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Exploring cultural intelligence: an exploratory study of the impact of cultural intelligence on team effectiveness in a multinational, organization development graduate program

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EXPLORING CULTURAL INTELLIGENCE: AN EXPLORATORY STUDY OF THE IMPACT OF CULTURAL INTELLIGENCE ON TEAM EFFECTIVENESS IN A MULTINATIONAL, ORGANIZATION DEVELOPMENT GRADUATE PROGRAM

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Abstract

This exploratory study focused on the impact of cultural intelligence (CQ) on team effectiveness (TE) in a multinational, organization development graduate program. This field study included preliminary measures of both CQ and TE, an educational and focus group intervention for enhanced CQ skills, and post-CQ and TE reassessment. The results suggest that CQ skills, specifically Metacognitive CQ and Behavioral CQ, had a positive relationship on a team's ability to meet objectives and satisfy customers' needs in cross-cultural engagements. Curiously, Metacognitive CQ seemed to have diminished a team's ability to deliver results in a timely manner. Demographics such as age negatively influenced goal achievement, while past cultural experiences enhanced execution. The longitudinal aspect of the study found that only improved Cognitive CQ's capability over time correlated to a positive impact on perceived satisfaction of customers and quality of products and services delivered. The education intervention's effect on CQ was inconclusive.

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Chapter 1: Introduction

The purpose of this exploratory study is to examine the impact of cultural intelligence (CQ) on team effectiveness (TE) in a multinational, organization development graduate program environment. The participants of this study were the students of the 2012 class of Pepperdine University's Master of Science in Organization Development (MSOD) program. It is intended that outcomes from this study will be used to improve the MSOD program at Pepperdine University and contribute to the growing body of research on CQ.

Globalization can be defined as "the large-scale, interactive social process in which people increasingly interrelate, communicate, and work in an increasingly culturally diverse workplace, both within and outside the organization" (Earley, Ang, & Tan, 2006, p. 1). According to Friedman, while the first two "versions" of globalization focused on companies, the third phase will center on the individual:

> Globalization 3.0—the force that gives it its unique character—is the newfound power for individuals to collaborate and compete globally. And the phenomenon that is enabling empowering, and enjoining individuals and small groups to go global so easily and so seamlessly is what I call the flat-world platform. (2007, p. 10)

This "flattening" of the global playing field will continue to evolve and intensify due to accelerated growth of personal computing power, high-speed connectivity, and use of workflow software (Friedman, 2007).

There is compelling data that would suggest that Asia will continue to be a favored offshore location for services. In relative purchasing power, the Asia region will grow by 50% within the next five years and will be comparable to the economies of the United States and Europe. In addition, Asia's gross domestic product will exceed the top seven industrial economies, or G-7, by 2030 (Singh, 2010). Per *The Economist*, over half of 1,000 executives polled from around the world believe Asia represents the greatest opportunity for revenue growth, and nearly 60% believe it to be an excellent region for utilizing services, people, and production (Economist Intelligence Unit, 2007).

With this rapid globalization comes the challenge of integrating diverse cultures which have their own histories, traditions, norms, values, and worldviews. This diversity represents both an

opportunity and a challenge for leaders and their organizations. Research suggests that diversity can positively impact a team's ability to creatively solve problems and develop impactful solutions; however, there is evidence that would suggest that, to the contrary, the same diversity can impede a team's ability to communicate, concur on goals, and formulate common norms of behavior (Adler, 2008; Davison, 1994; Earley & Mosakowski, 2000; Gluesing et al., 2003; Maloney & Zellmer-Bruhn, 2006; Shachaf, 2008; Staples & Zhao, 2006).

Organization development consultants and managers require cultural knowledge and skills to ensure the organizations in which they serve can be effective in this new "globalized" business environment. With its emphasis on training and hands-on application of organization development knowledge and skills in the United States and abroad, the MSOD program provides a meaningful environment to examine if improvements in CQ knowledge and skills can enhance TE in cross-cultural scenarios.

Heretofore, the MSOD program focused on cross-cultural training for its students through current cross-cultural literature and organization development experiences in foreign countries. Core to the MSOD program is the notion that all organization development practitioners are "global citizens" and need skills that transcend the culture in which they were socialized to be successful. While providing a rich learning experience and access to online cultural tools such as culture assimilators to assist students in culture-specific knowledge (norms, beliefs, gestures ascribed to a single given country), there was an absence of training or tools for *adaptability* across multiple cultures.

Cultural Intelligence

The intelligence quotient (IQ), commonly referred to as "g," or the capacity for learning, analytical reasoning, understanding facts and their meanings, along with solving problems, has been a measure of intelligence for nearly 100 years. In more recent years, however, other forms of "intelligences" have been postulated, such as emotional intelligence and social intelligence. Emotional intelligence emphasizes the aptitude for emotional self-awareness and self-management (Goleman, 2006). According to Mayer and Salovey, "Emotional intelligence is a type of social intelligence that involves the ability to monitor one's own and others' emotions, to discriminate

among them, and to use the information to guide one's thinking and actions" (1993, p. 433). Social intelligence, however, is a broadening of the emotional intelligence model to incorporate "social awareness and facility," such as knowledge of social dynamics, synchronizing nonverbal communications for successful interactions, influencing social interaction outcomes, and demonstrating concern for other's needs (Goleman, 2007). Per Marlowe, "Social Intelligence is the ability to understand the feelings, thoughts, and behaviors of persons, including oneself, in interpersonal situations and to act appropriately upon that understanding" (1986, p. 52).

Building on the foundations of "multiple intelligences" focuses on the learnable skills that enhance one's adaptation and effectiveness within cross-cultural situations (Gardner, 2011, p. 9). CQ centers on the development of a suite of skills usable in a multitude of cultural settings, rather than the knowledge of just one culture (Janssens & Cappellen, 2008).

Introduced by Early and Ang, CQ can be defined as ''a person's capability to adapt effectively to new cultural contexts*"* (2003, p. 59). CQ is developmental in nature, meaning that it is as much a *philosophy* as a *model* of learning and iterative application relevant to culturally challenging situations. Per Ang and Van Dyne, "CQ is malleable and can be enhanced through experience, education, and training; CQ is a specific, state-like, individual capability within the larger domain of individual differences" (2008, p. 8). This set of cross-cultural skills is useful in a plethora of organization development consultant and client interactions, internationally (such as short-term business trips or global virtual teams) and domestically (multinational teams or MNTs, for example).

Research Purpose

The purpose of this exploratory study is to examine the impact of CQ on TE in multinational, organization development graduate program environments. It is intended that outcomes from this study will be used to improve the MSOD program at Pepperdine University.

Research Question

The question this paper addresses is as follows: Within a multinational, organization development graduate program environment, what is the relationship between CQ and TE?

Hypotheses

This study posited a relationship between CQ and TE in multinational, organization development graduate program environments. Based on the research design, the core hypotheses tested were as follows:

Hypothesis H_0 (Null Hypothesis): There is no statistically significant relationship between CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_A (Alternative Hypothesis): There is a statistically significant relationship between CQ and TE in multinational, organization development graduate program environments.

In addition to the main hypothesis, a series of sub-hypotheses tested for additional relationships between CQ dimensions and TE attributes:

Hypothesis H_{01} (Null Hypothesis): There is no statistically significant relationship between Motivational CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{A1} (Alternative Hypothesis): There is a statistically significant relationship between Motivational CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{02} (Null Hypothesis): There is no statistically significant relationship between Behavioral CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{A2} (Alternative Hypothesis): There is a statistically significant relationship between Behavioral CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{03} (Null Hypothesis): There is no statistically significant relationship between Cognitive CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{A3} (Alternative Hypothesis): There is a statistically significant relationship between Cognitive CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{04} (Null Hypothesis): There is no statistically significant relationship between Metacognitive CQ and TE in multinational, organization development graduate program environments.

Hypothesis H_{A4} (Alternative Hypothesis): There is a statistically significant relationship between Metacognitive CQ and TE in multinational, organization development graduate program environments.

Utilizing this new construct called CQ, the cross-cultural adaptability of students within the MSOD program was assessed. Simultaneously, an evaluation of TE was performed to determine correlations between CQ skills and TE (Gibson, Zellman-Bruhn, & Schwab, 2003). This will add to the body of research regarding CQ in graduate programs. The theoretical framework depicting the independent and dependent variables is provided in Figure 1.

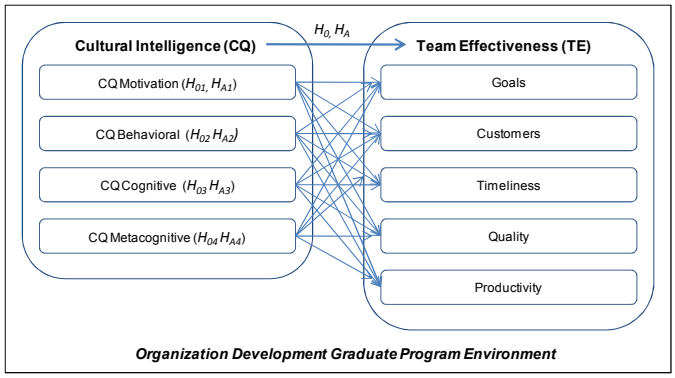


Figure 1

Theoretical Framework for Study

The study involved two components: (a) developing a survey that combines the Cultural Intelligence Scale, TE assessment, along with demographic data and (b) performing a training and focus group intervention to determine the relationship between the survey data and the CQ skills which impact TE.

Importance of Research

Understanding the impact of CQ on TE in multinational, organization development graduate program environments will assist in the continued evolution of higher education to meet

relevant global business requirements. Establishing a relationship between CQ skills and specific TE attributes and identifying related CQ and organization development best practices could potentially enhance the capacity of organization development practitioners and professionals to manage cross-cultural team challenges more successfully. By leveraging CQ as a fundamental development tool to elevate cross-cultural engagement in an organization development graduate program, this study could serve as an impetus for similar CQ integration into other organization development programs.

Research Setting

The 28 students within Pepperdine University's 2012 MSOD class were the subjects of this research. Students studied organization development and applied its practices in the United States, France, Costa Rica, and China throughout their program. The work that was measured as part of the study focused on the student's client system intervention projects during the Costa Rica and China class sessions. For the purpose of this study, the definition for an intervention was adopted per Cummings and Worley as "a set of sequenced planned actions or events intended to help an organization increase its effectiveness" (2009, p. 151). The study assessed both CQ dimensions and TE attributes post-client system intervention project completion to determine if there was a consequential relationship.

Thesis Outline

The purpose of this introduction was to substantiate the need to explore the impact of CQ on work TE in an organization development graduate program environment and to present the value this study engenders to the body of research regarding CQ. Chapter 2 reviews existing research and relevant literature regarding CQ, TE, and the current thinking regarding the use of CQ in graduate program environments. Chapter 3 outlines the research design; the research methods employed, such as survey method, sampling methodology, definition of variable, focus group, and interview protocols; and the data analysis procedures.

Focused on the quantitative and qualitative research of the hypotheses tested via the survey and employee feedback, chapter 4 provides the analysis and results from this research.

Finally, chapter 5 provides the study's conclusions, recommendations, limitations, and suggested areas for further research.

Chapter 2: Literature Review

The review of relevant literature regarding CQ and TE will provide a general overview of the following topics: multiple intelligences, CQ and related research, TE and associated research, and CQ and work team effectiveness research.

To explore the union of CQ and work TE in multinational companies, first it is necessary to arrive at an amenable definition of culture. In his seminal work on cultural values, Hofstede defined culture as "a collective programming of the mind that distinguishes the members of one group or category of people from others" (2010, p. 6). He further clarified the layers of culture and their uniqueness as mental programs, from the entire human race as the least unique, biological operating system, to the most unique, the individual. The collective level—where mental programming is shared by a portion of people but not all—creates the differences between groups with regard to languages, distance, perceptions, or worldviews (Hofstede, 1980). Culture manifests itself in the form of symbols, heroes, rituals, and values according to Hofstede (2010), with national cultural values exhibited in several dimensions:

1. Power distance, or the equitable distribution of power within an organization
2. Individualism versus collectivism, or the degree to which a society has strong or weak ties between individuals and groups or cohesive in-groups and out-groups
3. Feminine versus masculine, or society's orientation towards assertiveness and toughness compared to modesty, tenderness, and quality of life
4. Uncertainty avoidance, or the level of risk aversion or comfort with ambiguous situations
5. Long-term versus short-term orientation, or the emphasis of personal resolve and frugality versus tradition and satisfying communal obligations
6. Indulgence versus restraint, where one compares more immediate gratification of human desires with limiting and regulating such activities through group norms

Hofstede's cultural values framework provides a means by which to measure cross-cultural differences within MNTs.

Multiple Intelligences

CQ had its genesis in the concept of *multiple intelligences*. Gardner postulated the concept of multiple intelligences as "frames of the mind." He argued that

> the conviction that there exist at least some intelligences, that these are relatively independent of one another, and that they can be fashioned and combined in a multiplicity of adaptive ways by individuals and cultures, seems to me to be increasingly difficult to deny. (2011, p. 9)

Gardner's definition of intelligence, as the ability to "solve problems or to create products that are valued in one or more cultural settings" (p. 43), was the impetus for Sternberg's subsequent work on intelligences. Sternberg and Detterman's Triachic Model of Intelligence presumes the existence of three different loci of intelligence: "Intelligence within the individual, intelligence within the environment, and intelligence within the interaction between individual and the environment" (Sternberg, 1986, p. 3). This model served as a cornerstone for the development of the CQ model. Sternberg further theorized the existence of three types of intelligence: *metacognitive,* or strategizing in order to solve problems, using cognition to change one's metacognitive perspective to accommodate a given situation; *motivational,* or the degree of motivation and its direction; and *behavioral*, or what a person actually does, versus mental functioning. He further argued that intelligence is culture bound and that "it is impossible to understand intelligence without understanding the culture" (1986, p. 8).

Emotional intelligence and social intelligence warrant distinction from CQ. Ang and Van Dyne argued that

> EQ differs from CQ because it focuses on the general ability to perceive and manage emotions without consideration of cultural context . . . thus, EQ is culture bound, and a person who has high EQ in one cultural context may not be emotionally intelligent in another culture. (2008, p. 9)

Earley and Ang added, "Cultural Intelligence is a superordinate construct to social and emotional intelligence. It provides for a level of metacognition not adequately recognized by existing social and emotional intelligence research" (2003, p. 257). Thus, based on the theory of multiple intelligences and understanding intellect within a cultural context, CQ can be considered a special form of intelligence able to explain the differences in effective functioning within a novel cultural situation (Ang & Van Dyne, 2008).

Cultural Intelligence

CQ was originally defined as ‘‘a person’s capability to adapt effectively to new cultural contexts*”* by Earley and Ang *(*2003, p. 59). Subsequent authors have amplified the definition of CQ, such as Sternberg who suggested that

> CQ is a matter of learning the tacit knowledge of a culture and applying a broad repertoire of skills relevant in a given cultural setting. A culturally intelligent person understands that the skills needed for adaptive performance differ across cultures. In a sense, then, CQ is a practical intelligence flexibly applied across cultural settings. (2008, p. 314)

Similar definitions for CQ have been espoused by other authors, suggesting that CQ is not a personality trait but, rather, a set of cultural adaptability skills (Ng & Earley, 2006) or a system of knowledge and skills by which people adapt and effectively “shape” their cultural environment (Thomas et al., 2008).

Originally designed as a three-dimensional model, Earley and Ang posited that

> CQ can be thought to consist of three fundamental components: *Cognitive*, or a person’s ability to develop patterns from cultural cues; *motivational*, or a person’s desire and directed effort to engage others and follow through; and *behavioral*, or a person’s capability to appropriately enact selected behavior in accordance with cognition and motivation. (2003, p. 12)

Metacognitive was a sub-dimension within the cognitive dimension and was defined as “thinking about thinking” (2003, p. 100) or the ability to adjust one’s thinking based on new information from cross-cultural experience.

Consolidating the fragmented intercultural competency research, the original construct was further developed into “a theoretical and parsimonious framework that comprises four capabilities” or dimensions (Ng, Van Dyne, & Ang, 2009b, p. 514). Metacognitive was later added to the model as “the higher-order mental capability to think about personal thought processes, anticipate cultural preferences of others, and adjust mental models during and after intercultural experiences” (Flaherty, 2008, p. 193). Thus, the model was further refined, composed now of four dimensions, and its core characteristics clarified:

1. CQ Motivational, based on the expectancy-value theory of motivation, focuses on the desire and confidence to adapt to cultural challenges
2. CQ Cognitive, highlighting knowledge of cultural systems, norms, and values

3. CQ Metacognitive, also known as CQ Strategy, or the honing of strategizing, interpreting, and modifying cultural planning and behaviors
4. CQ Behavioral, encompassing all actions including verbal and non-verbal communications performed in a cultural setting (Ang et al., 2007).

These four dimensions were further subdivided and augmented as follows:

1. CQ Motivational involved *intrinsic* motivation, or the degree to which someone enjoys culturally diverse situations; *extrinsic* motivation, which relates to the tangible benefits gained from culturally diverse situations (for example, new experiences, pay raises); and *self-efficacy,* or confidence during culturally challenging situations proving paramount to success in other cultures.
2. CQ Cognitive encompassed *cultural systems* which address how a society satisfies its population's needs and cultural norms and values—perceived differences in time, authority, and relationships.
3. CQ Metacognitive's definition was expanded to include strategic *planning,* being *aware* or mindful, and *checking* the impact of actions in a cross-cultural situation.
4. CQ Behavioral was extended to mean the ability to use the appropriate words and phrases, verbal *and non-verbal communications*, facial expressions, gestures, and eye contact, or what are referred to as *speech acts* (Livermore, 2010; Van Dyne, Ang, Ng, Rockstuhl, Tan, & Koh, 2012).

It is this refined and clarified four-dimensional CQ model that is the framework by which the MSOD students were assessed.

Cultural Intelligence Research

While CQ is a nascent construct and research is relatively new, some theorists have suggested that CQ has a number of compelling positive impacts: the ability to differentiate cultural patterns from the particular actions of individuals (Earley et al., 2006); enhancing the capacity to drive organizational change (Earley & Ang, 2003); improving perceptions of executives abroad (Mannor, 2008); and increasing confidence, intercultural engagement, and flexibility of global leaders (Ng, Van Dyne, & Ang, 2009b, p. 521).

Field research on CQ provides some confirmation of its positive impacts on a plethora of cross-cultural scenarios. For example, there is some evidence that CQ Metacognitive and CQ Cognitive have a positive relationship to cross-cultural judgment and decision making, cultural adaptation, and task performance (Ang et al., 2007), while CQ Motivational and CQ Behavioral positively related to effective interaction and mental well-being in cross-cultural settings (Van Dyne, Ang, & Koh, 2008). In other studies, CQ had a positive influence on performance for international assignments (Kim, Kirkman, & Chen, 2008), whereas CQ Motivational was a predictor of cross-cultural adjustment (Templar, Tay, & Chandrasekar, 2006) and a key contributor to success aboard in foreign country acclimation, cultural interaction, and work adjustment (Shrinivas, Harrison, Shaffer, & Luk, 2005). In yet another study, CQ Motivational enhanced negotiation skills in cross-cultural settings (Imai & Gelfand, 2010). Moreover, CQ was determined to have a positive impact on adjustment to novel environments where social assumptions, values, and traditions differed (Oolders, Chernyshenko, & Stark, 2008). And a study on the impact of CQ on short-term business travel found that CQ Cognitive decreases short-term business travelers' burnout (Tay, Westman, & Chia, 2008).

Research regarding CQ and foreign teams, while scant, showed some real promise. For instance, Rockstuhl and Ng (2008) studied the impact of cultural diversity on interpersonal trust and found evidence that CQ Metacognitive and CQ Cognitive can improve trust between cross-cultural partners and lessen the negative impact of social categorization or stereotyping. Likewise, Flaherty (2008) studied six MNTs and found a relationship between CQ Motivational (team and individual) and team acceptance and integration times, suggesting that as CQ increased, so did the time for members to be accepted and integrated.

Team Effectiveness

The literature regarding TE clarifies the challenges and antecedents for success, provides MNT team models and theories of group dynamics, and offers a definition of specialized team forms such as global virtual teams. However, in order to fortify an understanding of work TE, a working definition of an MNT needs to be developed for this study.

The literature has many terms for teams comprised of members from different countries and cultures: global teams, global virtual teams, multicultural teams, MNTs, and so forth. According to Earley and Gibson (2002), "a multinational team is a specific type of this more general form of team insomuch as members must come from two or more different national or cultural backgrounds" (2002, p. 3). Defining global teams, Maloney and Zellmer-Bruhn (2006) stated that

> Global teams are teams made up of people from different parts of a multinational organization working together to achieve a team-specific mandate that is global in its scope. Two characteristics differentiate global teams from other types of teams: (1) deliberate and collateral heterogeneity on multiple dimensions (demographic, nationality, culture, gender, age, function, expertise, organizational culture, power from revenue), and (2) a globally dispersed work environment. (2006, p. 698)

Moreover, global MNTs usually perform complicated work that impacts more than a single organization or country using the advantages of heterogenic team composition (Janssens & Brett, 2006).

