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Overseas Assignments: Expatriate and Spousal Adjustment in the U.S. Air Force

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Abstract

Overseas Assignments: Expatriate and Spousal Adjustment in the U.S. Air Force. Andrew R Hayes. Master of Arts in Industrial/Organizational Psychology. Minnesota State University, Mankato. Mankato, MN. 2014. The present study examined the relationship between cultural intelligence (CQ), expatriate and spousal/partner adjustment, and satisfaction with an overseas military assignment at a NATO Air Force base. Cultural Intelligence was measured using the Cultural Intelligence Scale (CQS) by Ang, et al. (2007). Expatriate adjustment was measured using the Expatriate Adjustment scale by Black & Stephens (1989). Spouse/partner adjustment was measured using the Spouse Adjustment scale by Black & Stephens (1989). Satisfaction was measured with a 5-item scale developed by the researchers. All data was collected via an online survey. There were 178 Airmen respondents and 89 spouse/partner respondents. Significant, positive relationships were found between cultural intelligence and adjustment. A regression analysis indicated that motivational CQ was the strongest driver of adjustment for both spouses/partners and Airmen. Significant, positive relationships were found between adjustment and satisfaction with the overall assignment, and more specifically, satisfaction with life on base. Regression analysis indicated that general adjustment predicted overall satisfaction for spouses/partners and Airmen. Interaction adjustment predicted base satisfaction for spouses/partners. Both general and work adjustment predicted base satisfaction for Airmen. In the Airmen sample, support was found for adjustment as a mediator between CQ and overall satisfaction, but this support was not found in the partner sample. Overall, CQ was a significant predictor of adjustment, and adjustment was a significant predictor of satisfaction. There was partial support for adjustment as a mediator between CQ and satisfaction.

Introduction

The purpose of this study is to explore the extent to which cultural intelligence (CQ) is related to the adjustment to, and satisfaction with, an overseas military assignment. More specifically, the present study provides insights into how cultural intelligence may facilitate the adjustment of United States Air Force personnel to a European NATO Base assignment. Current research on cultural intelligence and adjustment draws heavily from the experiences of U.S. managers who embark on international assignments.

As business becomes increasingly more global, more professionals are embarking on international assignments. According to Briscoe, Schuler, and Claus (2009), the drive for globalization has been created by rapid and extensive global communication, the search for new markets, e-commerce, and an increased pressure on costs. According to a recent survey by Mercer, 70% of companies surveyed expected to increase short-term overseas assignments, while 55% of companies planning to increase long-term assignments (Mercer, 2013). While the number of professionals working abroad is increasing, reports indicate that only 58% of overseas assignments are judged successful by management (Maurer, 2013). Investing in international assignments and training a global workforce are key strategies that allow organizations to compete in a global economy, yet, with 42% failure rate, the costs to the organization quickly add up. Mercer's *International Assignment Survey 2008* reported that expatriate assignments cost between 1.5 and 4 times what a local employee would cost, and an even greater cost for those assignments that include moving families. Copeland and Griggs (1985) estimated that American firms lose over $2 billion a year in direct costs associated with failed overseas assignments, and even more in indirect costs.

The U.S. military has hundreds of thousands of personnel overseas every year and in 2013, according to a report by the Defense Manpower Data Center, there were approximately 283,193 U.S. military on international assignments in more than 150 foreign countries. Like U.S. business organizations, the U.S. military has a lot at stake in international assignments and studies of large, multinational corporations can provide insight into how U.S. military personnel effectively adjust to their international assignments. Unlike employees of U.S. companies, members of the U.S. military often do not have the option of returning home early and it is therefore more important to ensure that personnel on overseas assignments have the resources and capabilities to be successful.

The U.S. military values cultural knowledge as a useful tool for conducting successful operations abroad. The U.S. Army and Marine Corps Counterinsurgency Field manual states, "Cultural knowledge is essential to waging a successful counterinsurgency…counterinsurgents should strive to avoid imposing their ideals of normalcy on a foreign cultural problem" (Department of the Army, 2006, p. 15). In the last decade, the U.S. Army has developed the Human Terrain System (HTS) to provide socio-cultural information about areas of military operation to leaders in the U.S. military. In 2010, HTS became a permanent military program and operates training, support, analysis, and research teams that "enable leaders to remain adaptive when shaping current and future complex strategic operational environments" (U.S. Army, 2014, p. 1) The information provided by the HTS helps combat commanders consider the affects of military operations among local populations and engage local leadership to build trust, cooperation, and understanding (U.S. Army, 2014). While the U.S. military has used cultural knowledge in the past, it has primarily been used to guide operational decisions.

