Klein, H. A., Pongonis, A., & Klein, G. (2000, June). *Cultural barriers to multinational C2 decision making.* Presented to the 2000 Command and Control Research and Technology Symposium, Monterey, CA.

Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing." *Psychological Review, 103*, 263-283.

Krulak, C. C. (1999, Jan.). *The Strategic Corporal: Leadership in the Three Block War.* Retrieved from the Web October 2, 2009. Available from: http://www.au.af.mil/au/awc/awcgate/usmc/strategic_corporal.htm

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* New York: Springer-Verlag.

Lievens, F. Harris, M. M., Van Keer, E., & Bisqueret, C. (2003). Predicting cross-cultural training performance: The validity of personality, cognitive ability, and dimensions measured by an assessment center and a behavior description interview. *Journal of Applied Psychology, 88,* 476-489.

Majumdar, B., Keystone, J. S., & Cuttress, L. A. (1999). Cultural sensitivity training among foreign medical students. *Medical Education, 33*, 177-184.

Maslach, C. (1982). Burnout: The cost of caring. New York: Prentice-Hall.

Matsumoto, D., LeRoux, J., Ratzlaff, C., Tatani, H., Uchida, H., Kim, C., & Araki, S. (2001). Development and validation of a measure of intercultural adjustment potential in

Japanese sojourners: the Intercultural Adjustment Potential Scale (ICAPS). *International Journal of Intercultural Relations, 25,* 483-510.

Matsumoto, D., LeRoux, J. A., Iwamoto, M. Choi, J. W., Rogers, D., Tatani, H., & Uchida, H. (2003). The robustness of the Intercultural Adjustment Potential Scale (ICAPS): The search for a universal engine of adjustment. *International Journal of Intercultural Relations, 27,* 543-562.

Matsumoto, D., LeRoux, J. A., Bernhard, R., & Gray, H. (2004). Unraveling the psychological correlates of intercultural adjustment potential. *International Journal of Intercultural Relations, 28,* 281-309.

Matthews, G., Zeidner, M., & Roberts, R. D. (2002). *Emotional intelligence: Science and myth.* Cambridge, MA: MIT Press.

Mayer, J. D., Caruso, R. R., & Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. *Intelligence, 27*, 267-298.

McCroskey, J. C. (1992). Reliability and validity of the Willingness to Communicate Scale. *Communication Quarterly, 40,* 16-25.

McGinn, G. H., Weaver, N. E., McDonald, D. M., Van Driel, M., & Hancock, P. A. (2008, April). *Strategic perspectives on developing language, regional and cultural capabilities.* Paper presented at the RTO Human Factors and Medicine Panel (HFM) Symposium, Copenhagen, Denmark.

Mol, S. T., Born, M. P., Willemsen, M. E., & Van der Molen, H. T. (2005). Predicting expatriate job performance for selection purposes: A quantitative review. *Journal of Cross-Cultural Psychology, 36,* 590-620.

Mount, M., K., & Barrick, M. R. (1995). The Big Five personality dimensions: Implications for research and practice in human resource management. *Research in Personnel and Human Resources Management, 13,* 153-200.

Naylor, J. C., Pritchard, R. D., & Ilgen, D. R. (1980). *A theory of behavior in organizations.* New York: Academic Press.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric Theory* (3rd ed.). New York: McGraw Hill.

Olson, C. L., & Kroeger, K. R. (2001). Global competency and intercultural sensitivity. *Journal of Studies in International Education, 5,* 116-137.

186

Palthe, J. (2004). The relative importance of antecedents to cross-cultural adjustment: Implications for managing a global workforce. *International Journal of Intercultural Relations, 28*, 37-59.

Pritchard, R. D., Harrell, M. M., DiazGranados, D. & Guzman, M. J. (2008). The productivity measurement and enhancement system: A meta-analysis. *Journal of Applied Psychology, 93*, 540-567.

Pritchard, R. D., & Ashwood, E. L. (2008). *Managing motivation: A manager's guide to diagnosing and improving motivation*. New York: Erlbaum/Psychology Press.

Ross, K. G. (2008, May). *Toward an operational definition of cross-cultural competence from interview data.* Patrick AFB, FL: Defense Equal Opportunity Management Institute (DEOMI).

Ruben, B. D. (1976). Assessing communication competency for intercultural adaptation. *Group & Organization Management, 1*, 334-354.

Rust, J., & Golombok, S. (1989). *Modern psychometrics: The science of psychological assessment.* Florence, KY: Taylor & Frances/Routledge.

Schmidt, F. L., & Hunter, J. E. (2000). *Select on intelligence*. In E.A. Locke (Ed.), *The Blackwell handbook of organizational principles* (pp. 3-14). Oxford: Blackwell.

Schwarzer, R., & Jerusalem, M. (1995). Generalized self-efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35–37). Windsor, UK: Nfer-Nelson.

Selmeski, B. R. (2007). *Military cross-cultural competence: Core concepts and individual development*. Kingston: Royal Military College of Canada Centre for Security, Armed Forces, & Society.