For purposes of this study, the following working definition of an MNT will be utilized: *A team in which members come from different countries and cultures; heterogenic in composition; and having a shared purpose, goals, boundaries, and work product or service*.

The challenges MNTs face are when, for example, convergent processes—those processes necessary for a team to coalesce around a common action or direction—are hindered because of differences in communications (Adler, 2008, pp. 102-103). These differences in the communications can be exacerbated when team members' internal "scripts and schemas are incorrectly applied," leading to misunderstandings, misperceptions, and misattributions concerning others' actions and behaviors (Bird & Osland, 2005, p. 117). These communication problems can cause MNTs interpersonal conflict, lack of team trust, poor integration from process loses, and overall lower TE (Davison, 1994; Earley & Mosakowski, 2000; Gluesing et al., 2003; Maloney & Zellmer-Bruhn, 2006; Shachaf, 2008; Staples & Zhao, 2006). In fact, in one study, homogenous groups outperformed heterogenic groups, especially in complex tasks: "in complex tasks and when an overall assessment of performance is employed . . . homogenous groups often demonstrate superior performance" (Thomas, 1999, p. 257).

Conversely, other research suggests that MNTs, if managed well, can outperform teams with homogeneity. Because heterogenic teams have such a rich, diverse set of worldviews and knowledge and skills, their ability to innovate, be flexible, and perform problem solving is greatly enhanced (Adler, 2008; Shachaf, 2008; Staples & Zhao, 2006).

Maloney and Zellmer-Bruhn (2006) suggested that if leaders deliberately design heterogeneity (members from more than one country or culture) and commonality of profession (for example, engineers, artists, etc.) into the composition of MNTs, "swift norms" would form, leading to better performance (2006, p. 709). These *swift norms* act to quickly bond the team members and can be reinforced over time by consistency of team member actions towards one another. Specifically, these authors proposed that

> if teams knew ahead of time to take steps such as: 1) initiate early and enthusiastic communication with other team members; 2) delineate responding norms up front . . . ; or 3) share information on national holidays and travel schedules up front, swift norms could be created early in the team's life. (2006, p. 709)

Team Models and Theories

There are various theories which attempt to elucidate the complex dynamics within MNTs, such as self-verification, social identity, self-categorization, and social loafing theories.

Self-verification theory proposes that there is a process for negotiating equilibrium between a team member's idiosyncratic perspectives and the team's shared identity. Maloney and Zellmer-Bruhn (2006) asserted that self-verification theory can create a means for both the shared and personal views to co-exist and that the degree to which team members' perspectives are accepted allows the group to achieve greater integration (2006, pp. 698-703).

Social identity and self-categorization theories both suggest that team members gravitate towards members of similar backgrounds and use these differences to define their in-group and out-groups. When team members feel anonymous in a group, the tendency for them to withhold their full contribution is known as social loafing theory (Earley & Gibson, 2002). These theories attempt to explain the underlying group dynamics manifest in heterogeneous MNTs' behavior, increasing understanding of the potential inhibitors to work TE.

The research also provides a rich variety of conceptual models and theories from which to analyze and assess the composition, integration, and effectiveness of teams. For instance, viewing work teams in three levels—*individual, group, and process*—Earley and Gibson (2002) postulated a conceptual model for MNTs. Focus on such team elements as role identity, trust between members, respect for others, and affective relations between team members comprised the *individual level*. The *group level* emphasized the competition and fractionizing or subgroup development between group members, particularly when resources were limited. The *process level* is where the team is connected, centered on members' roles, hierarchies, identity formation, and having a shared history and social contracting in a cross-cultural setting. Regarding MNTs within cross-cultural settings, they suggested that "from a cross-cultural perspective, the nature of exchange becomes quite complex and ambiguous because the underlying principles governing concepts such as distributive, procedural, and interactional justice can vary a great deal" (2002, p. 64).

The characteristic of MNTs that has significance for this study is the previously mentioned concept of team homogeneity and heterogeneity. In her book, *International Dimensions of Organizational Behavior*, Adler defined homogenous teams as "those with all members coming from the same cultural group" (2008, p. 132). Heterogenic teams, however, possess three distinct characteristics: "Token teams having a single member from another culture, bicultural teams having members from two cultures, and multicultural having members from three or more cultures" (2008, p. 132).

Earley and Mosakowski (2000) defined the heterogeneity of a team as a continuum where teams range from high homogeneity, moderate heterogeneity, to high heterogeneity. Teams whose composition is characteristically high in homogeneity have members who share salient cultural attributes and worldviews, whereas teams with moderate heterogeneity are more prone to subgroup formation because team members have fewer shared cultural attributes. High heterogeneity teams, where members have the fewest significant cultural traits in common, typically have the highest level of sub-team fractionation. Within this continuum of homogeneity and heterogeneity, because of their shared cultural attributes, "a unified culture will form quickly

and with relative ease when a homogenous team faces external demands such as organizational goals for performance and innovation" (2000, p. 28). Within a team with moderate heterogeneity, team members tend to "retreat toward preexisting subgroup identities for ego protection" (2000, p. 28), and multiple subcultures get formed.

Maloney and Zellmer-Bruhn referred to this process as "'faultlines" or "hypothetical dividing lines that may split a group into subgroups based on one or more attributes" (2006, p. 707). With few cultural qualities in common, teams with high heterogeneity are inclined not to create subgroups based on commonality but, rather, "will attempt to create and establish a new shared understanding of team member status, team processes, role expectations, communication methods, and so forth" (Earley & Mosakowski, 2000, p. 29). When external demands confront this type of team, it can form what is called a *hybrid team culture.*

This concept of a hybrid team culture in heterogenic teams is described variously in the literature. Earley and Mosakowski (2000) defined the model of a hybrid team culture as

> an emergent and simplified set of rules, norms, expectations, and roles that team members share and "enact." This emergent culture offers a common sense of identity that becomes group-specific, provides a basis for team member self-valuation, and facilitates team interaction and performance. (2000, p. 26)

They suggested that while highly heterogeneous groups may at first experience an emphasis on individuals' needs, a hybrid team culture can lead to a common identity (2000, p. 45).

Contrarily, Brannen and Salk (2000) suggested that "the negotiated culture that emerges will not be a blend or hybrid culture . . . but some other outcome more like a mutation containing parts of both parents as well as some aspects of its own idiosyncratic making" (2000, p. 460). They offered that contextual factors, versus specific cultural behaviors, play a significant role in the development of a shared team culture. Issues specific to an organization, organizational maturity, the shared history, as well as the cultural attitudes of team members all have a significant impact on team culture. Still other researchers suggest that teams that use professional commonality can further bridge team culture difficulties (Maloney & Zellmer-Bruhn, 2006).

Team Effectiveness Research

Field research studying MNTs is limited but can offer some data regarding the challenges. For instance, Bailey (2000) conducted a study in the semiconductor manufacturing industry and found that fostering relationships between those performing work in production and the associated technical team members can significantly improve team performance (2000, p. 368). Doolen, Hacker, and Van Aken (2006) studied the role of organizational context on the effectiveness of engineering work teams and determined that there was a positive relationship between resource allocation and team performance, which in turn impacted TE (2006, p.149).

Knowing when to leverage the diversity of a team for its strengths and minimize its potential negative effects is the sign of a productive MNT, according to Adler (2008). Taking direct measures to equalize power among team members of different cultures can aid productivity. Some researchers suggest that a common set of goals or expectations, clear roles and effective team integration, along with "collective trust" and commitment are critical for MNT success (Cohen & Gibson, 2003, pp. 8-9; Earley et al., 2006, p. 173). It has also been suggested that utilizing a bridgehead team—a team that spends its time between cultures or one with members from both cultures in a client country—can improve culturally diverse team performance (Krishna, Sahay, & Watsham, 2004, pp. 64-65). Leveraging an external facilitator for team skill building; having a common integration process and expectations regarding inter-team feedback, group exchanges, and decision making; and boosting full involvement by all members are the key means to enhance MNTs' performance according to Davison (1994, pp. 85-89). "Minimizing politics" within the team and driving for agreement on group behaviors were promoted by Elton and Vigoda (2003, p. 331).

Leadership is also noted as a significant contributor to MNT success. Schweiger, Atamer, and Calori (2003) found that while between five and seven (hub) key people were responsible for proper project team functioning, senior management plays a pivotal role in MNT success. Trust, clear goals, a purpose, appropriate resources, along with senior management direction are the elements for MNT success. Senior managers must "create an environment of constructive negotiation and cooperation" (2003, p. 132). Leaders who are interested in foreign counties and cultures, possess empathy, and are motivated to learn about differing norms make for the most

"culturally competent [MNT] leaders" (Hajro & Pudelko, 2010, p. 186). A leader who exhibits openness by not exporting the culture of the "main office" and fostering a more inclusive corporate culture "facilitates the acquisition of soft skills, encompassing the generation and transfer of knowledge" (p. 190).

While research is relatively scarce regarding TE in multinational, organization development graduate program environments, a number of team attributes appear highly relevant in enhancing team productivity: the importance of clear goals, possessing interpersonal or soft skills, equitable distribution of team member power, effective integration processes, and highly effectual leadership.

Within the context of the study's MNT, there is a specific "sub-team" form that is essential to address—the multinational virtual team. Cohen and Gibson (2003) defined virtual teams as geographically dispersed; depending on technology for team communications rather than face-to-face; and characteristically transnational, global, and/or multi-organizational in nature. (2003, p. 4).

Studying teams from Europe Connect, Aerospace Alliance, and Auto Unification, Gibson and Manuel (2003) found trust to be a common challenge between multinational virtual teams: "The psychological dynamics that occure when multiple cultures work together make it difficult to establish comfortable levels of risk and interdependence that facilitates trust and, subsequently, team effectiveness." (2003, p. 65). In multinational virtual teams, trust issues arise because of in-group and out-group formation, subcultures, process losses, and communication difficulties. Interestingly, they suggest that if a heterogenetic multinational virtual team perseveres and works through these challenges, in the latter phases of team development, they can reap the benefits of superior team performance. The authors emphasized that "collective trust is a crucial element in virtual team functioning" (2003, p. 59). To foster trust, they suggested that team members employ active listening, clarify normative team behavior, and instill a sense of fairness and equity between team members (2003, p. 62). Li and Scullion (2006) broke down multinational virtual teams' information sharing and integration process challenges into three dimensions of proximity: physical, institutional, and cultural. Variances in geographical proximity, time zone, technological tools, knowledge bases, contractual or legal norms, as well as culture, work, and communicating styles create significant challenges to multinational virtual TE (2006, pp. 75-86).

Field studies bear out these challenges with virtual teams. For example, in a study with hundreds of virtual team members and leaders, DeRosa and Lepsinger (2010) found the top challenges to be proximity (46%), time zone differences (29%), and lack of sharing information (21%). In addition they found membership in multiple virtual teams (27%), adequate resources (37%), and lack of interpersonal skills training (20%) as also problematic for virtual team performance (2010, p. 6). The general success rate of virtual teams, studied by Govindarajan and Gupta (2001) found "that only 18% considered their performance 'highly successful' and the remaining 82% fell short of their intended goals. In fact, fully one-third of the teams in our sample rated their performance as largely unsuccessful" (2001, p. 63).

Both DeRosa and Lepsinger (2010) and Staples and Zhao (2006) provided factors for multinational virtual team success: consistent team membership, limiting team sizes, ensuring team composition has common functions or professions, restricting participation in multiple virtual teams, and a long-term team presence of three or more years. Moreover, DeRosa and Lepsinger found that those "virtual teams that held an initial face-to-face meeting within the first ninety days of the team coming together performed better than those who never met face-to-face" (2010, p. 16). They noted that "Many high-performing teams use webinars and collaborative technologies for brainstorming and decisions making while low-performing teams rely more heavily on email" (2010, p. 22). DeRosa and Lepsinger further suggested six best practices for multinational virtual team success: (a) a focus on team integration (interaction of team members); (b) building and maintaining trust; (c) open and honest dialogue; (d) excellent conflict management; (e) continually managing team performance levels, and (f) through technology and process, making it a "high-touch" environment. Like other authors, they suggested that trust is fundamental to team performance and success and asserted that "task-based trust," or confidence between team members based on consistent behavior, "is one of the strongest determinants of high performance and one of the factors that differentiates top-performing teams" (2010, p. 151).

Team Effectiveness Defined

In order to assess MNTs' effectiveness, a method was derived based on both the above-mentioned research and known models of TE.

Hackman suggested there are three dimensions to TE:

> (1) Degree to which the group's productive output (product, service, decision) meets the standards of quantity, quality, and timeliness of the people who receive, review, and/or use that output; (2) Degree to which the process of carrying out the work enhances the capability of members to work together interdependently in the future; (3) Degree to which the group experience contributes to the growth and personal well-being of team members. (1990, pp. 6-7)

While agreeing with Hackman's framework, for the purposes of this study, the instrument developed by Gibson, Zellman-Bruhn, and Schwab and reported on in "Team Effectiveness in Multinational Organizations: Evaluation Across Contexts" (2003) provides a means to measure TE in multiple cultures. Developed over a one-year period and tested in six multinational organizations with a wide variety of work activities, this assessment reflects the essence of Hackman's framework while providing greater relevance for use in a cross-cultural setting.

The five TE measures inherent in the assessment serve as the operational definition of TE in the study*:* The ability for a team to meet or exceed its business and customer goals in a productive and timely manner while ensuring high-quality products or services. The five attributes of the TE instrument are as follows:

1. *Goals:* Meeting or exceeding the team's mission or objectives
2. *Customers:* The degree of satisfaction from those who receive the product or service from the team
3. *Timeliness:* The team's effective use of time to meet their goals
4. *Quality:* The degree of consistent quality output or errors
5. *Productivity:* The level of efficiency in producing the output (Gibson et al., 2003).

These attributes for measuring TE are consistent between MNTs and multinational virtual teams and can serve as a potent measure of intervention effectiveness within the organization development program studied.

Cultural Intelligence and Team Effectiveness

The research on CQ and TE is relatively scant and does not account for the wide diversity of activities within an organization development graduate program environment. However, the research affirms the previously covered literature as well as expands the collective knowledge regarding team structures and cultures.

For example, Earley and Peterson (2004) performed an exploratory study where they theorized that

> success for multinational teams . . . requires specific CQ competencies held by members to uncover commonality across its membership, effective and appropriate role allocations, and clearly defined rules for interaction based on the specific needs (i.e., some cultural and some individual) and interests of team members. (2004, p. 112)

An interesting team model was postulated by Janssens and Brett (2006) called "fusion." Related to the "negotiated" or hybrid team cultures mentioned earlier, the fusion model provides "a structural intervention . . . that has cultural intelligence, or the ability to transform the process of the group, built into its principles" (2006, p. 126). Suggesting that cultural predispositions and perceived power inequity between team members cause MNT process losses, their model attempts to "enfranchise" low-status team members with the intention of cultivating contributions from all team members (2006, p. 133). One of the innovative features of this team model is the use of *dialogue* to foster a compatible set of team values or worldviews rather than a shared one. Per the authors, "the best global teams find a way to agree that different members can operate under different norms—a fusion team will allow different precepts to coexist" (2006, p. 137). Furthermore, they introduced the concept of "creative realism," accentuating the natural innovative and creative capacity of heterogenic teams, while moderating via a "reality check" or validation grounded in the current actuality (2006, p. 128). The two team integration processes which are integral to this concept of creative realism are information extraction and decision making: The former refers to team members' ability to think "divergently, to search across the breadth of the organization and its environment for unique information and then share that unique information with the group," while the latter focuses on convergent thinking or use of agreed-to criteria (2006, pp. 129-130). This model takes a novel view regarding formation of subgroups within MNTs by suggesting they

"preserve divergent thinking within the global team and respond best to the potentially diverse cultural realities within which the global team's creative strategy or policy has to succeed" (2006, p. 139). The authors further proposed that formal interventions which address power imbalance between members and communication problems, both of which lead to process losses, can enhance team performance (2006, p. 147).

A CQ framework aimed at the organizational or firm level, rather than the individual, was developed by Ang and Inkpen (2008), possessing three essential components: *managerial, competitive, and structural.* Leadership's ability to challenge assumptions, reflect and change their mental maps responsively, and act appropriately and with confidence in cross-cultural settings represents the *managerial CQ*. Evaluating the cultural dimensions of offshore partnerships and making effective decisions within cross-cultural settings is the essence of *competitive CQ*. *Structural CQ* refers to the manner in which organizational structures hinder or ameliorate cross-cultural engagements, be they customer and supplier interactions, norms, routines, processes, or business practices (2008, pp. 341-349).

Exploring CQ's ability to enhance global leaders' capacity for growth from cross-cultural experiences via the experimental learning theory, Ng, Van Dyne, and Ang (2009a) theorized that these learning behaviors make for more effective leadership.

There have been additional studies conducted in the field regarding the impact of CQ on work TE. For example, Gregory, Prifling, and Beck (2009) performed a study with a large international bank in Germany and one of the largest Indian information technology service providers and found a positive relationship between Cognitive CQ and adaptive cross-cultural behaviors, along with Behavioral CQ and a negotiated culture between clients and their vendor staff. Shokef and Erez studied Master of Business Administration students from five countries regarding CQ's impact on global and local identity, finding that all four CQ dimensions appeared to correlate with global identity, demonstrating that CQ and global identity are interrelated concepts (2008, p. 186).

In another study on CQ and project coordination in MNTs, researchers examined the impacts of the different CQ dimensions on global collaborative work. They found that "an

individual's behavior is influenced by different cultures simultaneously, including national, professional, organizational, and workgroup culture" (Koh, Joseph, & Ang, 2009, p. 263).

One noteworthy study of particular relevance was performed with a previous MSOD student body and focused on the developmental nature of CQ and its relationship to temperament (Chan, 2007). This study suggested that CQ skills do positively change over time with additional cultural experiences.

Summary

Apparent from this epigrammatic review of CQ and work TE research, team members and leaders who employ CQ skills will enhance their ability to contribute to the success of MNTs.

Through improving knowledge and skills, an MNT can develop greater capacity to effectively manage its heterogeneity, thereby harvesting the benefits of innovation, flexibility, and local market knowledge. The pathway for a global team to create a "negotiated culture," accepting the natural tension of multiple worldviews instead of a shared one, appears to be enhanced through the attainment of CQ competencies.

A leader's self-awareness and faculty to derive maximum team output given the multiplicity of cultural differences and nuances as well as the complexity of integration process inherent in MNTs can be impacted by CQ. Moreover, the probability of task accomplishment, cultural assimilation, effective negotiations, and decision making by leaders abroad is increased through the raising of CQ scores.

However, from this examination of the literature, there is a definitive gap of field research regarding the impact of CQ on TE (interventions) within a multinational, organization development graduate program environment.

Research Gap

While CQ has been utilized to assess many students in academic and graduate program environments, heretofore, it has not been leveraged for its impact on TE of client system interventions within an organization development graduate program. This study seeks to fill an important research gap and provide some lucidity regarding the relationship of CQ capabilities and TE in multinational graduate program environments.

Chapter 3: Research Methodology

This chapter describes the research methodology utilized in this study. The core research question this study explored was as follows: Within a multinational, organization development graduate program environment, what is the relationship between CQ and TE? This chapter will present the MSOD program international dimensionality, research methodology and design, sampling methodology, definition of variables including the survey methodology, and data analysis procedures employed in the study.

MSOD Program International Dimensionality

In advance of delineating the means and methods of measuring the study's variables, a description of the multicultural nature of the MSOD program is outlined. The continued exposure to multiple cultural settings was the environment in which student client system interventions occurred in this study.

The MSOD program design provides eight sessions over a 24-month period, of which three sessions, or a full 38% of all class and field work, take place in non-native cultures. An outline of the program and session format is provided in Table 1. Students developed a conceptual model of "cultural entry" to be used during each international session; these models were incrementally updated based on continued learning and experience in the field over the course of the program.

Table 1

Master of Science in Organization Development Program Schedule and Locations

Session	Session Title	Dates	Location
1	Foundations of Organization Development	August 26-September 3, 2010	Monterey, CA
2	The OD Practitioner as Global Citizen	November 11-19, 2010	Lyon, France
3	Small Systems Diagnosis and Change	February 10-18, 2011	Monterey, CA
4	International Organization Development	April 28-May 6, 2011	Costa Rica
5	Strategy and Organization Design	September 27-October 7, 2011	Dana Point, CA
6	Strategy and Large Scale Systems Change	January 12-20, 2012	Dana Point, CA
7	Integrative Action Strategies	March 20-March 30, 2012	China
8	Future Forms of Organizations	June 2 - 8, 2012	Monterey, CA

As noted, the second session, entitled "The OD Practitioner as Global Citizen," was conducted in Lyon, France, and focused on "self as an instrument of change" in an unfamiliar cultural environment, creating both a cultural and language challenge for student projects. Some of the

subjects covered during this session were the “culture of origin and cross-cultural awareness, dynamics of conducting research in a non-native land, and working with local experts” (Lacey, 2010). The student projects focused on analysis of local industries such as biotechnology, textiles, and gastronomy and the attractiveness of an American-French joint venture in these areas. Having access to local experts and being obliged to engage in the unfamiliar culture, students leveraged their CQ skills to navigate the cultural challenges as well as meet the requirements of the project and garner the required information. Students presented their findings and recommendations regarding joint ventures to a panel of local academic and business leaders who judged them on the originality and the persuasiveness of their ideas and conclusions.