In the last decade, researchers have started to discuss a new type of intelligence called cultural intelligence (CQ). Individuals who are high in cultural intelligence are conscious of and knowledgeable about local cultures, are motivated to behave in a culturally sensitive manner (Kim, Kirkman, & Chen, 2008). Individuals who have high cultural intelligence may be more effective, more satisfied, and better adjusted to working overseas than those low in cultural intelligence.

Determining which variables, factors, and individual differences will lead to successful international assignments is no easy task. The present study seeks to add to the growing body of literature on expatriate adjustment and will examine how cultural intelligence is related to both expatriate adjustment and satisfaction with an overseas assignment. Expatriate adjustment has been proposed as a mediator between CQ and performance, and this study will build on those findings (Kim, Kirkman & Chen, 2008). This study will contribute to CQ literature so that military organizations may apply CQ in a practical way for development, training, and selection purposes**.** Lastly, this study contributes to the sparse literature that examines both expatriates and their partners.

Cultural Intelligence

The concept of cultural intelligence (CQ) was introduced by Earley and Ang (2003) and is derived from both Sternberg and Detterman's (1986) theory of multiple intelligences and Gardener's (1993) research on multiple facets of intelligence. Sternberg and Detterman (1986) noted that there are various form of intelligence that can be measured outside the classroom. In the past two decades, researchers have examined a variety of these forms of intelligence including cultural intelligence, emotional intelligence, social intelligence, and practical intelligence. Cultural

intelligence is built on the growing interest in "real-world intelligence" (Ng, Van Dyne, & Ang, 2012, p. 32), and is often defined as "an individual's capability to function and manage effectively in culturally diverse settings" (Ang & Van Dyne 2008, p. 3).

Facets of Cultural Intelligence. Sternberg and Detterman (1986) described intelligence as having three primary loci or facets. The first facet, metacognitive intelligence, refers to how an individual controls their cognition to acquire and understand information (Ng, Van Dyne, & Ang, 2012). The second facet, cognitive intelligence, refers to knowledge and information retained in memory from either educational or personal experiences (Ng, Van Dyne, & Ang, 2012). The third facet, motivational intelligence, refers to the mental ability to sustain and direct attention or mental energy towards a task and the recognition that motivation is critical to learning (Ng, Van Dyne, & Ang, 2012). And lastly, Sternberg and Detterman (1986) write about behavioral intelligence, referring to outward behaviors or actions that do not reside inside the individual but are what a person *does* instead of what a person *thinks* (Ng, Van Dyne, & Ang, 2012). Earley and Ang (2003), used Sternberg and Dettermans' work (2006) as a guide, and suggested that there are four facets or factors of cultural intelligence, Metacognitive CQ, Cognitive CQ, Motivational CQ, and Behavioral CQ.Metacognitive CQ is the mental process individuals use to acquire, process, and understand cultural knowledge and is defined by Ang & Van Dyne (2008, p. 5) as "an individual's level of conscious awareness during cross-cultural interactions." Individuals high in metacognitive CQ have awareness of their own behavior relative to those around them. People high in metacognitive CQ are able to develop new heuristics and rules for social interaction in novel situations. They have the capability to plan, monitor, and revise mental models of cultural norms. They also

question cultural assumptions and adjust their mental models during and after cross-cultural experiences (Ang & Van Dyne, 2008).

Metacognitive CQ is an important aspect of CQ because it a) promotes active thinking about people and situations in different cultural settings, b) triggers active challenges to stereotypes, and c) drives individuals to adapt their strategies so that they are more culturally appropriate and more likely to achieve desired outcomes in cross-cultural interactions (Earley & Ang, 2003).