Shaffer, M. A., Harrison, D. A., Gregerson, H., Black, J. S., & Forzani, L. A. (2006). You can take it with you: Individual differences and expatriate effectiveness. *Journal of Applied Psychology, 91,* 109-125.

Sinicrope, C., Norris, J. M., & Watanabe, Y. (2007). Understanding and assessing intercultural competence: A summary of theory, research, and practice. *Second Language Studies, 26,* 1-58.

Sizoo, S. L., & Serrie, H. (2004). Developing cross cultural skills of international business students: An experiment. *Journal of Instructional Psychology, 31,* 160-166.

Smith, M. B. (1966). Explorations in competence: A study of Peace Corps teachers in Ghana. *American Psychologist, 21*, 555-566.

Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology, 30,* 526-537.

Sternberg, R. J. (1986). A framework for understanding conceptions of intelligence. In R. J. Sternberg & D. K. Detterman (Eds.), *What is intelligence? Contemporary viewpoints on its nature and definition* (pp. 3-15). Norwood, NJ: Able.

Stringer, K. D. (2009, February-March). Educating the strategic corporal: A paradigm shift. *Military Review* (pp. 87-95). The Combined Arms Center: Fort Leavenworth, KS.

Takeuchi, R., Tesluk, P. E., Yun, S., & Lepak, D. P. (2005). An integrative view of international experience. *Academy of Management Journal, 48,* 85-100.

Takeuchi, R., Yun, S., & Russell, J. E. (2002). Antecedents and consequences of the perceived adjustment of Japanese expatriates in the USA. *The International Journal of Human Resource Management, 13,* 1224-1244.

Templer, K. J., Tay, C., & Chandrasekar, N. A. (2006). Motivational cultural intelligence, realistic job preview, realistic living conditions preview, and cross-cultural adjustment. *Group & Organization Management, 31*, 154-173.

Triandis, H. C. (1996). The psychological measurement of cultural syndromes. *American Psychologist, 51*, 407-415.

Triandis, H. C., Leung, K., Villareal, M. J., & Clack, F. L. (1985). Allocentric versus idiocentric tendencies: Convergent and discriminant validation. *Journal of Research in Personality, 19,* 395-415.

U.S. Peace Corps. (1997). *Culture Matters: The Peace-Corps Cross-Cultural Handbook/ Workbook*. Washington DC: Government Printing Office.

Van der Zee, K. I., & Van Oudenhoven, J. P. (2000). The Multicultural Personality Questionnaire: A multidimensional instrument of multicultural effectiveness. *European Journal of Personality,14,* 291-309.

Van der Zee, K. I., & van Oudenhoven, J. P. (2001). The Multicultural Personality Questionnaire: Reliability and validity of self and other ratings of multicultural effectiveness. *Journal of Research in Personality, 35*, 278-288.

Van Oudenhoven, J. P., Mol, S., & Van der Zee, K. I. (2003). Study of the adjustment of western expatriates in Taiwan ROC with the Multicultural Personality Questionnaire. *Asian Journal of Social Psychology, 6*, 159-170.

Van Oudenhoven, J. P., & Van der Zee, K. I. (2002). Predicting multicultural effectiveness of international students: The Multicultural Personality Questionnaire. *International Journal of Intercultural Relations, 26,* 679–694.

Van Oudenhoven, Van der Zee, & Van Kooten, M. V. (2001). Successful adaptation strategies according expatriates. *International Journal of Intercultural Relations, 25*, 467–482.

Vroom, V. H. (1964). *Work and motivation*. New York: Wiley.

Wang, Y. W., Davidson, M. F., Yakushko, O. F., Savoy, H. B., Tun, J. A., & Bleiern, J. K. (2003). The Scale of Ethnocultural Empathy: Development, validation, and reliability. *Journal of Counseling Psychology, 50*, 221–234.

Ward, C., Fischer, R., Lam, F. S. Z., & Hall, L. (2009). The convergent, discriminant, and incremental validity of scores on a self-report measure of cultural intelligence. *Educational and Psychological Measurement, 69*, 85-105.

Webster, D. M., & Kruglanski, A. W. (1994). Individual differences in need for cognitive closure. *Journal of Personality and Social Psychology, 67*, 1049–1062.

Williams, T. R. (2005). Exploring the impact of study abroad on students' intercultural communication skills: Adaptability and sensitivity. *Journal of Studies in International Education, 9*, 356-371.

Wu, S., & Keysar, B. (2007). The effect of information overlap on communication effectiveness. *Cognitive Science, 3,* 169–181.

Yoo, S. H., Matsumoto, D., & LeRoux, J. A. (2006). The influence of emotion recognition and emotion regulation on intercultural adjustment. *International Journal of Intercultural Relations, 30*, 345-363.

Zbylut, M. R., Metcalf, K. A., McGowan, B., Beemer, M., Brunner, J. M., & Vowels, C. L. (2009, June). *The human dimension of advising: Descriptive statistics for the cross-cultural activities of transition team members.* Fort Leavenworth, KS: U.S. Army Research Institute for the Behavioral and Social Sciences.