In the fourth session in Alajuela, Costa Rica, the focus was on diagnosis and change management in small client systems within an international context. Such subjects as intervention theory and design and survey feedback were covered. Students worked within one of three client systems—a national bank, a coffee company, and a regional humanitarian foundation (Egan, 2011). Each client system, along with the students, participated in a full-day Appreciative Inquiry workshop to learn both the foundational elements of Appreciative Inquiry and how to apply it to the client system. Client system relationships and team building were also developed in this workshop. Subsequently, students entered the client systems and co-developed change management projects based on the client assessment and needs, followed by the execution of the change management plans in the client system environment. Once student projects were concluded, the students and client systems reconvened and shared their experience with the MSOD student body and faculty. This format provided for a rich academic and “experiential” experience from which new theories and approaches to cross-cultural organization development efforts were developed and CQ knowledge and skills were enhanced.

Students were divided into two large teams for the two-week Session Seven in China: One team focused on comparing talent management best practices in both developed and emerging markets, while the other studied the effect of networks and the role of the Chinese government in sustainability. In addition, students performed client intervention projects on six different teams across an array of organizational types and projects. For example, some teams had client

engagements with multinational corporations, while others interacted with government institutions. Client interventions were based on the subject matter, the composition and strengths of the local teams they engaged with, and the change desired by the client. The interventions generally involved co-development of a quantitative or qualitative survey or surveys with the indigenous client systems based on their desired outcomes, acquiring data and co-designing methods for the required changes, execution of said methods, and a report out of findings and further recommendations. Moreover, these data and reports were reflected in presentations to the client as well as formal documentation. The learning by the graduate cohort was substantial given the depth of engagement in an environment where language and cultural differences pose significant challenges.

Research Methodology and Design

The design of this study was an exploratory field study using assessments of CQ and TE following organization development intervention projects to determine the impact of CQ on TE. Specifically, measurements of CQ dimensions and TE attributes were performed after Session Four in Alajuela, Costa Rica (April 2011), and Session Seven in Beijing, China (March 2012), respectively, spanning a period of approximately 11 months. Teams of organization development students performed client system intervention projects in both cultures, providing a dynamic experiment of CQ of organization development skills in cross-cultural situations.

The MSOD cohort was randomly split into “experimental” and “control” groups to provide the capacity to experiment with the impact of improved CQ capabilities on TE per Table 2. Both groups received “base-level” CQ training in Costa Rica, Session Four, such as reviewing definitions of the four CQ dimensions and a general understanding of its applicability in cross-cultural scenarios; however, additional training and a focus group were performed with the experimental group during Session Seven. The additional training, conducted prior to client system interventions, consisted of a workshop which provided feedback on Cultural Intelligence Scale results, along with brainstorming on how to improve CQ scores (Livermore, 2011). The intention was to determine if this additional education and training would enhance CQ skills and, thereby, TE during program interventions with client systems. Students received several emails communicating

the study's purpose and intention, risks, and benefits (Appendixes A through D), along with the required surveys and personalized CQ scores.

Table 2

Differences in Training Between Groups

	Experimental Group	*Control Group*
Session Four	Received Basic CQ Training	Received Basic CQ Training
Session Seven	Additional CQ Refresher prior to China interventions	None
	Brainstorming on using CQ to Improve TE	None

CQ = Cultural Intelligence, TE = Team Effectiveness

The study's data collection and analysis methods consisted of both quantitative and qualitative methods. Quantitatively, two online surveys were conducted—the Cultural Intelligence Scale (Van Dyne, Ang, & Koh, 2008) and the Work Team Effectiveness survey (Gibson et al., 2003). These surveys can be found in Appendix E and Appendix F, respectively. Permission was granted to the principal researcher from the authors of the Work Team Effectiveness research. The quantitative data analysis examined the impact of CQ on TE after the sessions in Costa Rica and China, controlling for demographic differences. The qualitative aspects of the study revolved around the acquisition of common themes and best practices as part of the experimental group's additional education and focus group. These data were gathered and categorized for use by students during their client system interventions during Session Seven in China.

Sampling Methodology

The Graziadio School of Business and Management at Pepperdine University MSOD class of 2012 was the subject of this study. The research sample consisted of the 28 MSOD students—cohort nicknamed "NuPrime"—and did not include the principal investigator. The representative sample of MSOD students provided an elegant research environment for examining CQ in organization development graduate programs because of the nature and intention of the program design.

The Pepperdine MSOD program, started in 1975, represents one of the oldest and most respected programs in the country because of its multinational student body, purposeful cross-cultural study, and "adult learning" format. Students study and apply organization development

education within different cultures, providing a distinct multicultural experience which incrementally enhances their capacity for organizational, if not global, change. Team intervention projects are designed to leverage ever-increasing CQ and organization development skills and present a level of ambiguity and challenge that broadens students' cultural awareness and aptitude for effectiveness across cultures. Thus, using this program to examine if CQ skill improvement over time via education and multicultural experience can impact the effectiveness of team interventions was an appropriate fit for the study's purpose.

Definition of Variables

This exploratory study had two sets of variables: CQ dimensions and TE attributes. Students were also asked for demographic data, and as such, the data analysis was designed to understand their influence and control their effect on the variables. The dependent variables were the four dimensions of CQ—CQ Motivational, CQ Cognitive, CQ Metacognitive, and CQ Behavioral, whereas the TE attributes—Goals, Customers, Timeliness, Quality, and Productivity—served as the independent variables.

Cultural Intelligence Scale

Originally tested with undergraduate students from around the world, Van Dyne, Ang, and Koh (2008) developed a 20-item, four-factor measure of CQ based on the aforementioned four dimensions and sub-dimensions and termed it the Cultural Intelligence Scale (CQS). With statistical support for the four factors of CQ as measured by its dimensions—Metacognitive (.77), Cognitive CQ (.84), Motivational (.77), and Behavioral (.84),

> early research results suggest that managers can apply the CQS with a high level of confidence based on empirical evidence, that the scale measures what it is designed to measure, and that results are stable across samples, across time, and across cultures. (Van Dyne, Ang, & Koh, 2009, p. 249)

Thus, this assessment was selected because of its reliability and validity across cultures and the ability to measure CQ across work teams.

The Cultural Intelligence Scale survey was administered by a third party (the Cultural Intelligence Center, CQC, LLC) for confidentiality and continuity of assessment format and question type. Both the experimental and control groups completed the same Cultural Intelligence Scale

survey after the May 2011 Costa Rica and March 2012 China sessions. Each student was automatically emailed through the Cultural Intelligence Center CQC online system a personalized CQ assessment which measured his or her CQ skills against a worldwide database of 20,000 previous participants on a normalized scale of 1 to 100. For the purposes of this study, however, the raw student entries for the Cultural Intelligence Scale were measured using the standard Likert scale of 1 to 7. In addition, a measure of each student's cultural values per Hofstede's seven cultural values measures—power distance, individualism versus collectivism, feminine versus masculine, uncertainty avoidance, and long-term versus short-term orientation—was sent to each student via a PDF file in email.

Demographic Controls

As part of the initial setup of the Cultural Intelligence Scale, each student was asked a number of questions regarding demographic data profiling. The purpose of the demographic data served to control the impact on CQ, differentiating personal data from CQ's influence on TE. The demographic data gathered were as follows: sex, age, years of full-time work experience, current job level, highest educational level, native language, number of languages spoken, country of origin, country of citizenship, ethnicity, and prior cross-cultural experience including countries or regions visited and lived in.

Team Effectiveness Assessment

In order to assess client system intervention TE, the principal researcher utilized a TE instrument with high sensitivity to cultural dynamics. Per Gibson et al. (2003, p. 469), the Work Team Effectiveness survey provides high reliability and validity ranges (using Cronbach's alpha) across five assessment variables: Goals (.73-.92), Customers (.81-.96), Timeliness (.62-.88), Quality (.62-.88), and Productivity (.46-.81). These results suggest that survey scores are similar regardless of the culture from which they were answered; moreover, the scales appear "sensitive to variation in teams, and relatively insensitive to the source of the evaluation," making it applicable across cultures (2003, p. 468).

Developed by leveraging six teams in the United States, France, Puerto Rico, and the Philippines, the survey factored in Hofstede's power distance and collectivism measurements. As previously mentioned, power distance involves the equality and distribution of power in an organization, while collectivism describes the strength of group integration and membership. The core principle for the inclusion of these cultural values in the Work Team Effectiveness survey is their impact on team effectiveness in cross-cultural situations. For example, France, Costa Rica, and China have notably higher power distance and collectivism scores on Hofstede's scale compared to the United States, consequently creating an ambiguous and challenging environment in which to perform the required client system interventions.

The TE instrument specifically focused on the team's effectiveness with regard to "output" and did not measure internal team processes, dynamics, integration, trust, etc. The students assessed their TE for client system interventions post-Session Four in Costa Rica and Session Seven in China using the Gibson et al. Work Team Effectiveness survey (2003). The principal researcher, utilizing the TE questions and a Likert scale of 1 to 7 for continuity with the Cultural Intelligence Scale, developed an online research survey using Qualtrics.com. Each student answered 26 questions ranging from the team's ability to meet or exceed goals and customer expectations to their timeliness and productivity and quality of products and services delivered.

Because of the potential for conflict between this study and the MSOD program outcomes, approval for the use of MSOD students for research was granted by the program director.

Data Analysis Procedures

In order to determine if CQ skills increased over the course of the MSOD program, a paired *t*-test was performed on the students' CQ scores after Sessions Four and Seven in Costa Rica and China, respectively. The core question to be addressed in this test was whether CQ changes over time with continued cross-culture exposure. This test was necessary to verify the assumption that students' CQ knowledge and skills would improve due to increased experience with other cultures and use of organization development practices in cross-cultural situations. The student CQ data were correlated in aggregate so as to represent the change in CQ over time for the entire cohort.

To answer the core research question—Within a multinational, organization development graduate program environment, what is the relationship between CQ and TE?—correlation and regression tests were performed on the CQ dimensions and TE attributes in aggregate to determine the exact relationship between the dependent and independent variables; hence, all four CQ dimensions (CQ Motivational, CQ Metacognitive, CQ Cognitive, and CQ Behavioral) were tested for correlations against all five TE attribute (Goals, Customers, Timeliness, Quality, and Productivity). These tests were performed to determine if and which CQ dimensional scores improved and what the impact was to TE scores.

An additional data analysis was performed on the demographic data to illuminate their potential impact on CQ scores. The intention of this analysis was not only to determine the impact of demographics on CQ knowledge and skills, but also to serve as a control for its influence regarding any relationship between CQ and TE. It was assumed that prior cross-cultural experience and exposure would enhance a student's CQ knowledge and capacity, and this additional test was designed to verify its influence.

As part of the educational intervention designed to enhance CQ awareness and skills, a focus group was conducted during Session Seven in China. Through a structured set of questions, qualitative data were gathered and "narratives and meaning" (Punch, 2005, p. 216) were derived to provide the students with CQ and organization development best practices for use in the Session Seven client system interventions. Communications and an outline of the education session can be found in Appendixes G through J.

Because the cohort was divided into two self-selected teams during Session Seven in China, it was not possible to keep the experimental and control groups separated. Thus, the principal researcher designed a special "rating" question for both groups in the T^3 timeframe (see chapter 4 for explanation) in order to tease out any perceivable improvement in CQ (see Appendix K). Each student was rated on a Likert scale of 1 to 7—with 1 being no CQ and 7 being exceptional CQ—by all other students. An average overall CQ skill was assessed for all students. The results would provide an additional quantitative measure of enhanced CQ skills and, thereby, improved TE.

Summary

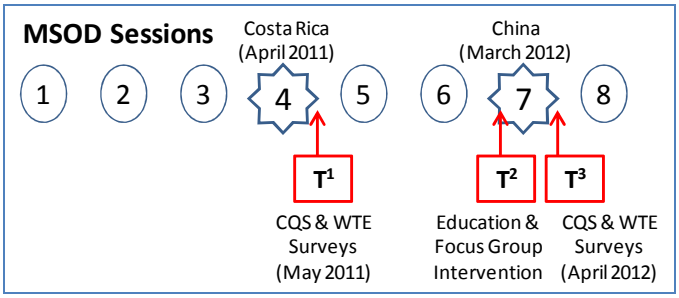
Providing the MSOD program international dimensionality, research methodology and design, sampling methodology, definition of variables including the survey methodology, and data analysis procedures, this chapter outlined the research methodology inherent in the study. The study's results and analysis are provided in the subsequent chapter.

Chapter 4: Findings

The results of the quantitative and qualitative analyses for this study are provided in this chapter. The core research question posited was as follows: Within a multinational, organization development graduate program environment, what is the relationship between CQ and TE? This chapter outlines the participants' demographic information, followed by a description of the relevant statistical measures pertaining to the research question. In addition, the research design in relation to the MSOD program elements is provided.

Research Setup

The participants of the study completed both the Cultural Intelligence Scale (CQS) and Work Team Effectiveness (WTE) surveys within an 11-month period as shown in Figure 2, MSOD Program and Research Design, from one month after Session Four held in Costa Rica (May 2011), referred henceforth as T^1, to one month after Session Seven in China (April 2012), referred to as T^3. T^2 is used for the specific education and focus group intervention conducted by the researcher prior to client interventions at the beginning of Session Seven in China.



CQS = Cultural Intelligence Scale, WTE = Work Team Effectiveness

Figure 2

Master of Science in Organization Development Program and Research

Of the 28 students participating in the study, a full 100% or 28 completed the surveys for T^1 and T^3. Thus, the participant size of N =28 was chosen. Based on the longitudinal nature of this study, the research sought to show the effect of CQ over time.

Demographics

As depicted in Table 3, Study's Population Demographics, the total population of 28 students was randomly separated into one of two groups: an experimental group and a control

Table 3

Study's Population Demographics

DEMOGRAPHICS		# of participants	% of sample (*N*=28)	# of participants	% of sample (*N*=14)	# of participants	% of sample (*N*=14)
GENDER		**Entire Group**		**Experimental**		**Control**	
	Male	9	32%	5	36%	4	29%
	Female	19	68%	9	64%	10	71%
AGE	25-29	2	7%	1	7%	1	7%
	30-34	7	25%	6	43%	1	7%
	35-39	8	29%	2	14%	6	43%
	40-44	7	25%	2	14%	5	36%
	45-50	2	7%	2	14%	0	0%
	50+	2	7%	1	7%	1	7%
YEARS OF WORK EXPERIENCE	5	4	14%	2	14%	2	14%
	10	11	39%	7	50%	4	29%
	15	4	14%	2	14%	2	14%
	20	6	21%	1	7%	5	36%
	25+	3	11%	2	14%	1	7%
EDUCATION LEVEL	High School	1	4%	0	0%	1	7%
	College	19	68%	9	64%	10	71%
	Master's	8	29%	5	36%	3	21%
# OF LANGUAGES	1	15	54%	8	57%	7	50%
	2	8	29%	3	21%	5	36%
	3	3	11%	2	14%	1	7%
	4	2	7%	1	7%	1	7%
NATIVE LANGUAGE	English	24	86%	12	86%	12	86%
	Spanish	2	7%	1	7%	1	7%
	Indonesian	1	4%	1	7%	0	0%
	Vietnamese	1	4%	0	0%	1	7%
COUNTRY OF ORIGIN	United States	19	68%	10	71%	9	64%
	Guatemala	1	4%	1	7%	0	0%
	Australia	1	4%	1	7%	0	0%
	Ghana	1	4%	1	7%	0	0%
	Indonesia	1	4%	1	7%	0	0%
	France	1	4%	0	0%	1	7%
	Mexico	1	4%	0	0%	1	7%
	Vietnam	1	4%	0	0%	1	7%
	Philippines	1	4%	0	0%	1	7%
	Switzerland	1	4%	0	0%	1	7%
CITIZENSHIP	United States	24	86%	11	79%	13	93%
	Guatemala	1	4%	1	7%	0	0%
	Australia	1	4%	1	7%	0	0%
	Indonesia	1	4%	1	7%	0	0%
	Mexico	1	4%	0	0%	1	7%
EXPERIENCE IN OTHER COUNTRIES	Very Experienced	9	32%	4	29%	5	36%
	Experienced	8	29%	3	21%	5	36%
	Moderate	8	29%	5	36%	3	21%
	Little	3	11%	2	14%	1	7%
EXPERIENCE IN OTHER CULTURES	Very Experienced	8	29%	4	29%	4	29%
	Experienced	10	36%	6	43%	4	29%
	Moderate	8	29%	4	29%	4	29%
	Little	2	7%	0	0%	2	14%
# COUNTRIES LIVED IN AT LEAST 6 MOS.	1	11	39%	7	50%	4	29%
	2	11	39%	4	29%	7	50%
	3	4	14%	2	14%	2	14%
	4	1	4%	0	0%	1	7%
	5	1	4%	1	7%	0	0%

group of equal sizes of 14 students. The total population was 68% women, with a slightly higher ratio of women to men in the control group. The mean age of the population was 36.3, with the control group slightly older than the experiential group at a mean of 37.1 versus 35.4, respectively. The control group had almost 3 more years of work experience (15.7) than the experimental group (12.9), with the mean for the entire population at 14.3 years. However, the experimental group was to some extent more educated, with all members having either a bachelor's or a master's degree. The number of languages spoken (mean of 1.71) was relatively equal between groups, with a full 46% of the population speaking more than one language. The predominant native language was English, followed by Spanish, Indonesian, and Vietnamese. While national citizenship was chiefly associated with the United States (86%), four other countries were represented in the population (Guatemala, Australia, Indonesia, and Mexico), while the countries of origin spanned the globe (United States, Guatemala, Australia, Ghana, Indonesia, France, Mexico, Vietnam, Philippines, and Switzerland).

The group had some interesting data regarding experiences in foreign countries and cultures; for example, while 71% of the control group had lived in more than one country for a minimum of six months, only 50% of the experimental group had done the same. Moreover, 72% of the control group was "experienced" or "very experienced" in other countries, as opposed to the experimental groups 50% for the same. However, the experimental group measured at 72% regarding "experienced" or "very experienced" relative to "experience in other cultures" compared to 58% for the control group.

This review of the demographics for this population of organization development graduate students shows the diversity of nationality, languages, and experience in other countries and cultures. Thus, this population provided an excellent sample from which to test the impact of CQ on TE in an international setting.

Study Variables and Statistical Measures

In order to better understand the relational and dimensional aspects of the CQ and TE data sets, a set of statistical analyses was preformed: descriptive statistics, bivariate correlations, paired *t*-tests, and linear regression analysis. While this study statistically measured aggregate CQ

and TE values for both the entire population as well as the experiment versus control groups, all nine independent and dependent variables were additionally analyzed to determine relationships: the four independent CQ variables of Meta-Cognitive CQ, Cognitive CQ, Motivational CQ, and Behavioral CQ in conjunction with the dependent TE variables Goals, Customers, Timeliness, Quality, and Productivity.

The significance level set for this study was 0.05. Moreover, the designation of strength for the relationships, as measured by the Adjusted Multiple R value, was as follows: less than or equal to 0.20 is characterized as very weak, greater than 0.20 and less than or equal to 0.40 is weak, greater than 0.40 and less than or equal to 0.60 is moderate, greater than 0.60 and less than or equal to 0.80 is strong, and greater than 0.80 is very strong.

The next section provides the statistical outcomes regarding both CQ and TE variables. The entire population will be addressed first, followed by a comparative analysis of the experimental and control groups.

Results for the Entire Population

To initiate an understanding of the impact of CQ on TE, an analysis of the change of CQ and TE over time was developed. The findings were interesting as the aggregate mean for CQ modestly improved, while the TE decreased slightly between T^1 and T^3 (CQ, T^1 *M* = 110.29, *SD* = 13.63; T^3 *M* = 114.75, *SD* = 16.92, ▲ = 4.46 or +3.9%; TE, T^1 *M* = 140.82, *SD* = 10.29; T^3 = 139.25, *SD* = 14.23, ▲ = -1.57 or -1.1%). These statistics are depicted in Table 4, Entire Population Cultural Intelligence and Team Effectiveness Descriptive Statistics. The descriptive statistics would suggest that, overall, there was a small increase in CQ while TE decreased between the T^1 to T^3 time periods.