Cognitive CQ is the "knowledge of norms, practices, and conventions in different cultures that has been acquired from educational and personal experiences" (Ang & Van Dyne, 2008, p. 5). This component of CQ can be thought of as the "textbook information" that an individual knows about other cultures; their specific norms, values, attitudes, and behaviors. This knowledge is derived from education and personal experiences.

Cognitive CQ includes knowledge of cultural universals, as well as knowledge of cultural differences (Earley, Ang, & Tan, 2006). All cultures have similarities, due to the necessary existence of certain social structures. Examples of these similarities include the common existence of economic systems, social systems, educational systems, political, legal, and systems of communication across all cultures.

Cognitive CQ is important because knowledge of a specific culture not only influences people's thoughts and behaviors, but also allows individuals to appreciate the systems that shape social interactions within a culture (Earley & Ang, 2003). People with high cognitive CQ know the norms, practices, and conventions of both their own culture and the culture of others. "Those with high cognitive CQ are better

able to interact with people from a culturally different society" (Ang & Van Dyne, 2008, p. 6).

Motivational CQ is defined as "the capability to direct attention and energy toward learning about and functioning in situations characterized by cultural differences" (Ang & Van Dyne, 2008, p. 6). The motivational CQ component is derived from the expectancy-value theory of achievement motivation posited by Eccles and Wigfield (2002). The theory describes the direction and magnitude of energy channelled toward a particular task as a consequence of two elements: self-efficacy, and intrinsic motivation. Motivational CQ measures an individual's belief that they can be effective on a given task (self-efficacy), like interacting successfully in cross-cultural setting. Second, it measures intrinsic motivation, the drivers or values of performing the task that originate within the individual, in this case, navigating and interacting in a new cultural context. Those with high motivational CQ direct attention and energy toward cross-cultural situations based on intrinsic interest and confidence in cross-cultural effectiveness (Ang & Van Dyne, 2008). Motivational CQ is critical to CQ because it measures the effort and energy directed towards cross-cultural situations.

Behavioral CQ is defined by Earley and Ang (2003, p. 82) as "the capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different cultures." The extent to which an individual acts appropriately (both verbally and non-verbally) in cross-cultural situations is an individual's behavioral CQ. It is critical to CQ because "verbal and non-verbal interactions are the most salient features of social interactions" (Ang & Van Dyne, 2008, p. 7). Being able to *demonstrate* appropriate verbal and non-verbal actions based on cultural values complements the mental capabilities for cultural understanding encompassed in

metacognitive and cognitive CQ. Individuals high in behavioral CQ are flexible and can adjust their behaviors in terms of the range of behaviors they display, the rules for nonverbal expressions, and the meanings of nonverbal behaviors to meet the specific demands of cross-cultural situations (Lustig and Koester, 1999).

Overall, the CQ literature posits that dimensions of expatriate's performance abroad can be influenced by multiple facets of cultural intelligence, including being conscious of and knowledgeable about local cultures, being motivated to behave appropriately, and exhibiting appropriate behavior in a culturally sensitive manner within the local environment (Kim, Kirkman, & Chen, 2008). Individuals with higher CQ should exhibit better performance and better adjustment when met with cultural challenges than individuals lower in CQ.

Cultural Intelligence versus Other Constructs

Cultural intelligence is related to some personality traits. Cultural intelligence focuses on what a person can do to be effective in cross-cultural situations and is distinct from stable personality traits, which often describe or quantify what a person typically does across situations (Costra & McCrae, 1992). Because personality traits and temperament have some influence on behaviour, and consequently personal experiences, CQ should be related to some personality traits (Ang & Van Dyne, 2008). Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar, (2007) showed discriminant validity of the four dimensions of CQ compared to the Big Five personality traits and demonstrated meaningful relationships between specific personality characteristics and specific aspects of CQ, notably openness to experience was related to all four dimensions of CQ (Ang & Van Dyne, 2008).