To glean a better understanding of the change over time from T^1 and T^3, a paired *t*-test was performed with the results in Table 5, Entire Population Cultural Intelligence and Team Effectiveness Paired *t*-test Statistics. The changes between T^1 and T^3 for CQ variables were as follows: Metacognitive CQ, ▲= .61, *SD* = 3.67, $t(27) = -0.88$, $p > .05$; Cognitive CQ, ▲= 2.93,

Table 4

Entire Population Cultural Intelligence and Team Effectiveness Descriptive Statistics

CQ T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
MetacognitiveT1	28	11.00	17.00	28.00	23.57	3.18	10.11	-0.46	0.44	-0.45	0.86
CognitiveT1	28	28.00	10.00	38.00	25.93	6.88	47.33	-0.70	0.44	0.45	0.86
MotivationalT1	28	17.00	18.00	35.00	30.68	3.85	14.82	-1.41	0.44	2.85	0.86
BehavioralT1	28	16.00	19.00	35.00	30.11	4.29	18.40	-1.12	0.44	1.27	0.86
MetacognitiveT3	28	14.00	14.00	28.00	24.18	3.67	13.49	-0.86	0.44	0.57	0.86
CognitiveT3	28	32.00	10.00	42.00	28.86	7.95	63.16	-0.64	0.44	-0.23	0.86
MotivationalT3	28	15.00	20.00	35.00	31.32	3.91	15.26	-1.35	0.44	1.54	0.86
BehavioralT3	28	21.00	14.00	35.00	30.39	4.71	22.17	-1.68	0.44	4.21	0.86
Valid *N* (listwise)	28										

WTE T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
GoalsT1	28	9.00	26.00	35.00	32.18	3.04	9.26	-0.39	0.44	-1.35	0.86
CustomersT1	28	11.00	24.00	35.00	31.64	3.14	9.87	-0.84	0.44	0.23	0.86
TimelinessT1	28	10.00	25.00	35.00	29.46	2.13	4.55	0.23	0.44	0.73	0.86
QualityT1	28	14.00	18.00	32.00	25.36	3.03	9.20	-0.26	0.44	0.24	0.86
ProductivityT1	28	12.00	15.00	27.00	22.18	2.40	5.78	-0.73	0.44	1.83	0.86
GoalsT3	28	16.00	19.00	35.00	31.36	4.41	19.42	-1.38	0.44	1.92	0.86
CustomersT3	28	18.00	17.00	35.00	29.29	5.30	28.06	-0.76	0.44	-0.27	0.86
TimelinessT3	28	14.00	25.00	39.00	31.07	3.57	12.74	0.55	0.44	-0.23	0.86
QualityT3	28	15.00	16.00	31.00	25.46	3.67	13.44	-0.92	0.44	0.66	0.86
ProductivityT3	28	12.00	16.00	28.00	22.07	2.91	8.44	-0.06	0.44	0.26	0.86
Valid N (listwise)	28										

CQ and WTE Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CQT1	28	60.00	70.00	130.00	110.29	13.63	185.84	-1.05	0.44	1.44	0.86
WTET1	28	37.00	117.00	154.00	140.82	10.29	105.86	-0.70	0.44	-0.04	0.86
CQT3	28	70.00	70.00	140.00	114.75	16.92	286.19	-0.85	0.44	0.22	0.86
WTET3	28	55.00	100.00	155.00	139.25	14.23	202.42	-1.27	0.44	1.80	0.86
Valid N (listwise)	28										

N = 28; CQ = Cultural Intelligence; WTE = Work Team Effectiveness

Table 5

Entire Population Cultural Intelligence and Team Effectiveness Paired t-test Statistics

ENTIRE GROUP CQ T1/T3 Paired *t*-test Statistics

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	MetacognitiveT1–MetacognitiveT3	-0.61	3.67	0.69	-2.03	0.81	-0.88	27	0.39
Pair 2	CognitiveT1–CognitiveT3	-2.93	5.50	1.04	-5.06	-0.79	-2.82	27	**0.01***
Pair 3	MotivationalT1–MotivationalT3	-0.64	2.64	0.50	-1.67	0.38	-1.29	27	0.21
Pair 4	BehavioralT1–BehavioralT3	-0.29	4.77	0.90	-2.13	1.56	-0.32	27	0.75

ENTIRE GROUP WTE T1/T3 Paired t-test Statistics

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	GoalsT1–GoalsT3	0.82	5.52	1.04	-1.32	2.96	0.79	27	0.44
Pair 2	CustomersT1–CustomersT3	2.36	6.27	1.18	-0.07	4.79	1.99	27	0.06
Pair 3	TimelinessT1–TimelinessT3	-1.61	3.64	0.69	-3.02	-0.19	-2.33	27	**0.03***
Pair 4	QualityT1–QualityT3	-0.11	4.18	0.79	-1.73	1.51	-0.14	27	0.89
Pair 5	ProductivityT1–ProductivityT3	0.11	3.97	0.75	-1.43	1.64	0.14	27	0.89

ENTIRE GROUP CQ AND WTE T1/T3 Paired *t*-test Statistics

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	CQT1–CQT3	-4.46	12.28	2.32	-9.23	0.30	-1.92	27	0.065
Pair 2	WTET1–WTET3	1.57	18.13	3.43	-5.46	8.60	0.46	27	0.650

N = 28; CQ = Cultural Intelligence; WTE = Work Team Effectiveness

SD = 5.50, *t*(27) = -2.82, *p* <.05; Motivational CQ, ▲ = 0.64, *SD* = 2.64, *t*(27) = -1.29, *p* >.05; Behavioral CQ, ▲ = 0.29, *SD* = 4.77, *t*(27) = -0.32, *p* >.05. *Thus, only Cognitive CQ, with nearly a three-point improvement, met the acceptable p <.05 significance level*.

In comparison, the TE variables results for the paired *t*-tests were as follows: Goals, *M* = -0.82, *SD* = 5.52, *t*(27) = +0.79, *p* >.05; Customers, *M* = -2.36, *SD* = 6.27, *t*(27) = -1.99, *p* >.05; Timeliness, *M* = 1.61, *SD* = 3.64, *t*(27) = 2.33, *p* <.05; Quality, *M* = 0.11, *SD* = 4.18, *t*(27) = 0.14, *p* >.05; Productivity, *M* = -0.11, *SD* = 3.97, *t*(27) = -0.14, *p* >.05. *Timeliness was the only variable with significance, registering a modest 1.61 gain*.

The aggregate paired *t*-test CQ and TE values were both outside the acceptable range and deemed insignificant (CQ, *M* = 4.46, *SD* = 12.28, *t*(27) = -1.92, *p* >.05; TE, *M* = -1.57, *SD* = 18.13, *t*(27) = 0.46, *p* >.05).

To further determine the relationship of CQ to TE, the Pearson product-moment correlation coefficient was utilized for analyzing the relationship between CQ and TE at T^1 and T^3 time periods. An increase in CQ skills could be a contributing factor in improving TE and could be manifested in the correlations' results.

The T^1 Pearson correlations found a positive relationship between Metacognitive CQ skills and Goals (*r* = .471, *N* = 28, *p* < .01, two-tailed), with 22% of the variation explained. Metacognitive CQ and Customer (*r* = .396, *N* = 28, *p* < .05, two-tailed) had a positive correlation explaining 16% of the variation. Similarly, having a positive relationship, Behavioral CQ and Goals (*r* = .526, *N* = 28, *p* < .01, two-tailed) explained 28% of the model. Explaining a full 41% of the variance, Behavioral CQ and Customers (*r* = .641, *N* = 28, *p* < .001, two-tailed) demonstrated a moderate relationship. With 28% of the model explained, Behavioral CQ and Quality also had a moderate relationship (*r* = .529, *p* < .01, two-tailed).

However, no relationship of significance was determined between aggregate and individual CQ and TE variables in the T^3 timeframe. Moreover, CQ and TE aggregate correlation values had no significant relationship per the results: T^1 (*r* = .368, N = 28, *p* > .05, two-tailed), and T^3 (*r* = -.041, *p* > .05, two-tailed). Thus, the results of the Pearson's correlation, found in

Table 6

T^1/T^3 Cultural Intelligence and Team Effectiveness Correlations

Pearson CQ and WTE T1/T3 Correlations

		T1 Correlations					T3 Correlations				
		Goals	Customers	Timeliness	Quality	Productivity	Goals	Customers	Timeliness	Quality	Productivity
Metacognitive CQ	Pearson Correlation	**.471***	**.396***	.200	.155	.025	-.212	-.166	-.272	-.152	-.314
	Sig. (2-tailed)	**.011**	**.037**	.308	.432	.900	.278	.397	.161	.439	.104
Cognitive CQ	Pearson Correlation	.101	.093	-.035	.076	-.053	.054	.195	-.037	.226	-.182
	Sig. (2-tailed)	.607	.638	.858	.701	.789	.783	.321	.850	.247	.353
Motivational CQ	Pearson Correlation	.337	.321	.001	.169	.158	-.065	-.012	.020	.064	-.097
	Sig. (2-tailed)	.079	.096	.997	.391	.421	.742	.953	.921	.746	.624
Behavioral CQ	Pearson Correlation	**.526****	**.641****	-.087	**.529****	.278	-.007	-.051	-.063	-.043	-.089
	Sig. (2-tailed)	**.004**	**.000**	.661	**.004**	.152	.972	.798	.748	.827	.653

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

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

N = 28; CQ = Cultural Intelligence; WTE = Work Team Effectiveness

Pearson CQ and WTE T1/T3 Correlations

		WTET1	WTET3
CQ	Pearson Correlation	.368	-.041
	Sig. (2-tailed)	.054	.835

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

Table 6, T^1 and T^3 Cultural Intelligence and Team Effectiveness Correlations, were positive in the T^1 timeframe and inconsequential for the T^3 test.

These findings suggest there was a relationship between enhancing CQ skills, such as Metacognitive CQ and Behavioral CQ, and TE, specifically concerning Goals, Customers, and Quality, in the T^1 timeframe.

To ascertain the effect of CQ variables on TE in the T^1 period, linear regression tests were performed on the data. Selection of regression tests was based on the significance of the correlation findings, with Metacognitive CQ and Behavioral CQ compared to Goals, Customers, and Quality for the T^1 test period.

The results of the single linear regression test are depicted in Table 7, Entire Population Single Linear Regression Tests. No regression tests were done on the aggregate CQ and TE data for T^1 and T^3 since the Pearson correlation found an absence of a significant relationship ($p > .05$).

The results of the T^1 regressions, ordered based on the magnitude of influence and significance, using the enter method, are as follows: Behavioral CQ and Customer ($F(1,26) = 18.11$, $p < .001$, Adjusted R square = 0.39), Behavioral CQ and Quality ($F(1,26) = 10.12$, $p < .001$, Adjusted R square = 0.25), Behavioral CQ and Goals ($F(1,26) = 9.96$, $p < .001$, Adjusted R square = 0.25), Metacognitive CQ and Goals ($F(1,26) = 7.43$, $p < .05$, Adjusted R square = 0.19), and Metacognitive CQ and Customers ($F(1,26) = 4.83$, $p < .05$, Adjusted R square = 0.12).

Evident from these tests, Behavioral CQ accounted for positive changes in Customer (39%), Quality (25%), and Goals (25%), while Metacognitive CQ mildly influenced a positive variation in Goals (19%) and Customers (12%), thus further suggesting a significant relationship.

Multiple linear regressions were performed on the same data set, controlling for demographic modifiers (for example, prior cross-cultural exposure) such as age, years of work experience, experience level, and years in other countries. Since many of the students had prior experience in other countries and cultures, differentiating the effect of demographics from CQ variables was critical.

Table 7

Entire Population Single Linear Regression Tests

T1 Metacognitive CQ and Goals

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.471[a]	0.22	0.19	2.74	0.22	7.43	1	26	**0.01***	2.34

a. Predictors: (Constant), MetacognitiveT1
b. Dependent Variable: GoalsT1
N =28

T1 Metacognitive CQ and Customers

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.396[a]	0.16	0.12	2.94	0.16	4.83	1	26	**0.04***	2.31

a. Predictors: (Constant), MetacognitiveT1
b. Dependent Variable: CustomersT1
N = 28

T1 Behavioral CQ and Goals

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.526[a]	0.28	0.25	2.64	0.28	9.96	1	26	**0.00***	2.07

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: GoalsT1
N = 28

T1 Behavioral CQ and Customers

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.641[a]	0.41	0.39	2.46	0.41	18.11	1	26	**0.00***	1.79

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: CustomersT1
N =28

T1 Behavioral CQ and Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.529[a]	0.28	0.25	2.62	0.28	10.12	1	26	**0.00***	2.45

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: QualityT1
N = 28; CQ = Cultural Intelligence

The results of the set of multiple regressions can be found in Table 8, T^1 Multiple Regression Tests (Entire Population). Ordered based on magnitude of influence and significance, using the stepwise method, multiple regression tests for the T^1 timeframe were performed on the data.

Table 8

T[1] Multiple Regression Tests (Entire Population)

T1 Metacognitive Cultural Intelligence and Goals

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.418[a]	0.17	0.14	2.82	0.17	5.51	1	26	0.03	
2	.680[b]	0.46	0.42	2.32	0.29	13.33	1	25	0.00	2.63

a. Predictors: (Constant), Age
b. Predictors: (Constant), Age, MetacognitiveT1
c. Dependent Variable: GoalsT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.72	1	43.72	5.51	.027[b]
	Residual	206.39	26	7.94		
	Total	250.11	27			
2	Regression	115.50	2	57.75	10.72	.000[c]
	Residual	134.61	25	5.38		
	Total	250.11	27			

a. Dependent Variable: GoalsT1
b. Predictors: (Constant), Age
c. Predictors: (Constant), Age, MetacognitiveT1

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.	95.0% Confidence Interval for B: Lower Bound	95.0% Confidence Interval for B: Upper Bound	Collinearity Statistics: Tolerance	Collinearity Statistics: VIF
1	(Constant)	38.75	2.85		13.60	0.00	32.89	44.60		
	Age	-0.18	0.08	-0.42	-2.35	0.03	-0.34	-0.02	1.00	1.00
2	(Constant)	27.74	3.82		7.26	0.00	19.86	35.61		
	Age	-0.21	0.06	-0.49	-3.34	0.00	-0.35	-0.08	0.98	1.02
	MetacognitiveT1	0.52	0.14	0.54	3.65	0.00	0.23	0.81	0.98	1.02

a. Dependent Variable: GoalsT1
N = 28

T1 Metacognitive Cultural Intelligence and Customers

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.396[a]	0.16	0.12	2.94	0.16	4.83	1	26	0.04	2.31

a. Predictors: (Constant), MetacognitiveT1
b. Dependent Variable: CustomersT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	41.74	1	41.74	4.83	.037[b]
	Residual	224.69	26	8.64		
	Total	266.43	27			

a. Dependent Variable: CustomersT1
b. Predictors: (Constant), MetacognitiveT1

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.	95.0% Confidence Interval for B: Lower Bound	95.0% Confidence Interval for B: Upper Bound	Collinearity Statistics: Tolerance	Collinearity Statistics: VIF
1	(Constant)	22.42	4.23		5.30	0.00	13.73	31.12		

	MetacognitiveT1	0.39	0.18	0.40	2.20	0.04	0.03	0.76	1.00	1.00

a. Dependent Variable: CustomersT1
N = 28

T1 Behavioral CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.418[a]	0.17	0.14	2.82	0.17	5.51	1	26	0.03	
2	.661[b]	0.44	0.39	2.37	0.26	11.62	1	25	0.00	2.15

a. Predictors: (Constant), Age
b. Predictors: (Constant), Age, BehavioralT1
c. Dependent Variable: GoalsT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.72	1	43.72	5.51	.027[b]
	Residual	206.39	26	7.94		
	Total	250.11	27			
2	Regression	109.22	2	54.61	9.69	.001[c]
	Residual	140.89	25	5.64		
	Total	250.11	27			

a. Dependent Variable: GoalsT1
b. Predictors: (Constant), Age
c. Predictors: (Constant), Age, BehavioralT1

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	38.75	2.85		13.60	0.00	32.89	44.60		
	Age	-0.18	0.08	-0.42	-2.35	0.03	-0.34	-0.02	1.00	1.00
2	(Constant)	27.52	4.07		6.75	0.00	19.13	35.92		
	Age	-0.17	0.07	-0.40	-2.66	0.01	-0.31	-0.04	1.00	1.00
	BehavioralT1	0.36	0.11	0.51	3.41	0.00	0.14	0.58	1.00	1.00

a. Dependent Variable: GoalsT1
N = 28

T1 Behavioral Cultural Intelligence and Customers

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.641[a]	0.41	0.39	2.46	0.41	18.11	1	26	0.00	1.79

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: CustomersT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109.37	1	109.37	18.11	.000[b]
	Residual	157.06	26	6.04		
	Total	266.43	27			

a. Dependent Variable: CustomersT1
b. Predictors: (Constant), BehavioralT1

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	17.51	3.35		5.22	0.00	10.62	24.41		
	BehavioralT1	0.47	0.11	0.64	4.26	0.00	0.24	0.70	1.00	1.00

a. Dependent Variable: CustomersT1
N = 28

T1 Behavioral CQ and Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.529[a]	.280	.252	2.62259	.280	10.119	1	26	.004	2.450

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: QualityT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	69.601	1	69.601	10.119	.004[b]
	Residual	178.827	26	6.878		
	Total	248.429	27			

a. Dependent Variable: QualityT1
b. Predictors: (Constant), BehavioralT1

Coefficients[a]

Model		Unstandardized Coefficients: B	Unstandardized Coefficients: Std. Error	Standardized Coefficients: Beta	t	Sig.	95.0% Confidence Interval for B: Lower Bound	95.0% Confidence Interval for B: Upper Bound	Collinearity Statistics: Tolerance	Collinearity Statistics: VIF
1	(Constant)	14.087	3.577		3.938	.001	6.733	21.440		
	BehavioralT1	.374	.118	.529	3.181	.004	.132	.616	1.000	1.000

a. Dependent Variable: QualityT1
N = 28

A significant model was found between Metacognitive CQ and Goals (Adjusted R square = .419, $F(2,25) = 10.7$, $p < .0005$). Age and Metacognitive CQ were significant predictors in this model (years of work experience, experience level, and years in other countries were not significant predictors):

Variable	B	SE B	β
Metacognitive CQ	0.51	0.14	0.54*
Age	-0.21	.064	-0.49*

*$p < 0005$

A significant model was found between Behavioral CQ and Goals (Adjusted R square = .392, $F(2,25) = 9.70$, $p < .005$). Behavioral CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	B	SE B	β
Behavioral CQ	0.36	0.11	0.51*

*$p < 005$

A significant model was found between Behavioral CQ and Customers (Adjusted R square = .388, $F(1,26) = 18.1$, $p < .0005$). Behavioral CQ was a significant predictor in this model

A significant model was found between Behavioral CQ and Quality (Adjusted R square = .252, $F(1,26) = 10.1$, $p < .005$). Behavioral CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	B	SE B	β
Behavioral CQ	0.37	0.12	0.53*

*$p < 005$

A significant model was found between Metacognitive CQ and Customers (Adjusted R square = .124, $F(2,25) = 4.82$, $p < .05$). Metacognitive CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	B	SE B	β
Metacognitive CQ	0.39	0.18	0.40*

*$p < 005$

Summary of Results Using Overall Sample

The multiple regression tests imply that, as previous research suggests, there is a relationship between CQ and TE attributes in cross-cultural settings. Metacognitive CQ had a moderate, positive predictor of Goals (42% and less so for Customers (12%). Behavioral CQ had a weak, positive influence on Goals (39%) and Customers (39%) and a weak, positive influence on Quality (25%). Age, the only demographic to impact TE, had a weak, negative effect on goal accomplishment (14%).

With regard to the entire population of the study, there appears to be some evidence of a positive relationship between Metacognitive CQ and students' ability to accomplish their team goals (28%). Moreover, Behavioral CQ seems to have contributed to goal completion (39%) and effective engagement with customers (39%). The data on age suggested that an increase in age may correlate to a slight decrease in achieving goals.

Results of Experimental versus Control Group

To determine if there was a quantifiable difference between the experimental and control group results, statistical analysis was performed with the findings below.

The intention of the educational intervention and focus groups at the T^2 time period with the experimental group was to determine if additional CQ training would influence CQ scores and, thereby, enhance TE. Reviewing participants' individual CQ results and brainstorming means by which they could ameliorate their scores for each CQ dimension was the purpose of the CQ education. Coalescing around a set of best practices for effective cross-cultural engagements was an additional objective for the intervention. Theoretically, this supplementary training would manifest itself in markedly higher CQ scores and team performance.

Experimental Group Findings

An analysis of the change in CQ and TE scores between T^1 and T^3 using comparative means for the experimental group was performed. The resultant table of frequency statistics can be found in Table 9, Experimental Group Descriptive Statistics.