Cultural intelligence is similar, yet distinct, from emotional intelligence (EQ), a popular form of intelligence being measured in organizations. Emotional intelligence, like CQ, is a form of intelligence that goes beyond academic and mental intelligence. It focuses on the ability to perceive and manage emotions and the ability to perceive and respond to emotional cues. Emotional cues and personal emotions are "symbolically constructed and historically transmitted with a culture" (Ang & Van Dyne, 2008, p. 9), and the ability to decode emotions in the native culture "does not automatically transfer to unfamiliar cultures" (Ang & Van Dyne, 2008, p. 9). An individual who is emotionally intelligent in their native culture may have low EQ in another culture. CQ, in contrast, focuses on a general set of abilities related to interacting and communicating in culturally diverse situations, not on one specific culture. A study by Ward, Fischer, Lam, and Hall (2009) found a strong correlation between CQ and emotional intelligence but other studies have found CQ to be a useful predictor of effectiveness in cross-cultural interactions above and beyond emotional intelligence.

Cultural intelligence is distinct from general cognitive ability (Ang & Van Dyne, 2008). While general cognitive ability is an important individual difference that is often used to predict job performance, it is not specific to culturally diverse situations and does not include motivational or behavioral aspects of intelligence (Ang & Van Dyne, 2008). General cognitive ability is also bound or constrained by culture according to Kok-Yee & Earley (2006). Because cultural factors influence both when individuals acquire knowledge and what specific knowledge they will acquire, Kok-Yee & Earley (2006) proposed that intelligence is a function of one's cultural, social, and ecological background. A study by Ward, et al. (2009) established

discriminant validity between scores of cultural intelligence and a test of general cognitive ability.

Adjustment

A key outcome in numerous studies on expatriates is cultural adjustment. Cultural adjustment literature in the workplace extends back to the mid-1950s and the literature often explains the adjustment process as having three primary dimensions:

1. Degree of adjustment: how much comfort an individual feels with a new role and degree to which the person has mastered the new role.

2. Mode of adjustment: the manner in which the individual either adjusts their own behavior or the requirements of the role to be successful in their new role.

3. Facet of adjustment: refers to facets of the new role beyond the work role. Particularly in overseas assignments, an individual must also adjust to interacting and navigating a new culture.

Degree of adjustment. Torbiörn (1982) separates degree of adjustment into subjective and objective components. Objective adjustment refers to "the degree to which the person has mastered the role requirements and is able to demonstrate adjustment via their performance" (Black, 1988, p. 278). Subjective adjustment refers to "the degree of comfort the individual feels in the new role and degree to which he or she feels adjusted to the role requirements" (Black, 1988, p. 278).

The degree of subjective adjustment an individual feels, according to Torbiörn (1982) is relative to or determined by which *stage* of adjustment the individual is currently experiencing. Adjustment occurs in four stages (see Figure 1) and is often referred to as the "U-curve" (Torbiörn, 1982).

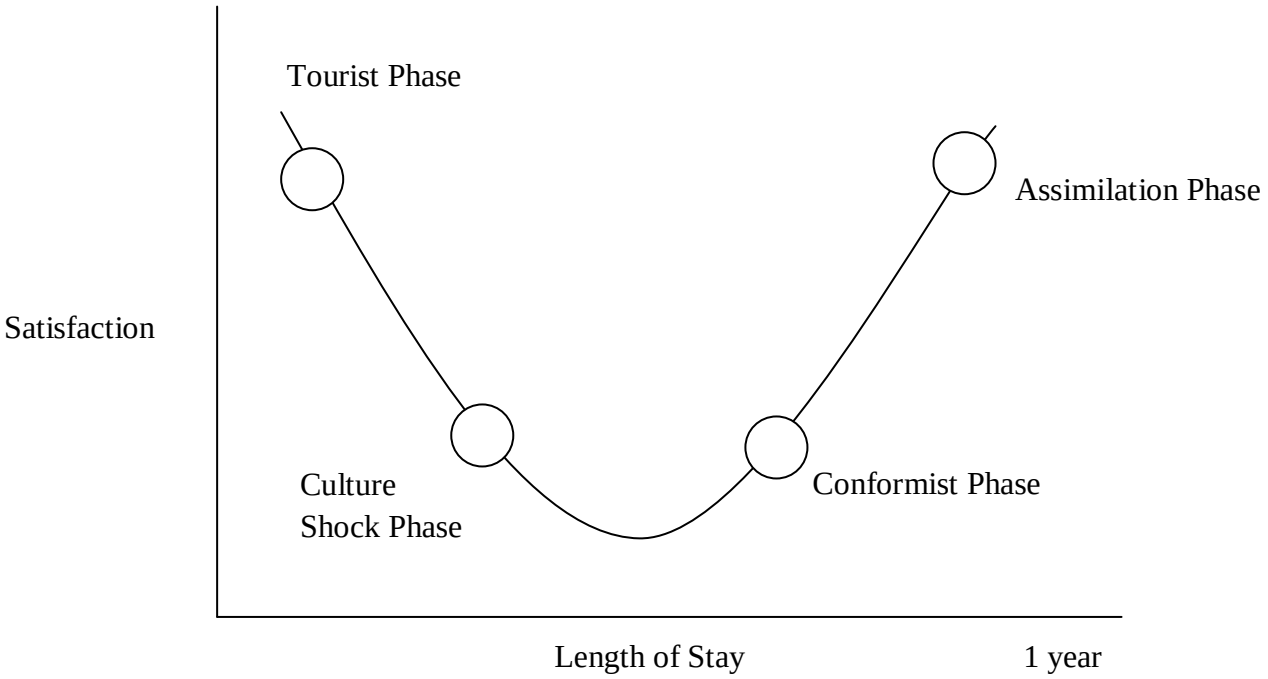


Figure 1. Torbiörn's (1982) "U-curve" of stages of adjustment. Demonstrates degrees of adjustment over time.

The tourist phase: Often called the "honeymoon stage." This stage is characterized by novelty and fascination; the individual has not received any negative feedback that indicates that their past habits or behaviors may be inappropriate in the new culture.

The culture shock phase: This stage begins when the individual begins to cope with living in a new culture. This stage is characterized by frustration and hostility toward the host country and its people. The individual realizes that past behaviors may be inappropriate but has not yet learned which behaviors may be appropriate instead. Culture shock begins at the end of this stage when the individual receives the greatest amount of negative feedback.

The conformist phase: This stage is characterized by learning appropriate behaviors, learning some language skills if necessary, and learning how to navigate and move around in the new culture. At the end of this stage, the individual has "developed some proficiency in performing the new set of behaviors" (Black 1988, p. 279).

The assimilation phase: At this stage the individual knows how to get around and can perform the behaviors that are necessary to function effectively in their new environment (Black 1988).

Mode of adjustment. Nicholson's (1984) theory of work role transitions refers to the manner with which an individual adjusts to a work role transition. A work role transition happens when an individual takes on a new work role that results in a "major change in employment status and changes in job content" (Nicholson 1984, p. 173). Some of these types of transitions include changes in jobs within an organization, unemployment, retirement, reemployment, job redesign, and reassignment. Both Nicholson (1984) and Dawis and Lofquist (1984) have proposed that an individual can effectively adjust by either a) altering their new work role to better match their own attitudes and behaviors (role development) or (b) altering their own attitudes and behaviors to match the new role expectations (personal development). Personal development occurs when an individual absorbs the change and alters their frame of reference or values (Dawis and Lofquist, 1984). Role development occurs when a person changes role requirements so they better match their needs, abilities, and identity. Role development varies according to constraints and opportunities of the role.

Nicholson proposed that the outcome of a work role transition could be broken down into four outcomes, each characterized by a combination of personal development and role development. See Figure 2.