Aggregate CQ and TE scores increased from T^1 and T^3 for the experimental group (CQ, T^1 *M* = 108.93, *SD* = 16.16; T^3 *M* = 114.14, *SD* = 18.73, ▲ = 5.21 or 4.6%; TE, T^1 *M* = 141.00, *SD* = 9.63; T^3 = 142.50, *SD* = 15.35, ▲ = 1.50 or 1.1%).

Table 10, Experimental Group Paired *t*-test Statistics, provides a measurement of the means between CQ and TE variables in the T^1 and T^3 timeframes. Paired *t*-tests results for the experimental group's aggregate CQ and TE scores had modest increases but were not significant. Cognitive CQ (*M* = 3.43, *SD* = 5.32, *t*(13) = -2.41, *p* <.05) and Timeliness (*M* = 2.21, *SD* = 3.47, *t*(13) = -2.39, *p* <.05) represented the only variables that moderately changed within the *p* <.05 significance level. The balance of CQ and TE variables did not meet the significance level.

The T1 Pearson correlations, depicted in Table 11, Experimental Group Pearson Correlations, found a moderate, positive relationship between Metacognitive CQ skills and Goals (*r* = .580, *N* = 14, *p* < .05, two-tailed), with 34% of the difference explained, Motivational CQ and Goals (*r* = .598, *N* = 14, *p* < .05, two- tailed), explaining 36% of the variation. Behavioral CQ and Goals (*r* = .568, *N* = 14, *p* < .05, two-tailed), with a moderate, positive influence, explained 32% of the variance. Explaining 59% of the change in Customers (*r* = .765, *N* = 14, *p* < .005, two-tailed), Behavioral CQ had a strong positive correlation. There were no correlations of significance in the T^3 time period for either aggregate or individual CQ and TE variables. To ascertain casual effect, single linear regression tests were performed on the experimental team data and are depicted in Table 12, Experimental Group Single Linear Regression Tests. No regression tests were done on the aggregate CQ and TE data for T^1 and T^3 since the Pearson correlation found an absence of a significant relationship (*p* > .05).

Table 9

Experimental Group Descriptive Statistics

EXPERIMENTAL CQ T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
MetacognitiveT1	14	11.00	17.00	28.00	23.36	3.54	12.55	-0.55	0.60	-0.68	1.15
CognitiveT1	14	25.00	13.00	38.00	26.36	6.57	43.17	-0.45	0.60	0.46	1.15
MotivationalT1	14	17.00	18.00	35.00	29.86	4.49	20.13	-1.42	0.60	2.82	1.15
BehavioralT1	14	16.00	19.00	35.00	29.36	4.77	22.71	-1.23	0.60	1.28	1.15
MetacognitiveT3	14	14.00	14.00	28.00	23.50	3.61	13.04	-1.37	0.60	2.94	1.15
CognitiveT3	14	26.00	16.00	42.00	29.79	7.42	55.10	-0.45	0.60	-0.51	1.15
MotivationalT3	14	15.00	20.00	35.00	31.36	4.05	16.40	-1.88	0.60	4.16	1.15
BehavioralT3	14	10.00	25.00	35.00	31.29	3.60	12.99	-0.58	0.60	-0.84	1.15
Valid N (listwise)	14										

EXPERIMENTAL WTE T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
GoalsT1	14	9.00	26.00	35.00	31.86	3.06	9.36	-0.26	0.60	-1.14	1.15
CustomersT1	14	10.00	25.00	35.00	31.57	2.77	7.65	-0.78	0.60	1.08	1.15
TimelinessT1	14	9.00	26.00	35.00	29.71	2.46	6.07	0.35	0.60	0.31	1.15
QualityT1	14	11.00	18.00	29.00	25.21	2.97	8.80	-1.25	0.60	1.47	1.15
ProductivityT1	14	8.00	19.00	27.00	22.64	2.27	5.17	0.24	0.60	-0.48	1.15
GoalsT3	14	15.00	20.00	35.00	32.36	4.48	20.09	-1.92	0.60	3.66	1.15
CustomersT3	14	18.00	17.00	35.00	30.07	5.55	30.84	-1.17	0.60	0.79	1.15
TimelinessT3	14	10.00	29.00	39.00	31.93	3.27	10.69	1.28	0.60	0.72	1.15
QualityT3	14	12.00	18.00	30.00	26.07	2.97	8.84	-1.41	0.60	3.49	1.15
ProductivityT3	14	11.00	16.00	27.00	22.07	3.29	10.84	-0.53	0.60	0.14	1.15
Valid *N* (listwise)	14										

EXPERIMENTAL CQ AND WTE AGGREGATE T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CQT1	14	60.00	70.00	130.00	108.93	16.16	260.99	-1.20	0.60	1.33	1.15
WTET1	14	34.00	120.00	154.00	141.00	9.63	92.77	-0.55	0.60	0.15	1.15
CQT3	14	70.00	70.00	140.00	114.14	18.73	350.90	-0.96	0.60	1.00	1.15
WTET3	14	55.00	100.00	155.00	142.50	15.35	235.50	-1.84	0.60	3.83	1.15
N = 14	14										

N = 14; CQ = Cultural Intelligence; WTE = Work Team Effectiveness

Table 10

Experimental Group Paired t-test Statistics

EXPERIMENTAL GROUP CQ T1/T3 PAIRED t-TESTS

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	MetacognitiveT1–MetacognitiveT3	-0.14	3.37	0.90	-2.09	1.80	-0.16	13	0.88
Pair 2	CognitiveT1–CognitiveT3	-3.43	5.32	1.42	-6.50	-0.36	-2.41	13	**0.03***
Pair 3	MotivationalT1–MotivationalT3	-1.50	2.93	0.78	-3.19	0.19	-1.92	13	0.08
Pair 4	BehavioralT1–BehavioralT3	-1.93	6.06	1.62	-5.43	1.57	-1.19	13	0.25

EXPERIMENTAL GROUP WTE T1/T3 PAIRED T-TESTS

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	GoalsT1–GoalsT3	-0.50	6.12	1.64	-4.04	3.04	-0.31	13	0.77
Pair 2	CustomersT1–CustomersT3	1.50	7.40	1.98	-2.77	5.77	0.76	13	0.46
Pair 3	TimelinessT1–TimelinessT3	-2.21	3.47	0.93	-4.22	-0.21	-2.39	13	**0.03***
Pair 4	QualityT1–QualityT3	-0.86	4.50	1.20	-3.46	1.74	-0.71	13	0.49
Pair 5	ProductivityT1–ProductivityT3	0.57	4.24	1.13	-1.88	3.02	0.50	13	0.62

EXPERIMENTAL GROUP CQ AND WTE T1/T3 PAIRED T-TESTS

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	CQT1–CQT3	-5.21	12.83	3.43	-12.62	2.19	-1.52	13	0.152
Pair 2	WTET1–WTET3	-1.50	20.56	5.50	-13.37	10.37	-0.27	13	0.789

N = 14; CQ = Cultural Intelligence; WTE = Work Team Effectiveness

Table 11

Experimental Group Pearson Correlations

EXPERIMENTAL GROUP T1/T3 CORRELATION

		EXPERIMENTAL GROUP WORK TEAM EFFECTIVENESS T1 CORRELATION					**EXPERIMENTAL GROUP WORK TEAM EFFECTIVENESS T3 CORRELATION**				
		Goals	Customers	Timeliness	Quality	Productivity	Goals	Customers	Timeliness	Quality	Productivity
Metacognitive	Pearson Correlation	**.580***	.511	.215	.161	.103	-.273	-.363	.186	-.426	-.476
	Sig. (2-tailed)	**.030**	.062	.460	.584	.726	.345	.203	.525	.129	.086
Cognitive	Pearson Correlation	.324	.191	.159	-.249	-.248	-.069	-.201	.345	-.397	-.462
	Sig. (2-tailed)	.258	.513	.587	.391	.392	.814	.491	.227	.160	.096
Motivational	Pearson Correlation	**.598***	.441	.184	-.055	.010	.039	-.141	.380	-.251	-.192
	Sig. (2-tailed)	**.024**	.114	.529	.851	.974	.895	.630	.180	.386	.510
Behavioral	Pearson Correlation	**.568***	**.765****	-.082	.370	.361	-.388	-.305	-.122	-.067	.069
	Sig. (2-tailed)	**.034**	**.001**	.779	.193	.205	.171	.289	.677	.821	.813

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

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

N = 14

Table 12

Experimental Group Single Linear Regression Tests

T1 Metacognitive CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.580[a]	0.34	0.28	2.59	0.34	6.08	1	12	**0.03***	2.15

a. Predictors: (Constant), MetacognitiveT1
b. Dependent Variable: GoalsT1
N = 14

T1 Motivational CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.598[a]	0.36	0.30	2.55	0.36	6.68	1	12	**0.02***	2.50

a. Predictors: (Constant), MotivationalT1
b. Dependent Variable: GoalsT1
N =14

T1 Behavioral CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.568[a]	0.32	0.27	2.62	0.32	5.72	1	12	**0.03***	1.86

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: GoalsT1
N = 14

T1 Behavioral CQ and Customers

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.765[a]	0.59	0.55	1.85	0.59	16.98	1	12	**0.00***	1.26

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: CustomersT1
N = 14
CQ = Cultural Intelligence

The results of the T^1 regressions, ordered based on the magnitude of influence and significance, using the enter method, are as follows: Behavioral CQ and Customers ($F(1,12) = 16.98$, $p < .001$, Adjusted R square = 0.55); Motivational CQ and Goals ($F(1,12) = 6.68$, $p < .05$, Adjusted R square = 0.30); Metacognitive CQ and Goals ($F(1,12) = 6.08$, $p < .05$, Adjusted R square = 0.28); and Behavioral CQ and Goals ($F(1,12) = 5.72$, $p < .05$, Adjusted R square = 0.27).

These results suggest that the positive variance in Goals was influenced by Motivational CQ (30%), Metacognitive CQ, (28%), and Behavioral CQ (27%), while Behavioral CQ positively impacted Customers by a full 55%.

Controlling for demographic variables, multiple linear regressions were performed on the data, with the results in Table 13, Experimental Group Multiple Regression Tests. Ordered based on magnitude of influence and significance, using the stepwise method, the results of the multiple regression are below.

A significant model was found between Behavioral CQ and Customers (Adjusted R square = .551, $F(1,12) = 17.0$, $p < .0005$). Behavioral CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Behavioral CQ	0.44	0.11	0.77*

*$p < 0005$

A significant model was found between Metacognitive CQ and Goals (Adjusted R square = .291, $F(1,12) = 6.33$, $p < .05$). Experience level was a significant predictor in this model (Metacognitive CQ, age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Exp Level	0.44	0.11	0.59*

*$p < 0.05$

Table 13

Experimental Group Multiple Regression Tests

T1 Metacognitive CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.588[a]	0.35	0.29	2.58	0.35	6.33	1	12	0.03	1.79

a. Predictors: (Constant), ExpLevel
b. Dependent Variable: GoalsT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.02	1	42.02	6.33	.027[b]
	Residual	79.69	12	6.64		
	Total	121.71	13			

a. Dependent Variable: GoalsT1
b. Predictors: (Constant), ExpLevel

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	27.46	1.88		14.63	0.00	23.38	31.55		
	ExpLevel	1.66	0.66	0.59	2.52	0.03	0.22	3.10	1.00	1.00

a. Dependent Variable: GoalsT1

T1 Motivational CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.588[a]	0.35	0.29	2.58	0.35	6.33	1	12	0.03	1.79

a. Predictors: (Constant), ExpLevel
b. Dependent Variable: GoalsT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.02	1	42.02	6.33	.027[b]
	Residual	79.69	12	6.64		
	Total	121.71	13			

a. Dependent Variable: GoalsT1
b. Predictors: (Constant), ExpLevel

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	27.46	1.88		14.63	0.00	23.38	31.55		
	ExpLevel	1.66	0.66	0.59	2.52	0.03	0.22	3.10	1.00	1.00

a. Dependent Variable: GoalsT1

T1 Behavioral CQ and Goals

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.588[a]	0.35	0.29	2.58	0.35	6.33	1	12	0.03	1.79

a. Predictors: (Constant), ExpLevel

b. Dependent Variable: GoalsT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.02	1	42.02	6.33	.027[b]
	Residual	79.69	12	6.64		
	Total	121.71	13			

a. Dependent Variable: GoalsT1
b. Predictors: (Constant), ExpLevel

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	27.46	1.88		14.63	0.00	23.38	31.55		
	ExpLevel	1.66	0.66	0.59	2.52	0.03	0.22	3.10	1.00	1.00

a. Dependent Variable: GoalsT1

T1 Behavioral CQ and Customers

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.765[a]	0.59	0.55	1.85	0.59	16.98	1	12	0.00	1.26

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: CustomersT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	58.26	1	58.26	16.98	.001[b]
	Residual	41.17	12	3.43		
	Total	99.43	13			

a. Dependent Variable: CustomersT1
b. Predictors: (Constant), BehavioralT1

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	18.53	3.20		5.78	0.00	11.55	25.51		
	BehavioralT1	0.44	0.11	0.77	4.12	0.00	0.21	0.68	1.00	1.00

a. Dependent Variable: CustomersT1
CQ = Cultural Intelligence

A significant model was found between Motivational CQ and Goals (Adjusted R square = .291, F (1,12) = 6.33, p < .05). Experience level was a significant predictor in this model (Motivational CQ, age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	B	SE B	β
Exp Level	0.44	0.11	0.59*

*p < 0.05

A significant model was found between Behavioral CQ and Goals (Adjusted R square = .291, F (1,12) = 6.33, p < .05). Experience level was a significant predictor in this model (Behavioral CQ, age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	B	SE B	β
Exp Level	0.44	0.11	0.59*

*p < 0.05

Summary of Results for Experimental Group

With a moderate, positive influence on Customers (55%), Behavioral CQ was the singular CQ variable within the significance level. Experience level, or the student's self-reported level of experience in other cultures, seemed to be the single positive predictor of Goals (29%), versus Metacognitive CQ, Motivational CQ, and Behavioral CQ.

In sum, the experimental group results would suggest that, in the T^1 timeframe, Behavioral CQ influenced the students' ability to engage with customers; however, the students' experience in other cultures also seemed to have a mild impact on goal accomplishment.

Control Group Findings

The comparative means test of CQ and TE scores between T^1 and T^3 for the control group and the relevant frequency statistics can be found in Table 14, Control Group Descriptive Statistics. The control group's CQ increased while TE decreased from T^1 and $T^{3.}$ (CQ, T^1 M = 111.64, SD = 11.00; T^3 M = 115.36, SD = 15.58, ▲ = 3.71 or 3.2%; TE, T^1 M = 140.64, SD = 11.27; T^3 = 136.00, SD = 12.73, ▲ = -4.64 or -3.41%).

Table 14

Control Group Descriptive Statistics

CONTROL CQ T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
MetacognitiveT1	14	10.00	18.00	28.00	23.79	2.89	8.34	-0.24	0.60	-0.12	1.15
CognitiveT1	14	27.00	10.00	37.00	25.50	7.40	54.73	-0.91	0.60	0.79	1.15
MotivationalT1	14	9.00	26.00	35.00	31.50	3.03	9.19	-0.73	0.60	-1.02	1.15
BehavioralT1	14	13.00	22.00	35.00	30.86	3.78	14.29	-0.80	0.60	0.76	1.15
MetacognitiveT3	14	10.00	18.00	28.00	24.86	3.74	13.98	-0.65	0.60	-1.25	1.15
CognitiveT3	14	29.00	10.00	39.00	27.93	8.62	74.23	-0.75	0.60	-0.14	1.15
MotivationalT3	14	12.00	23.00	35.00	31.29	3.91	15.30	-0.95	0.60	-0.07	1.15
BehavioralT3	14	21.00	14.00	35.00	29.50	5.60	31.35	-1.77	0.60	3.93	1.15
Valid *N* (listwise)	14										

CONTROL WTE T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
GoalsT1	14	8.00	27.00	35.00	32.50	3.11	9.65	-0.58	0.60	-1.49	1.15
CustomersT1	14	11.00	24.00	35.00	31.71	3.58	12.84	-0.95	0.60	0.09	1.15
TimelinessT1	14	7.00	25.00	32.00	29.21	1.81	3.26	-0.46	0.60	1.38	1.15
QualityT1	14	11.00	21.00	32.00	25.50	3.20	10.27	0.48	0.60	-0.48	1.15
ProductivityT1	14	10.00	15.00	25.00	21.71	2.52	6.37	-1.46	0.60	3.01	1.15
GoalsT3	14	16.00	19.00	35.00	30.36	4.25	18.09	-1.29	0.60	3.11	1.15
CustomersT3	14	16.00	19.00	35.00	28.50	5.11	26.12	-0.51	0.60	-0.52	1.15
TimelinessT3	14	12.00	25.00	37.00	30.21	3.77	14.18	0.41	0.60	-1.14	1.15
QualityT3	14	15.00	16.00	31.00	24.86	4.28	18.29	-0.57	0.60	-0.17	1.15
ProductivityT3	14	9.00	19.00	28.00	22.07	2.59	6.69	0.90	0.60	0.98	1.15
Valid *N* (listwise)	14										

CONTROL CQ AND WTE AGGREGATE T1/T3 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CQT1	14	35.00	92.00	127.00	111.64	11.00	121.02	-0.22	0.60	-0.79	1.15
WTET1	14	37.00	117.00	154.00	140.64	11.27	127.02	-0.85	0.60	0.09	1.15
CQT3	14	46.00	90.00	136.00	115.36	15.58	242.71	-0.72	0.60	-1.00	1.15
WTET3	14	51.00	103.00	154.00	136.00	12.73	162.15	-1.17	0.60	2.58	1.15
N = 14	14										

N = 14; CQ = Cultural Intelligence; WTE = Work Team Effectiveness

The control group paired *t*-test results, as depicted in Table 15, Control Group Paired *t*-test Statistics, had a singular variable that increased and was within the significance level: Customers (M = -3.21, SD = 5.03, $t(13) = 2.39$, $p < .05$). The remaining CQ and TE variables, while demonstrating moderate increases and decreases in *t* values, failed to reach the significance level ($p > .05$). The aggregate CQ and TE scores were both outside the acceptable range and deemed insignificant.

The T^1 Pearson correlations for the control group, provided in Table 16, Control Group Pearson Correlations, show a positive relationship between Behavioral CQ skills and Customers (r = .571, N = 14, $p < .05$, two-tailed), with 33% of the variation explained; moreover, the relationship between Behavioral CQ and Quality was strongly positive (r = .730, N = 14, $p < .05$, two-tailed), accounting for 53% of the model.

Results of the correlation tests in the T^3 timeframe found a moderate, positive relationship between Cognitive CQ and Customers (r = .539, N = 14, $p < .05$, two-tailed) as well as Quality (r = .576, N = 14, $p < .05$, two-tailed), accounting for 29% and 33% of the variance, respectively. The only negative correlation in the study occurred between Metacognitive CQ and Timeliness in the T^3 timeframe (r = -.593, N = 14, $p < .05$, two-tailed), with 35% of the variance explained. There were no correlations with significance in the T^1 or T^3 time periods for either aggregate CQ or TE variables.

Single linear regression tests were performed on the control group variables to determine any influential effects. Table 17, Control Group Single Linear Regression Tests, captured the results. The regression results for the T^1 time period, delineated based on magnitude of influence and significance, using the enter method, are as follows: Behavioral CQ and Quality (F (1,12) = 13.72, $p < .001$, Adjusted R square = 0.49), Behavioral CQ and Customers ($F(1,12) = 5.79$, $p < .05$, Adjusted R square = 0.27). In the T^3 timeframe, both Metacognitive CQ and Timeliness ($F(1,12) = 6.51$, $p < .05$, Adjusted R square = 0.30) and Cognitive CQ and Quality ($F(1, 12) = 5.96$, $p < .05$, Adjusted R square = 0.28) had significant impact on the variance. The variance for Cognitive CQ and Customers was on the boundary of the study's significance level Timeliness ($F(1, 12) = 4.91$, $p = .05$, Adjusted R square = 0.23).

Table 15

Control Group Paired t-test Statistics

CONTROL GROUP CQ T1/T3 PAIRED *t*-TESTS

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	MetacognitiveT1–MetacognitiveT3	-1.07	4.01	1.07	-3.39	1.24	-1.00	13	0.34
Pair 2	CognitiveT1–CognitiveT3	-2.43	5.84	1.56	-5.80	0.94	-1.56	13	0.14
Pair 3	MotivationalT1–MotivationalT3	0.21	2.08	0.56	-0.99	1.42	0.39	13	0.71
Pair 4	BehavioralT1–BehavioralT3	1.36	7.66	2.05	-3.07	5.78	0.66	13	0.52

CONTROL GROUP WTE T1/T3 PAIRED *t*-TESTS

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	GoalsT1–GoalsT3	2.14	4.69	1.25	-0.56	4.85	1.71	13	0.11
Pair 2	CustomersT1–CustomersT3	3.21	5.03	1.34	0.31	6.12	2.39	13	**0.03***
Pair 3	TimelinessT1–TimelinessT3	-1.00	3.84	1.03	-3.22	1.22	-0.97	13	0.35
Pair 4	QualityT1–QualityT3	0.64	3.84	1.03	-1.57	2.86	0.63	13	0.54
Pair 5	ProductivityT1–ProductivityT3	-0.36	3.77	1.01	-2.54	1.82	-0.35	13	0.73

CONTROL GROUP CQ AND WTE T1/T3 PAIRED *t*-TESTS

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	CQT1–CQT3	-3.71	12.14	3.24	-10.72	3.29	-1.15	13	0.273
Pair 2	WTET1–WTET3	4.64	15.48	4.14	-4.30	13.58	1.12	13	0.282

N = 14, CQ = Cultural Intelligence, WTE = Work Team Effectiveness

Table 16

Control Group Pearson Correlations

CONTROL GROUP T1/T3 CORRELATION

		CONTROL GROUP WTE T1 CORRELATION					CONTROL GROUP WTE T3 CORRELATION				
		Goals	Customers	Timeliness	Quality	Productivity	Goals	Customers	Timeliness	Quality	Productivity
Metacognitive	Pearson Correlation	.339	.306	.201	.146	-.030	-.079	.089	**-.593***	.076	-.134
	Sig. (2-tailed)	.236	.287	.490	.620	.918	.789	.763	**.025**	.797	.648
Cognitive	Pearson Correlation	-.079	.029	-.291	.349	.078	.116	**.539***	-.379	**.576***	.114
	Sig. (2-tailed)	.789	.922	.313	.222	.790	.692	**.047**	.182	**.031**	.698
Motivational	Pearson Correlation	-.061	.227	-.288	.471	.492	-.187	.131	-.307	.292	.028
	Sig. (2-tailed)	.835	.436	.318	.089	.074	.522	.656	.285	.310	.924
Behavioral	Pearson Correlation	.465	**.571***	-.040	**.730****	.294	-.134	-.168	.301	-.042	.268
	Sig. (2-tailed)	.094	**.033**	.891	**.003**	.308	.648	.566	.296	.887	.354

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

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

N = 14; CQ = Cultural Intelligence, WTE = Work Team Effectiveness

CONTROL GROUP CQ & WTE CORRELATION

		WTET1	WTET3
CQ	Pearson Correlation	.374	.168
	Sig. (2-tailed)	.187	.565

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

Table 17

Control Group Single Linear Regression Tests

T1 Behavioral CQ and Customers

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.571[a]	0.33	0.27	3.06	0.33	5.79	1	12	**0.03**	1.94

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: CustomersT1

T1 Behavioral CQ and Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.730[a]	0.53	0.49	2.28	0.53	13.72	1	12	**0.00**	2.11

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: QualityT1

T3 Cognitive CQ and Customer

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.539[a]	0.29	0.23	4.48	0.29	4.91	1	12	**0.05**	2.46

a. Predictors: (Constant), CognitiveT3
b. Dependent Variable: CustomersT3

T3 Metacognitive CQ and Timeliness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.593[a]	0.35	0.30	3.16	0.35	6.51	1	12	**0.03**	2.27

a. Predictors: (Constant), MetacognitiveT3
b. Dependent Variable: TimelinessT3

T3 Cognitive CQ and Quality

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics: R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.576[a]	0.33	0.28	3.64	0.33	5.96	1	12	**0.03**	1.93

a. Predictors: (Constant), CognitiveT3
b. Dependent Variable: QualityT3
CQ = Cultural Intelligence

These results suggest that there was a moderate influence between Behavioral CQ and Quality (49%) and a weak relationship between Behavioral CQ and Customers (27%) in the T^1 timeframe. While Metacognitive CQ and Timeliness (30%) demonstrated a correlation, Cognitive CQ in relation to Quality (28%) and Customers (23%) was weak.

Multiple linear regressions were performed on the data, controlling for demographic modifiers, with the results as shown in Table 18, Control Group Multiple Regression Tests. T^1 multiple regression results, ordered based on the magnitude of influence and significance, using the stepwise method, are found below.

A significant model was found between Behavioral CQ and Quality (Adjusted R square = .495, F (1,12) = 13.7, p < .005). Behavioral CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Behavioral CQ	0.62	0.17	0.73*

*p < 0.005

A significant model was found between Behavioral CQ and Customers (Adjusted R square = .270, F (1,12) = 5.80, p < .05). Behavioral CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Behavioral CQ	0.54	0.23	0.57*

*p < 0.05

Table 18

Control Group Multiple Regression Tests

T1 Behavioral CQ and Customers

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.571[a]	0.33	0.27	3.06	0.33	5.79	1	12	0.03	1.94

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: CustomersT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	54.31	1	54.31	5.79	.033[b]
	Residual	112.55	12	9.38		
	Total	166.86	13			

a. Dependent Variable: CustomersT1
b. Predictors: (Constant), BehavioralT1

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	15.03	6.98		2.15	0.05	-0.19	30.24		
	BehavioralT1	0.54	0.22	0.57	2.41	0.03	0.05	1.03	1.00	1.00

a. Dependent Variable: CustomersT1

T1 Behavioral CQ and Quality

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.730[a]	0.53	0.49	2.28	0.53	13.72	1	12	0.00	2.11

a. Predictors: (Constant), BehavioralT1
b. Dependent Variable: QualityT1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.21	1	71.21	13.72	.003[b]
	Residual	62.29	12	5.19		
	Total	133.50	13			

a. Dependent Variable: QualityT1
b. Predictors: (Constant), BehavioralT1

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	6.39	5.19		1.23	0.24	-4.93	17.71		
	BehavioralT1	0.62	0.17	0.73	3.70	0.00	0.25	0.98	1.00	1.00

a. Dependent Variable: QualityT1

T3 Cognitive CQ and Customer

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson

1	.539[a]	0.29	0.23	4.48	0.29	4.91	1	12	0.05	2.46

a. Predictors: (Constant), CognitiveT3
b. Dependent Variable: CustomersT3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	98.63	1	98.63	4.91	.047[b]
	Residual	240.87	12	20.07		
	Total	339.50	13			

a. Dependent Variable: CustomersT3
b. Predictors: (Constant), CognitiveT3

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	19.57	4.20		4.66	0.00	10.41	28.73		
	CognitiveT3	0.32	0.14	0.54	2.22	0.05	0.01	0.63	1.00	1.00

a. Dependent Variable: CustomersT3

T3 Metacognitive CQ and Timeliness

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.593[a]	0.35	0.30	3.16	0.35	6.51	1	12	0.03	2.27

a. Predictors: (Constant), MetacognitiveT3
b. Dependent Variable: TimelinessT3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.87	1	64.87	6.51	.025[b]
	Residual	119.49	12	9.96		
	Total	184.36	13			

a. Dependent Variable: TimelinessT3
b. Predictors: (Constant), MetacognitiveT3

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	45.07	5.88		7.66	0.00	32.26	57.88		
	MetacognitiveT3	-0.60	0.23	-0.59	-2.55	0.03	-1.11	-0.09	1.00	1.00

a. Dependent Variable: TimelinessT3

T3 Cognitive CQ and Quality

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.576[a]	0.33	0.28	3.64	0.33	5.96	1	12	0.03	1.93

a. Predictors: (Constant), CognitiveT3
b. Dependent Variable: QualityT3

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.86	1	78.86	5.96	.031[b]
	Residual	158.85	12	13.24		
	Total	237.71	13			

a. Dependent Variable: QualityT3

b. Predictors: (Constant), CognitiveT3

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	16.87	3.41		4.94	0.00	9.44	24.31		
	CognitiveT3	0.29	0.12	0.58	2.44	0.03	0.03	0.54	1.00	1.00

a. Dependent Variable: QualityT3

T^3 multiple regression results, ordered based on the magnitude of influence and significance, using the stepwise method, are provided below.

A significant model was found between Metacognitive CQ and Timeliness (Adjusted R square = .0.30, F (1,12) = 6.52, p < .05). Metacognitive CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Metacognitive CQ	-0.60	0.23	-0.59*

*p < 0.05

A significant model was found between Cognitive CQ and Quality (Adjusted R square = .0.276, F (1,12) = 5.96, p < .05). Cognitive CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Cognitive CQ	0.29	0.12	0.58*

*p < 0.05

A significant model was found between Cognitive CQ and Customers (Adjusted R square = .0.231, F (1,12) = 4.91, p < .05). Cognitive CQ was a significant predictor in this model (age, years of work experience, experience level, and years in other countries were not significant predictors):

Variable	**B**	**SE B**	**β**
Cognitive CQ	0.32	0.14	0.54*

*p < 0.05

Summary of Results for Control Group

Within the T^1 timeframe, the Behavioral CQ variable was a moderate, positive predictor of both Quality (50%) and Customers (27%). Metacognitive CQ appeared to have a weak, negative impact on Timeliness in the T^3 time period (-30%). Cognitive CQ was a weak predictor of both Quality (28%) and Customers (23%).

The control group findings suggest that in the T^1 timeframe, Behavioral CQ positively influenced the students' quality of work (49%) and potentially their interaction with customers (27%). A curious finding was that Metacognitive CQ may have decreased (-30%) the students' timely accomplishment of tasks in the T^3 timeframe. Moreover, Cognitive CQ may have mildly enhanced the quality of students' products or services delivered (28%) and perhaps the effectiveness of engagement with customers (23%).

T^3 Student Rating Findings

In order to ascertain the effectiveness of the CQ focus group intervention at T^2 (prior to client interventions during Session Seven in China), an additional rating question was added to the end of the Work Team Effectiveness survey T^3. Each student was asked to rate all other students in the cohort for CQ skills on a 1 to 7 Likert scale. The intent was to determine if the experimental group, which received the additional training, was perceived as having higher CQ skills than the control group in the T^3 time period. Frequency and correlation statistics were performed on the experimental and control group mean student ratings and aggregate CQ scores in the T^3 time periods as shown in Table 19, Experimental and Control Group Training and Cultural Intelligence T^3 Frequencies below.

Supporting a positive causal effect of the educational intervention was a slightly more favorable mean CQ rating for the experimental group (M = 5.34, SD = 0.67) as compared to the control team (M = 5.05, SD = 0.69) representing a ▲ = 0.29 or 5.5%. Furthermore, all CQ variables for the experimental group increased from T^1 to T^3 (Metacognitive CQ, M = 1.50, 4.8%; Cognitive CQ, M = 3.43, 11.5%; Motivational CQ, M = 1.50, 4.8%; and Behavioral CQ, M = 1.93, 6.2%).

Table 19

Experimental and Control Group Training and Cultural Intelligence T^3 Frequencies

Experimental Group Rating Frequencies

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AvgScore	14	2.22	4.32	6.54	5.34	0.67	0.45	0.42	0.60	-0.38	1.15
CQT3	14	70.00	70.00	140.00	114.14	18.73	350.90	-0.96	0.60	1.00	1.15
Valid *N* (listwise)	14										

Control Group Rating Frequencies

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
AvgScore	14	2.39	4.00	6.39	5.05	0.69	0.48	0.23	0.60	-0.71	1.15
CQT3	14	46.00	90.00	136.00	115.36	15.58	242.71	-0.72	0.60	-1.00	1.15
Valid N (listwise)	14										

N=14; CQ = Cultural Intelligence

Experimental and Control Group Rating Correlations

Experimental Group Rating Correlations

		CQT3
AvgScore	Pearson Correlation	.020
	Sig. (2-tailed)	.946

Control Grp Rating Correlations

		CQT3
AvgScore	Pearson Correlation	.045
	Sig. (2-tailed)	.878

A paired *t*-test and correlations of the average experimental and control group student ratings were performed with results outside of the acceptable $p > .05$ range. Moreover, there were gaps in the responses to the student rating question (i.e., of 392 entries possible, or 14 x 28, the experimental group had 10 (3%) missing responses, while the control group had 116 (30%) responses).

Summary of Results

The intent of the rating question posed to the students was to determine if the training positively impacted CQ and, thereby, TE variables. Although the experimental group did improve in CQ scores from T^1 to T^3, based on these findings, it would be reasonable to conclude that the impact of the educational intervention on the experimental group was likely positive but inconclusive.

Educational Intervention Qualitative Findings

As part of the research design, the educational training was segmented into the following focus areas: (a) a CQ overview of the four dimensions and their sub-dimensions, (b) a discussion regarding the meaning of the CQ and cultural values scores, and (c) a focus group where brainstorming and group discussion were utilized to improve CQ skills and, therefore, effectiveness of client improvement projects.

The data of the focus group and brainstorming exercise were captured and processed using qualitative analysis to ascertain themes and common practices for improving CQ. The results of this analysis can be found in Table 20, Experimental Group Qualitative Analysis.

The format for the brainstorming exercise was groupings of three to four students, sharing best practices and suggestions for the following set of questions:

1. What one CQ skill will you target for improvements in the future, and what will you do to improve it?
2. As an informal leader, what specifically can you do to help your team to be successful in the client intervention? (This question was modified from the original study design due to the nature of the intervention and time constraints.)

Table 20

Experimental Group Qualitative Analysis

Question 1. What one CQ skill will you target for improvements in the future, and what will you do to improve it?				
	CQ Drive	**CQ Knowledge**	**CQ Strategy**	**CQ Action**
Common Themes	**Enhancing enjoyment and confidence in cross-cultural engagements**	**Improving ability to read non-verbal communications and reflective capabilities**	**Observing and inquiry to check assumptions and modify plans**	**Modifying speech and adapting to the moment**
Responses	Deriving enjoyment from culturally diverse situations	Improving knowledge of languages and non-verbal behavior	Adapting to cultural situations after having checked the assumptions	Modifying my manner of communication based on observation and feelings
	I am going to concentrate on keeping my motivation levels. I have become somewhat complacent with slowing down on international travel over the last two years and would be happy increasing my confidence levels with cross-cultural engagements	Increase understanding of how culture shapes thinking and behavior. Use reflective capabilities to stay mindful of past (prep) research when working with clients	Take in as much data as possible through observation and inquiry. I will strive to continuously monitor and adjust my plan and action and strategy according to the ongoing analysis I am conducting	Pay attention in the moment, adapt and go with it
	Self-efficacy -> exhibit more belief in success	Inquire, ask more questions		Improve CQ action regarding speech
		Improve knowledge regarding interpersonal		Improve CQ action regarding speech
#	3	5	2	4
%	21.43%	35.71%	14.29%	28.57%
Question 2 (Modified) As an informal leader, what specifically can you do to help your team to be successful in the client intervention?				
	Team 1	**Team 2**	**Team 3**	**Team 4**
Common Themes	**Being calm, confident, and observant; asking questions and checking assumptions; being flexible and adapting**	**Planning for assignments and cross-cultural situations before project; limiting assumptions**	**Being calm and confident—stepping out; regrouping as a team as needed**	**Stepping out and modeling behavior; regrouping as the team needed**
Responses	Be aware, observant	Remind people to work/look at facts—limit assumptions	Step out—take a moment to regroup away from client	Ask to take a break and regroup as a team
	Call it out	Softly support team members	Stay calm and confident	Step in and model behavior
	Not freak out (stay calm)	Suggest alternatives to team	Let's go back to relationships, then redirect	Inform the team member of your observation
	Help others not freak out	Designate team members to specific tasks to help others with cultural police	Intervene	Gauging the temperature of the discussion, having an awareness
	Ask questions (share the problem)	Understanding before project to ensure people don't become frustrated	Name indirectly	
	Say "I'm sorry"			
	Be curious, no judgments			
	Consider cultural values			
	Seek professional assistance			
	Be confident			
	Plan and track			
	Be flexible and adapt			

CQ = Cultural Intelligence

The participants decided independently to focus on CQ dimensions as follows: *CQ Drive, 21.43%; CQ Knowledge, 35.71%; CQ Strategy, 14.29%; and CQ Action, 28.57%. Common themes that emerged from the CQ skills improvement question were enhancing enjoyment and confidence in cross-cultural engagements, improving the ability to read non-verbal communications, using observation and inquiry to check assumptions and modify plans, and modifying speech as needed in the moment*.

The results of the informal leadership question were complementary, with the addition of *regrouping as a team to assess the situation and stepping out to model desired cross-cultural behavior for others*.

Summary of CQ and TE Study Results

The quantitative and qualitative analysis of this exploratory study, including the demographics of the students, the T^1 and T^3 Cultural Intelligence Scale and Work Team Effectiveness survey values and measures, and the focus group CQ intervention results, were presented in this chapter.

The findings of the study suggest that the aggregate CQ and TE variables did not demonstrate a strong relationship to the TE variables in any of the statistical tests; however, the influence of both Metacognitive CQ and Behavioral CQ on Goals and Customers in the T1 timeframe was significant. Furthermore, Behavioral CQ had a significant effect on Quality, particularly with the control group in the T^1 timeframe. Cognitive CQ, although tempered, improved over time and contributed to positive changes in Quality and Customers. Motivational CQ did not seem to impact any of the TE variables in the study. Interestingly, Metacognitive CQ seemed to impede students' ability to achieve timely results for the control group in the T^3 time period. Both age and experience level had weak effects on students' ability to complete goals. Based on these findings: *The Hypothesis H_0 (Null Hypothesis) is rejected, and Hypothesis H_A (Alternative Hypothesis) is accepted*. There is a statistically significant relationship between CQ and TE the case of a multinational, organization development graduate program environment. This would suggest that CQ plays a role in the effectiveness of teams in projects executed in cross-cultural environments.

This study tested additional sub-hypotheses to determine the exact nature of CQ's impact on TE. Consequently, because of these findings: *Hypothesis H_{01} (Null Hypothesis) is accepted, and Hypothesis H_{A1} (Alternative Hypothesis) is rejected.* There is not a statistically significant relationship between Motivational CQ and TE in the case of a multinational, organization development graduate program environment. This finding may imply that intrinsic and extrinsic rewards, along with confidence, have little impact on the effectiveness of teams in this context.

Hypothesis H_{02} (Null Hypothesis) is rejected, and Hypothesis H_{A2} (Alternative Hypothesis) is accepted. There is a statistically significant relationship between Behavioral CQ and TE in the case of a multinational, organization development graduate program environment. The students' actions and verbal and non-verbal communications clearly influenced their ability to get results.

Hypothesis H_{03} (Null Hypothesis) is rejected, and Hypothesis H_{A3} (Alternative Hypothesis) is accepted. There is a statistically significant relationship between Cognitive CQ and TE in the case of a multinational, organization development graduate program environment. Familiarity with cultural systems, norms, worldviews, and business practices appears to have impacted the students' outcomes.

Hypothesis H_{04} (Null Hypothesis) is rejected, and Hypothesis H_{A4} (Alternative Hypothesis) is accepted: There is a statistically significant relationship between Metacognitive CQ and TE in the case of a multinational, organization development graduate program environment. The ability to strategize, plan, and re-plan for cross-cultural engagement based on new information seems to have affected the TE attributes in this study.

Chapter 5: Conclusions

This exploratory study posited the question: Within a multinational, organization development graduate program environment, what is the relationship between CQ and TE? In this final chapter, a summarization and discussion of the findings is provided, conclusions are drawn from the results, and suggestions for further research are presented. The study's limitations and implications for organization development practitioners as well as managers and leaders are additionally covered.

Identifying CQ capabilities and best practices that amplify a person's cross-cultural efficacy is essential in a "flattened" world. The globalization experienced in the past decade has changed in a critical way: It is speeding up. Friedman suggests that "there is something about the flattening of the world that is going to be qualitatively different from the great changes of previous eras: The speed and breadth with which it is taking hold" (2007, p. 49).

While there have been studies to tease out the effects of CQ on individual cultural adaptation and effectiveness, this study's intent was to extend this research, providing a means for additional exploration of the nature of CQ's effect on TE.

Findings

The salient findings from the study are illuminated below.

1. CQ Increased overall for both the cohort and the experimental group and marginally for the control group.

   The findings were that CQ increased between T^1 and T^3 for the cohort and both the experimental and control groups. The entire cohort realized improvement in every CQ variable over this same time period. The experimental group demonstrated improvements in all CQ variables, whereas the control group manifested improvement in both Cognitive CQ and Metacognitive CQ, decreasing in Motivational CQ and Behavioral CQ. Moreover, the experimental group registered a higher CQ rating via the T^3 student rating question than did the control group.

2. TE mostly declined for the cohort and control group and slightly advanced for the experimental group.

TE means scores in aggregate declined for the cohort and control group and increased in the experimental group between T^1 and T^3 timeframes. The study finding regarding TE variables was that the cohort decreased in Goals, Customers, and Productivity but enhanced their Timeliness and Quality values. The experimental group TE values improved for Goals, Timeliness, and Quality during this timeframe, while Customers and Productivity both declined. Goals, Customers, and Quality declined in the same time period, while Timeliness and Productivity advanced for the control group.

3. CQ impact on TE was significant in the T^1 timeframe, with Cognitive CQ and Metacognitive CQ having the only influence longitudinally.

   For the entire cohort in the T^1 timeframe, the finding was that Metacognitive CQ and Behavioral CQ positively influenced Goals, whereas Metacognitive CQ and Behavioral CQ enhanced Customers. In addition, Behavioral CQ positively impacted Quality during the same time period. An increase in age also seemed to degrade Goals.

   There were only two significant T^1 results for the experimental group: a moderate positive relationship between Behavioral CQ and Customers and a mild positive influence of experience level in other cultures and Goals.

   During the T^1 time period, the control group had a positive relationship between Behavioral CQ and Customers; Quality had an even stronger positive dependency on Behavioral CQ. In addition, the only positive longitudinal finding between the T^1 and T^3 timeframes was a mean increase in Cognitive CQ, which correlated to an improvement in Quality and Customers. While the mean score for Metacognitive CQ increased during the same timeframe, it correlated to a drop in Timeliness.

Conclusions

Based on the findings, several conclusions regarding the impact of CQ on TE within the context of an international, organization development program can be drawn:

1. Metacognitive CQ and Behavioral CQ skills were associated with perceived goal achievement and effective customer engagement.

   The discovery that strategic planning and adaptive thinking would heighten the capability of a team to meet or exceed its goals and satisfy its customers would seem to support previous research regarding cultural adaptation (Ang et al., 2007) and adjustment to novel environments (Oolders et al., 2008). Perceived satisfaction of customers and accomplishment of team goals was positively influenced by the ability of students to exhibit the appropriate behavior in a cross-cultural setting. Effective interactions (Van Dyne, Ang, & Koh, 2008) in cross-cultural settings have previously been linked to Behavioral CQ skills.

2. Enhancing Cognitive CQ skills over time improved perceived customer satisfaction and quality of team deliverables.

   Only the control group had correlations in both the T^1 and T^3 timeframes, where Cognitive CQ skills had a positive impact on the customer satisfaction and quality of team output at the T^3 time period. The latter finding supports previous research in effective decision making and adaptation (Ang et al., 2007) along with improved social perceptions (Rockstuhl & Ng, 2008). While Customers and Quality decreased for the Control group over time, it is assumed that the decline was somewhat mitigated by the positive correlation to Cognitive CQ.

3. Increased Metacognitive CQ capability decreased the timeliness of task performance.

   The most curious finding in this study was a negative relationship between Metacognitive CQ and the effective use of time to reach goals for the control group at T^3. The notion that strategic planning and adaptation could impede the timely execution of tasks is novel in CQ research. This may suggest that there are limitations to the positive impact of CQ on TE in specific situations. In essence, the enhanced task performance and decision making Metacognitive CQ offers (Ang et al., 2007) may be at the expense of meeting timely commitments. The characteristic suspension of judgment, planning, and adapting attributable to Metacognitive CQ

skills might have to be weighed against setting reasonable project deadlines in a cross-cultural setting (Triandis, 2006; Van Dyne, Ang, & Koh, 2009).

4. Prior cultural experience and age influenced the achievement of team goals**.**

   While the experimental group findings were consistent with the entire population and prior research, earlier cultural experience levels and their effects on the CQ skills of students seemed to have been a significant contributor to goal achievement. This increase of CQ over time due to continual cultural exposure coincides with past research regarding the developmental nature of the construct (Ang & Van Dyne, 2008). However, the notion that an increase in age might negatively correlate to task accomplishment was also new in CQ research.

5. Additional training may have enhanced CQ skills.

   While the study did not find definitive proof of a correlation, the common themes derived from the CQ educational intervention at T^2 with the experimental group may have led to CQ skill improvement at T^3. With substantial increases in Motivational CQ, Behavioral CQ, and Cognitive CQ between T^1 and T^3, it would be reasonable to assume that, aside from prior cultural experiences, the intervention contributed to the experimental group's increase in CQ skills. The themes identified in the focus group—focusing on improving non-verbal communications and reflective capabilities (Cognitive CQ), modifying communications (Behavioral CQ), and checking assumptions to modify plans (Metacognitive CQ)—likely enhanced some growth in CQ skills.

Additional Factors

Given the delta in scores and results from T^1 to T^3, it would also be reasonable to suggest that there was a difference in the student cultural experience in Session Four in Costa Rica as opposed to Session Seven in China. For example, the level of academic and experiential challenge in China, hypothetically, may have disproportionately impacted the study's TE results. The research design, which measured students' CQ and TE after Costa Rica and China versus prior to their first international session in France, also could have influenced the potential results.

Comparative differences in demographics between groups also may have been a factor in the outcomes. Prior experience in other cultures may have additionally contributed to achievement of goals and satisfaction of customers. Thus, several factors may have impacted the study's results:

1. Perceived differences in experience between Costa Rica and China

   The MSOD program is designed to be progressively developmental. The students' aptitude and capability, both academically and experientially, are continually assessed with an expectation of increased results. By Session Eight, considered the capstone project of the program, students must demonstrate mastery of the organization development subject field as well as its application in cross-cultural settings.

   These expectations were made apparent in two challenging student projects in China versus one in Costa Rica. For example, prior to the China projects, students were asked to do substantial research in one or two areas which would be applied in country: talent management differences between the United States and China and assessing the network for sustainability. Students leveraged this research to perform field studies and report out on their findings. In addition, as a second project, six local Chinese companies or government agencies were assisted by students in a variety of organization development challenges.

   In contrast, training and application of Appreciative Inquiry for three organizations was the focus in Costa Rica: a humanitarian foundation, a coffee company, and a national bank. These organizations joined the students in Appreciative Inquiry training for one day, subsequently leveraging Appreciative Inquiry for an organizational change dictated by the clients. Thus, the faculty expectations of students were substantially higher in regard to increased organization development knowledge and capability during the China session as opposed to the earlier session in Costa Rica. For example, students' command of the academic

material and ability to effectively perform client interventions within a cross-cultural context was more significantly tested and assessed during the China session.

2. Demographic Differences

Every attempt was made to ensure that demographic modifiers in this study—specifically, age, years of work experience, and experience in other countries and cultures—were accounted for in the analysis. That notwithstanding, it would be important to highlight some critical demographic parameters which might have influenced the outcomes.

The experimental group was younger and had less work experience, slightly higher education, less experience in other countries, but, curiously, more experience in other cultures. It would be reasonable to hypothesize that the experimental group's demographics of age, higher education, and, in particular, time in other cultures contributed to their increase in CQ and TE. In contrast, the control group's age and longer work experience may have created assumptions and biases which influenced less of an increase in CQ and a decrease in TE.

3. Prior cross-cultural exposure in theory played a role in the study's outcomes

The majority of the students had prior experience (moderate to very experienced) in both other countries and cultures. In addition, students had the cultural experience in France via Session Two prior to T^1, and one third of the cohort participated in a pre-trip to China prior to Session Eight. These data were evident in the experimental group's T^1 results relative to the impact of experience level on goal accomplishment.

Study Limitations

The study's limitations are as follows:

1. Generalizability

While the entire cohort or sample size of 28 students participated in this study, the results cannot be generalized without further research.

2. Sample Size and Gender

   The population was very small and predominately women with an average overall age of 36 years old.

3. Origins and Language

   The percentage of students whose country of origin and citizenship were American was 68% and 86%, respectively. However, nearly half of the students spoke more than one language. Thus, while this was a compelling sample for the purpose of the study, the degree to which this population reflects the composition of other international graduate programs in organization development limits the findings of the study.

4. Prior Cultural Exposure

   In addition, per the findings, 60% of the students had prior experience in other countries and cultures, with almost 61% having lived in another country for at least six months. Moreover, beyond the cultural exposure gained through the program, many students participated in additional foreign travel during the program, most notably, a pre-trip before Session Seven in China. This pre-trip was experienced by approximately a third of the students, as mentioned, and was designed to provide a rich cultural introduction to China through historical site visits and cultural experiences. It is realistic to assume, and the findings suggest, that these prior and ancillary cultural experiences influenced students' CQ capabilities.

5. Study Timing

   The study began after Session Four in Costa Rica. This was due to a change in the study's targeted population. It would have been preferable to have students' CQ and TE assessment data prior to Session Two in France to eliminate the impact of prior cultural experiences. Thus, these additional cultural experiences might have been stronger modifiers to the outcome of the study than if the study had been started earlier.

6. Group Commingling

As noted in the findings as well, an additional limitation to the study was an inability to separate the experimental and control groups' intervention activities; these groups were intermixed during all client interventions. Thus, while accommodating for this intermixing of students using the rating question methodology at T^3 previously discussed, students' ability to learn and adapt through observing other students' actions and behaviors could have been a factor. For example, it can be assumed that if students observed successful behaviors in a cross-cultural intervention, they might have been apt to copy them to enhance their own results.

Recommendations for Further Research

The results of this study suggest several areas for further research:

1. CQ and MNTs

This study provided a unique window into the impact of CQ on teams. Field research concerning CQ has largely focused on individuals and the effects of enhanced CQ skills on individual performance. Positive evidence of improved professional and personal results for leaders and individual contributors who have ameliorated their CQ capabilities is ample. From increased confidence, adaptability, decision making, task performance, and negotiation skills to improved awareness of biases, the CQ research heretofore has not adequately explored how teams can leverage enhanced CQ skills for improved MNT performance.

2. CQ and Team Dynamics

Teams are becoming a fundamental means of accomplishing organizational objectives. The earlier hierarchical organization models are transforming into decentralized, team-based organizational models. CQ research centered on the effectiveness of MNTs in a plethora of cross-cultural engagement scenarios would be beneficial and timely. For example, studying team dynamics could shed light on the effects of CQ on team heterogeneity and the development of "swift norms." The nature of a "negotiated or hybrid team culture" (Maloney & Zellmer-Bruhn, 2006,

p. 709) and whether improved CQ skills could expedite its formation would be interesting. The notion that heterogenic teams have the potential to create more creative solutions using CQ capabilities seems highly relevant.

Implications for Organization Development Practitioners

Organization development as a practice endeavors to make positive changes in organizations through the cogent use of behavioral sciences. Creating the frameworks and methodology in order that organizations and their teams can build new organizational capabilities to better compete in the global economy is a collective goal of organization development practitioners.

To that end, understanding and effecting positive change in today's business environment requires a global perspective and capacity to easily traverse cultural boundaries. Driving change often means factoring in multiple cultural worldviews, even if the predominant culture (e.g., headquarters) is in one country or region of the world.

Assessing and developing these malleable CQ skills to increase cross-cultural adaptability and efficacy would seem an attractive proposition for organization development practitioners the world over. Assessment and diagnostics of organizational health are essential organization development skills, and CQ offers another lens from which to create positive change. Knowing the degree of prior cultural exposure and CQ skill level of teams within organizations, in particular, Metacognitive CQ, Behavioral CQ, and Cognitive CQ per this study, could be useful in addressing MNT or virtual team challenges with goal achievement and customer satisfaction. Moreover, care should be exercised when enhancing Metacognitive CQ capacity as it might unintentionally hamper timely delivery of team deliverables.

Implications for Global Managers

The rate of change and expectations of leaders to be adept at leading employees from all corners of the globe has become the norm. As a consequence, actively using and modeling the CQ capabilities and creating a lingua franca for cross-cultural interactions would boost a leader's global effectiveness. Arming leaders with data regarding their organization's cross-cultural

adaptability and developing those CQ skills as a competitive advantage would set some leaders apart.

Last Thoughts

With the advent of globalization, the world has become highly connected and interdependent. Virtually everything in professional and personal life now is interdependent within the global economy. As Friedman wrote,

> Every young American today would be wise to think of him or herself as competing against every young Chinese, Indian and Brazilian. In Globalization 3.0, individuals have to think globally to thrive, or at least survive. These changes require not only a new level of technical skills, but also a certain mental flexibility, self-motivation, and psychological mobility. (2007, p. 278)

The capability of individuals and teams to work effectively in global environments—be it in proximity or virtually—seems linked to Friedman's "psychological mobility." CQ, as a construct designed for measuring effective cross-cultural engagements, seems well suited for these new realities. Although a new model, with further research and validation, CQ could become a ubiquitous leadership and team development tool to promulgate effective cultural adaptability throughout an organization.

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Appendix A: Awareness Email to Subjects

Introducing the Cultural Intelligence (CQ) and Team Effectiveness (CQ/TE) Study!

Heretofore, there has not been a measure of cultural intelligence and work team effectiveness for the Pepperdine MSOD program. Moreover, as the demands for OD become more global, we do not have an effective measure of the impact cultural adaptability has on work team effectiveness or interventions.

I am a student pursuing a Master of Science in Organization Development at Pepperdine University, Graziadio School of Business and Management, who is in the process of recruiting individuals to be a part of my study entitled, "Cultural Intelligence (CQ) and Team Effectiveness Study".

Purpose of this Study: This is an exploratory study of *the impact of Cultural Intelligence (CQ) on team effectiveness in international, organizational development graduate program environments.* The participants will be the thirty students of the Pepperdine Master of Science in Organization Development program. It is intended that outcomes from this study will be used to improve the MSOD program.

Study Outline: The CQ/TE project has the following elements:

1. **Survey**: A voluntary T^1 & T^3 (Before and after) survey for assessing CQ and work team effectiveness (interventions) in an international graduate program environment.
2. **Education/Training and Focus Groups:** Education/Training on CQ scores and cultural values, and voluntary focus groups will be conducted to improve CQ and team effectiveness.
3. **Data Analysis and Recommendations:** Once the quantitative and qualitative data are analyzed, recommendations for improvements in cross-group effectiveness will be communicated to students and faculty.

Do you have Cultural Intelligence (CQ)?

- Do you know what motivates you in cross-cultural situations?
- Are you aware of the norms and cultural systems operating in the cultures you work in?
- How does awareness of our own cultural assumptions impact our ability to be effective in situations involving multiple cultures?
- What behaviors produce positive outcomes when differences in norms, traditions, and worldviews are present?

Cultural Intelligence: What is Cultural Intelligence (CQ)? CQ is a set of adaptability skills that enhance our ability to be successful in cross-cultural situations. Through a survey called the Cultural Intelligence Scale (CQS), we can assess your CQ capabilities and orientation for cultural values against a global database of over 20K participants.

For more information see **Cultural Intelligence (CQ):** http://www.culturalq.com/index.html

Confidentiality and Risk: The Cultural Intelligence Scale (CQS) assessment will be administered through the Cultural Intelligence Center (CQC), while the Work Team Effectiveness (WTE) survey will be provided by the researcher through Qualtrics. Participant names/emails will be used to provide them with their respective CQ reports. The personal standing and program status of students in the MSOD program will not be affected whether or not they choose to participate in this study—participation is confidential and completely voluntary. Anyone can drop out at any time without consequence. All data analysis and reporting will be done on aggregate data, and survey answers and focus group data will not be shared with anyone. The data will be kept in a secure manner, per privacy standards, and destroyed after 2 years. If the findings of

this study are presented to a professional audience or published, no personally identifying information will be released—only aggregate.

What will you get for your participation? By participating in the CQ/TE survey, *you will receive a personalized report regarding your cultural intelligence scores and cultural values. In addition, each student who submits a completed survey will received training in improving their CQ skills.*

Questions: If you should have any questions about this study, please send email to "XXXXXXX@hotmail.com" or contact **Jack Schlafer at Home: XXX-XXX-XXXX, Cell: XXX-XXX-XXXX**

Thank you,

Jack Schlafer
Master of Science in Organization Development Candidate
Pepperdine University

Appendix B: Introductory Email to Subjects and Participant Consent

Welcome to the Cultural Intelligence (CQ) and Team Effectiveness (CQ/TE) Study!

Heretofore, there has not been a measure of cultural intelligence and work team effectiveness for the Pepperdine MSOD program. Moreover, as the demands for OD become more global, we do not have an effective measure of the impact cultural adaptability has on work team effectiveness or interventions.

I am a student pursuing a Master of Science in Organization Development at Pepperdine University, Graziadio School of Business and Management, who is in the process of recruiting individuals to be a part of my study entitled, "Cultural Intelligence (CQ) and Team Effectiveness Study."

==========

> Your Consent: By completing these surveys, you are acknowledging that you have read and understand what your study participation entails and are consenting to the study.

1. Cultural Intelligence Scale (CQS): Please follow the link to participate in the CQS survey **<LINK>**
2. Work Team Effectiveness (WTE): Please follow the link to participate in the WTE survey **<LINK>**

==========

Background Information:

Purpose of this Study: This is an exploratory study of *the impact of Cultural Intelligence (CQ) on team effectiveness in international, organization development graduate program environments.* The participants will be the 30 students of the Pepperdine Master of Science in Organization Development program. It is intended that outcomes from this study will be used to improve the MSOD program.

Study Outline: The CQ/TE study has the following elements:

1. **Survey T^1 (July 1st through July 31st, 2011):** A voluntary survey for assessing CQ (Cultural Intelligence Center's Scale Assessment—CQS) and team effectiveness (Gibson's multicultural team effectiveness survey) will be given to MSOD students after session four (Costa Rica). This initial survey will measure CQ and perceptions of team effectiveness as it relates to client system interventions during session four and serve as our baseline dataset. Post-survey T^1, all students will receive a personalized CQS report which highlights score across the four dimensions and associated sub-dimensions, along with cultural values.
2. **T^2 Interventions: Education and Focus Groups:** A couple of targeted interventions will be performed between survey T^1 and T^3 on a group of randomly selected "continuing participants" (versus a control group).
    - **Education and Training (September 2011, Session Five—California):** The researcher will provide education and training regarding the meaning behind the scores and values and how they may impact cross-cultural engagements.
    - **Focus Groups (March, 2012, Session Seven—China):** Prior to client system engagement in China, focus groups will be formed for ninety minutes to brainstorm on ways to enhance team effectiveness in cross-cultural situations using CQ skills.
3. **Survey T^3 (April 1st though April 30th, 2012):** The follow-up survey will measure CQ and team effectiveness per client system interventions during the MSOD session seven

in China of the "continuing participants," providing comparative data to assess our educational and focus group interventions against the control group.

4. **Education and Training (June 2012, Session Eight—California):** The researcher will provide education and training regarding the meaning behind the scores and values and how they may impact cross-cultural engagements with *the control group*.
5. **Data Analysis and Recommendations:** Once the quantitative and qualitative data is analyzed, recommendations for improvements in cross-group effectiveness will be communicated to students and faculty.
6. **Costs**: All costs will be covered by the researcher.

Cultural Intelligence: What is Cultural Intelligence (CQ)? CQ is a set of adaptability skills that enhance our ability to be successful in cross-cultural situations. Through a survey called the Cultural Intelligence Scale (CQS), we can assess your CQ capabilities.

For more information, see **Cultural Intelligence (CQ):** http://www.culturalq.com/index.html

Benefits:

1. *Each student will receive a personalized assessment of his or her current CQ skill and cultural values.*
2. *This provides a unique dataset for cultural adaptability and team effectiveness regarding the Pepperdine MSOD program client system interventions.*

Risks Involved:
Although minimal, the risks for this project are as follows:

1. The release of student's personal CQ and cultural values scores. However, if the student's survey data were made public, they would not be at risk for criminal or civil liability, nor would it harm their financial position, employability, or reputation.
2. An increased awareness of student's level of CQ capability and team effectiveness which should have no adverse effect.

Confidentiality and Privacy:
The Cultural Intelligence Scale (CQS) assessment will be administered through the Cultural Intelligence Center (CQC), while the Work Team Effectiveness survey will be provided by the researcher through Qualtrics. Participant names/emails will be used to provide them with their respective CQ reports. The personal standing and program status of students in the MSOD program will not be affected whether or not they choose to participate in this study—participation is confidential and completely voluntary. Anyone can drop out at any time without consequence. All data analysis and reporting will be done on aggregate data and survey answers and focus group data will not be shared with anyone. The data will be kept in a secure manner, per privacy standards, and destroyed after 2 years. If the findings of this study are presented to a professional audience or published, no personally identifying information will be released—only aggregate.

Survey Instructions: The first part of the survey on Cultural Intelligence (CQ) is considered a "Self-Report" survey. The degree to which your self-assessment reflects your current capability, the more likely the study's finding will improve cross-group effectiveness. Therefore, we encourage you to be self-critical regarding your survey answers.

The balance of the survey questions focus on your current work team effectiveness (or interventions). All questions follow a 1-7 scale with 1 = strongly disagree; 7 = strongly agree. Please select the answer that best describes your situation.

Questions: If you should have any questions about this study, please send email to "XXXXXXX@hotmail.com" or contact **Jack Schlafer at Home: XXX-XXX-XXXX, Cell: XXX-XXX-XXXX**

Thank you,

Jack Schlafer
Master of Science in Organization Development Candidate
Pepperdine University

Appendix C: Reminder Email to Subjects

Reminder of the Cultural Intelligence (CQ) and Team Effectiveness (CQ/TE) Study!

This email is a friendly reminder of the "Cultural Intelligence (CQ) and Team Effectiveness (CQ/TE)" study we are conducting. The purpose of this exploratory study is to measure the *impact of Cultural Intelligence (CQ) on team effectiveness in international, organizational development graduate program environments* to improve the MSOD program.

Please follow the links below to participate in the CQ/TE study:

> Your Consent: By completing these surveys, you are acknowledging that you have read and understand what your study participation entails and are consenting to the study.

1. Cultural Intelligence Scale (CQS): Please follow the link to participate in the CQS survey **<LINK>**
2. Work Team Effectiveness (WTE): Please follow the link to participate in the WTE survey **<LINK>**

Questions: If you should have any questions about this study, please send email to "XXXXXXX@hotmail.com" or contact **Jack Schlafer at Home: XXX-XXX-XXXX, Cell: XXX-XXX-XXXX**

Thank you,

Jack Schlafer
Master of Science in Organization Development Candidate
Pepperdine University

Appendix D: Participant Survey Thank You Email

Thank you for participating in the Cultural Intelligence (CQ) and Team Effectiveness (CQ/TE) Survey!

We appreciate your assistance in developing another means to improve CQ and team effectiveness in the MSOD program.

CQ Personal Report: You will be receiving a personal Cultural Intelligence (CQ) assessment in email from our survey provider. This report will provide your current CQ capability score, along with measuring your cultural values. You can find information regarding CQ and cultural values at the following links:

Cultural Intelligence (CQ): http://www.culturalq.com/index.html
Cultural Values: http://www.geert-hofstede.com/

Questions: If you should have any questions about this study, please send email to "XXXXXXX@hotmail.com" or contact **Jack Schlafer at Home: XXX-XXX-XXXX, Cell: XXX-XXX-XXXX**

Thank you,

Jack Schlafer
Master of Science in Organization Development Candidate
Pepperdine University

Appendix E: Cultural Intelligence Scale

Note. From “Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance,” by S. Ang, L. Van Dyne, C. Koh, K. Ng, K. J. Templer, C. Tay, & N. A. Chandrasekar, November 2007, *Management and Organization Review*, *3*(3), p. 366.

Instructions: Select the response that best describes your capabilities.
Select the answer that BEST describes you AS YOU REALLY ARE (1 = strongly disagree; 7 = strongly agree)

CQ Metacognitive:

MC1—I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MC2—I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MC3—I am conscious of the cultural knowledge I apply to cross-cultural interactions.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MC4—I check the accuracy of my cultural knowledge as I interact with people from different cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

CQ Cognitive:

COG1—I know the legal and economic systems of other cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

COG2—I know the rules (e.g., vocabulary, grammar) of other languages.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

COG3—I know the cultural values and religious beliefs of other cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

COG4—I know the marriage systems of other cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

COG5— know the arts and crafts of other cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

COG6—know the rules for expressing non-verbal behaviors in other cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

CQ Motivational:

MOT1—I enjoy interacting with people from different cultures.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MOT2—I am confident that I can socialize with locals in a culture that is unfamiliar to me.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MOT3—I am sure I can deal with the stresses of adjusting to a culture that is new to me.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MOT4—I enjoy living in cultures that are unfamiliar to me.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

MOT5—I am confident that I can get accustomed to the shopping conditions in a different culture.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

CQ Behavioral:

BEH1—I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

BEH2—I use pause and silence differently to suit different cross-cultural situations.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

BEH3—I vary the rate of my speaking when a cross-cultural situation requires it.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

BEH4—I change my non-verbal behavior when a cross-cultural interaction requires it.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

BEH5—I alter my facial expressions when a cross-cultural interaction requires it.
Strongly Disagree (1)
Disagree (2)
Somewhat Disagree (3)
Neither Agree nor Disagree (4)
Somewhat Agree (5)
Agree (6)
Strongly Agree (7)

Appendix F: Work Team Effectiveness Survey—T[1]

Note. Work Team Effectiveness Survey from “Team Effectiveness in Multinational Organizations: Evaluation Across Contexts,” by C. B. Gibson, M. E. Zellman-Bruhn, & D. P. Schwab, 2003, *Group & Organization Management, 28*, p. 469. Reproduced with permission.

Intro Survey Instructions: This is the second part of the Cultural Intelligence and Team Effectiveness survey focused on Team Effectiveness (TE) during MSOD program sessions. Please reflect on the "intervention" teams you were involved in during SESSION FOUR in Costa Rica. Please answer the questions accordingly. All questions follow a scale from strongly disagree to strongly agree. Please select the answer that best describes your experience.

TG1 This team fulfilled its mission

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

TG2 This team accomplished its objectives

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

TG3 This team meet the requirements set for it

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

TG4 This team achieved its goals

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

TG5 This team served the purpose it is intended to serve

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC1 This team's customers were satisfied

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC2 This team's customers were happy with the team's performance

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC3 This team was responsive to its customers

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC4 This team fulfilled the needs of its customers

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC5 This team responded to external demands

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT1 This team met its deadline

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT2 This team wasted time

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT3 This team provided deliverables (e. g., products or services) on time

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT4 This team was slow

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT5 This team adhered to its schedule

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT6 This team finished its work in a reasonable amount of time

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ1 This team had a low error rate

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ2 This team did high-quality work

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ3 This team consistently provided high-quality output

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ4 This team was consistently error free

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ5 This team needed to improve the quality of its work

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP1 This team used too many resources

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP2 This team was productive

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP3 This team was wasteful

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP4 Inputs used by this team were appropriate for the outputs achieved

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP5 This team was efficient

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

Appendix G: Invitation to Cultural Intelligence/Work Team Effectiveness Education and Focus Groups

Thank you for participating in the Cultural Intelligence (CQ) and Work Team Effectiveness Survey!

We appreciate your assistance in developing a means to improve CQ and team effectiveness in the MSOD program.

You have been randomly selected to participate in a CQ/TE focus group. It is essential that we receive additional information from you, the survey participants, on how to improve CQ skills and team effectiveness (interventions).

The Purpose: If you choose to volunteer, you will be invited to participate in CQ education and skills improvement focus groups. The education will be centered on interrupting your Cultural Intelligence Scale (CQS) results, offered as part of session 5 in Dana Point, CA. The focus groups, provided as part of session 7 in China, will target the development of CQ best practice as it relates to international OD interventions. The education will take approximately one hour, while the focus groups will last ninety minutes.

To volunteer for the CQ/TE focus group, please send an email to XXXXXXX@hotmail.com with the email title, "

If you should have any questions about this study, please send email to "XXXXXXX@hotmail.com" or contact **Jack Schlafer at Home: XXX-XXX-XXXX, Cell: XXX-XXX-XXXX**

Thank you,

Jack Schlafer
Master of Science in Organization Development Candidate
Pepperdine University

Appendix H: Focus Group Consent Form

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Participant:	_____
Principal Investigator:	Jack Schlafer, MSOD Candidate, Pepperdine University
Title of Project:	This is an exploratory study of the impact of Cultural Intelligence (CQ) on team effectiveness in international, organization development graduate program environments.

I, _____, agree to participate in the research study being conducted by Jack Schlafer under the direction of Dr. Miriam Lacey.

You are being asked to participate in a research study regarding the impact of *Cultural Intelligence (CQ) on team effectiveness in international, organization development graduate program environments.* Please read this form and ask any questions that you may have before agreeing to participate in the research.

Background Information:

Cultural Intelligence and Work Team Effectiveness (CQ/TE) Study Purpose: As a reminder, this study is for a research study as a partial fulfillment of the requirements for a master's thesis. The purpose of this study is to *collect information regarding the impact of Cultural Intelligence (CQ) on work team effectiveness in graduate program environments*.

While the survey provided a wealth of information regarding the potential relationships between Cultural Intelligence (CQ) and work team effectiveness in a graduate program environment, it is essential to test our acting hypothesis through this focus groups with survey participants.

We are requesting your participation in a focus group (of up to fifteen people) regarding some of the aspects of this study.

Procedures:

Focus Groups: The focus group, with up to fifteen members, will involve a series of questions and brainstorming activities designed to illuminate the underlying causes for team effectiveness (interventions) problems and potential solutions for improving them. The total time allotted for focus groups is approximately ninety minutes.

Benefits You will be assisting in a study which can improve our work team effectiveness globally.

Confidentiality and Risk: The Cultural Intelligence Scale (CQS) assessment will be administered through the Cultural Intelligence Center (CQC), while the Work Team Effectiveness survey will be provided by the researcher through Qualtrics. Participant names/emails will be used to provide them with their respective CQ reports. The personal standing and program status of students in the MSOD program will not be affected whether or not they choose to participate in this study—participation is confidential and completely voluntary. Anyone can drop out at any time without consequence. All data analysis and reporting will be done on aggregate data and survey answers and focus group data will not be shared with anyone. The data will be kept in a secure manner, per privacy standards, and destroyed after two years. If the findings of

this study are presented to a professional audience or published, no personally identifying information will be released—only aggregate.

I understand that the investigator is willing to answer any questions I may have, and that I can contact Dr. Miriam Lacey at XXX-XXX-XXXX or XXXXXX@pepperdine.edu if I have questions or concerns about this research. If I have any questions about my rights as a research participant, I understand that I can contact Jean Kang, chairperson of the GPS IRB, Pepperdine University, phone: XXX-XXX-XXXX and xxxx.xxxx@pepperdine.edu. I understand that my participation is voluntary and that I may refuse to participate and/or withdraw my consent and discontinue participation in the project or activity at any time without penalty. I understand that I may choose not to participate in this research.

I have read and received a copy of this INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES and understand it to my satisfaction. I hereby consent to participate in the research described.

Audiotape Consent (please check)

☐ Yes, I consent to be audio taped during this focus group. I understand that during the course of this focus group I can and may change my mind and ask that the recorder be turned off at any time.

☐ No, I do not wish to have this focus group taped.

Participant Signature: _____ Date: _____

Print Name: _____

Appendix I: Outline of Education Session

During sessions five (in California) and session eight (in China), an educational workshop will be provided to the "continuing participants" and the control group, respectively. The outline for these workshops is provided below. Participants who have taken the CQS assessment will receive a personalized CQ score and cultural values report from the Cultural Intelligence Center (CQC).

The intended purpose of the workshop is twofold: 1) Educating each participant regarding their Cultural Intelligence (CQ) scores and cultural values and 2) identifying ways to increase CQ scores in order to improve cross-cultural engagements.

Three (3) segment training:

1) Cultural Intelligence Overview
2) Discuss the meaning of the CQ scores and cultural values scores
3) Discuss how to improve CQ skills and brainstorm approaches to improving interventions.

Cultural Intelligence Overview

1) CQ definition (briefly)
    a. *The capability to function effectively across various cultural contexts* (national, ethnic, organizational, generational, etc.
2) CQ defining points (briefly)
    a. Form of Intelligence, Applies to ANY cultural context, Consists of four capabilities, Malleable, Evidence-Based
3) CQ four dimensions (focus area)
    a. CQ Drive (Motivation)
        i. Intrinsic motivation is the degree to which someone enjoys culturally diverse situations.
        ii. Extrinsic motivation relates to the tangible benefits you gain from culturally diverse situations (e.g., new experience, pay raise).
        iii. Possessing self-efficacy or *confidence* during culturally challenging situations is paramount to success in other cultures)
    b. CQ Knowledge (Cognitive)
        i. Knowledge of cultural systems addresses how a society meet people's needs (e.g., political, societal, family systems)
        ii. Cultural norms and values knowledge (differences in the perception of time, authority, and relationships are examples)
        iii. Socio-linguistics, leadership style, business practices
    c. CQ Strategy (Metacognitive)
        i. Having self-awareness or mindfulness of others during engagements
        ii. Strategically planning for cultural engagements; dealing effectively with confusion and ambiguity
        iii. Continual checking or monitoring our plans and actions for their impact on others and adjusting on the fly
    d. CQ Action (Behavior)
        i. Nonverbal, verbal—Use of acceptable words and phrases; using both verbal and non-verbal communications correctly
        ii. The ability to choose the appropriate action in a cultural situation
        iii. Proper exercise of facial expressions, gestures, and eye contact (speech acts)

CQ/CV Scores Overview

a. CQ Scores—Review the context for scores (use attached slides from CQ certification example)
    i. *Scores per CQ attribute (motivation, cognitive, metacognitive, and strategy)*

ii. *Measured against a current total database of 20K worldwide participants*.
iii. *What is high/low in range*
1. High are areas of competency
2. Low scores are possible areas of development.

b. Review Cultural Values
i. Hofstede (use website - http://www.geert-hofstede.com)
ii. Review definition of cultural values
1. Power distance, or the equitable distribution of power within an organization;
2. individualism versus collectivism, or the degree to which a society has strong or weak ties between individuals and groups or cohesive in-groups and out-groups;
3. feminine versus masculine, or society's orientation towards assertiveness and toughness compared to modesty, tenderness, and quality of life;
4. uncertainty avoidance, or the level of risk aversion or comfort with ambiguous situations;
5. long-term versus short-term orientation, or the emphasis of personal resolve and frugality versus respect for tradition', and safeguarding of "face"; and
6. indulgence versus restraint, where one compares more immediate gratification of human desires with limiting and regulating such activities through group norms

Review Strategies for CQ Improvements and brainstorm ways to improve them

a. Review "Strategies to improve your CQ" *(The Cultural Intelligence Difference*, David Livermore).
i. Improving CQ Motivation:
1. Face your biases, connect with existing interests, visualize success, reward yourself, recharge your batteries, maintain control, travel
ii. Improving CQ Cognitive:
1. Study other cultures, improve global awareness, go to the movies, read a novel, explore your cultural identity, study a new language, seek diverse perspectives, recruit a CQ coach
iii. Improving Metacognitive
1. Notice, don't respond, think widely, focus deeply, journal, plan social interactions, manage expectations, reframe a situation, test for accuracy, ask better questions
iv. Improving CQ Behavior
1. Develop a repertoire of social skills, be an actor, use basic vocabulary, try new social sounds, slow down, join a multicultural team

Focus Group Guide and Questions

Welcome each participant, remind them of the purpose of the study and that we will be taking notes of the focus group as well as recording. After the focus group consent form is signed, we will acquire some demographics data, remind them of the confidentiality and privacy standards we will adhere to via this study, and read them the "Context for Focus Group Questions, Focus Group Phases, and Team Exercise Formats" sections below.

Confirmation of Demographics: We will briefly confirm the demographic data we have regarding the subject: Name, age, years of experience, and time in other cultures.

Confidentiality and Risk: The Cultural Intelligence Scale (CQS) assessment will be administered through the Cultural Intelligence Center CQC), while the Work Team Effectiveness survey will be provided by the researcher through Qualtrics. Participant names/emails will be used to provide them with their respective CQ reports. The personal standing and program status of students in the MSOD program will not be affected whether or not they choose to participate in this study—participation is confidential and completely voluntary. Anyone can drop out at any time without consequence. All data analysis and reporting will be done on aggregate data and survey answers and focus group data will not be shared with anyone. The data will be kept in a secure manner, per privacy standards, and destroyed after two years. If the findings of this study are presented to a professional audience or published, no personally identifying information will be released—only aggregate.

Context for Focus Group Questions: All of the answers to these questions should be within the context of your graduate program environment during client system interventions. When pondering these questions, place yourself within your team environment and, specifically, situations in which cultural differences are present. Cultural differences can be between teams, organizations, or countries. Examples of these teams are: cross-cultural project teams and intervention teams.

Focus Group Phases: The focus groups will follow two phases: (1) Cultural Intelligence (CQ) Workshop regarding the survey participants' CQ and cultural values reports; (2) Groups of 3-5 people will work through semi-structured questions to identify opportunities to ameliorate both CQ and work team effectiveness.

Team Exercise Format: In groups of 3-5 people, small teams will discuss the following structured questions, one at a time, 10-15 minutes for each question, using a flip chart as they brainstorm answers. The team will be asked to build a consensus around the top three answers that best reflect the team's overall answers

Cultural Intelligence (CQ) Defined: CQ is defined as a repertoire of capabilities that allows a person to be successful in cross-cultural situations
Work team Effectiveness Defined: The five work team effectiveness measures inherent in the assessment need to be operationally defined:

- Goals: Meeting or exceeding the team's mission or objectives
- Customers: The degree of satisfaction from those who receive the product or service of the team
- Timeliness: The team's effective use of time to meet their goals
- Quality: The degree of consistent quality output or errors
- Productivity: The level of efficiency in producing the output

Cultural Intelligence (CQ) Workshop: The Cultural Intelligence Scale (CQS) participant reports will be reviewed together with the researcher providing education/training regarding what the scores mean and how to interpret them. The researcher is a CQ Certified Facilitator.

Focus Group Team Setup and Questions: When you are involved in work team interventions via the MSOD program involving members from cultures other than your own (e g., cross-cultural teams, intervention teams, etc.): Brainstorm as teams on how to improve CQ skills for interventions:

1. **Exercise:** Break into teams of 3-4 people for 10-15 minutes and develop a list of ways to improve CQ for cross-cultural interventions (report out).
    a. What one CQ skill will you target for improvements in the future and what will you do to improve it?
    b. What specifically can your team do to prepare and ensure they are successful in a cross-cultural situation?
        i. List all ideas and prioritize into top three and why.

c. What CQ skills (Motivation, Metacognitive, Cognitive, Behaviors) will your team focus on during the intervention to improve work effectiveness in cross-cultural settings?
    i. List them and describe what the team will gain from them

Semi-Structured Questions:

Cultural Intelligence (CQ) impact on Work Team Effectiveness (WTE): Additional questions may be added based on the survey data analysis and the discovery of sub-hypothesis relationships (e.g., CQ motivational has a positive relationships to work team goals).

Appendix J: Thank You Email to Focus Group Participants

Thank you for participating in the Cultural Intelligence (CQ) on Team Effectiveness Focus Groups!

We appreciate your assistance in developing a means to improve CQ and team effectiveness in the MSOD program.

If you should have any questions about this study, please send email to "XXXXXXX@hotmail.com" or contact **Jack Schlafer at Home: XXX-XXX-XXXX, Cell: XXX-XXX-XXXX**

Thank you,

Jack Schlafer
Master of Science in Organization Development Candidate
Pepperdine University

Appendix K: Work Team Effectiveness Survey—T^3

Note. Work Team Effectiveness Survey from “Team Effectiveness in Multinational Organizations: Evaluation Across Contexts,” by C. B. Gibson, M. E. Zellman-Bruhn, & D. P. Schwab, 2003, *Group & Organization Management, 28*, p. 469. Reproduced with permission.

Intro Survey Instructions: This is the second part of the Cultural Intelligence and Team Effectiveness survey focused on Team Effectiveness (TE) during MSOD program sessions. Please reflect on the "intervention" teams you were involved in during SESSION SEVEN in China. Please answer the questions accordingly. All questions follow a scale from strongly disagree to strongly agree. Please select the answer that best describes your experience.
Q1 Did you participate in a focus group in China?

- Yes (1)
- No (2)

TG1 This team fulfilled its mission

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TG2 This team accomplished its objectives

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TG3 This team meet the requirements set for it

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TG4 This team achieved its goals

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TG5 This team served the purpose it is intended to serve

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC1 This team's customers were satisfied

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC2 This team's customers were happy with the team's performance

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC3 This team was responsive to its customers

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC4 This team fulfilled the needs of its customers

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TC5 This team responded to external demands

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT1 This team met its deadline

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT2 This team wasted time

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT3 This team provided deliverables (e.g., products or services) on time

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT4 This team was slow

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT5 This team adhered to its schedule

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TT6 This team finished its work in a reasonable amount of time

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ1 This team had a low error rate

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ2 This team did high-quality work

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ3 This team consistently provided high-quality output

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ4 This team was consistently error free

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TQ5 This team needed to improve the quality of its work

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP1 This team used too many resources

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP2 This team was productive

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP3 This team was wasteful

- Strongly Disagree (1)
- Disagree (2)
- Somewhat Disagree (3)
- Neither Agree nor Disagree (4)
- Somewhat Agree (5)
- Agree (6)
- Strongly Agree (7)

TP4 Inputs used by this team were appropriate for the outputs achieved

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

TP5 This team was efficient

- ❍ Strongly Disagree (1)
- ❍ Disagree (2)
- ❍ Somewhat Disagree (3)
- ❍ Neither Agree nor Disagree (4)
- ❍ Somewhat Agree (5)
- ❍ Agree (6)
- ❍ Strongly Agree (7)

Please RATE each of the individuals below for their “Cultural Intelligence" capabilities DURING THE INTERVENTION in China:1. Please take time to differentiate people based on your experience and observations. This is anonymous—the individual will not see your ratings

IMPORTANT—Please put an "Avg CQ" for yourself! Thank you!

	No CQ (1)	Low CQ (2)	Below Avg CQ (3)	Avg CQ (4)	Above Qvg CQ (5)	High CQ (6)	Exceptional CQ (7)
NAMES REMOVED	❍	❍	❍	❍	❍	❍	❍
	❍	❍	❍	❍	❍	❍	❍
	❍	❍	❍	❍	❍	❍	❍
	❍	❍	❍	❍	❍	❍	❍
	❍	❍	❍	❍	❍	❍	❍
	❍	❍	❍	❍	❍	❍	❍
	❍	❍	❍	❍	❍	❍	❍