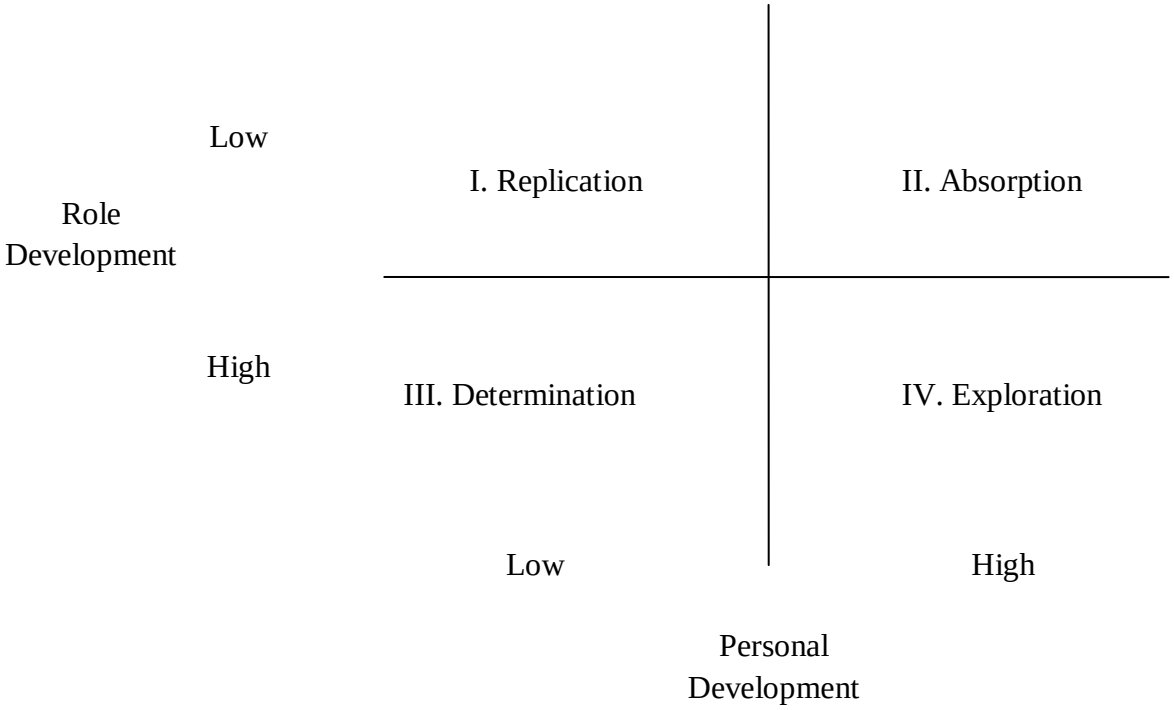


Figure 2. Modes of adjustment to transitions resulting from personal and role development (Nicholson, 1984, p. 175). Demonstrating the four modes of adjustment to a new work role.

I. Replication: The individual makes few adjustments in their attitudes or behaviors to fit the role requirements (Black, 1989).

II. Absorption: The individual makes few modifications in the role and instead modifies their behavior and attitudes to fit the role requirements (Black, 1989).

III. Determination: The individual makes few modifications to their behavior and attitudes and instead modifies the requirements of the new role (Black, 1989).

IV. Exploration: The individual makes adjustments to both their attitudes and behaviors and also to the new role requirements (Black, 1989).

Nicholson posits that the motivational orientation of an individual, their prior occupational socialization experience, the current organizational-induction processes, and the requirements of the new work role all determine which mode of adjustment an individual will engaged in when faced with a work role transition (Nicholson 1984).

Facet of adjustment. Stewart Black (1989) built upon Nicholson's theory and posited that there are other facets of adjustment, in addition to engaging in adjustment to the new work role that must be considered when attempting to evaluate adjustment to an *international* assignment. Additional facets of adjustment involve the individual's exposure and subsequent adjustment to the culture and customs of their new environment, not only their new work role. Black and Stephens (1989) and Mendenhall and Odduo (1991) suggest that there are three facets of international adjustment: (1) adjustment to work, (2) adjustment to interacting with host nationals, and (3) adjustment to the general environment. Adjustment to work (work adjustment) refers to meeting job responsibilities and performance expectations. Adjustment to interacting with host nationals (interaction adjustment) refers to socializing and speaking with host country nationals. And adjustment to the general environment (general adjustment) refers to adjusting to housing, food, shopping, and other facets of culture (Kim, Kirkman, & Chen, 2008).

International adjustment is a complex and multifaceted construct (Black & Stephens, 1989) where non-work factors have a strong relationship with both interaction and general adjustment. These factors must be considered in tandem with work adjustment to gain a complete picture of expatriate adjustment. Black and

Stephens (1989) and Shaffer, Harrison, and Gilley (1999) found support for the multi-dimensionality of expatriate adjustment as proposed by Black (1989) and it is this framework that guides the present study. Effective adjustment in an overseas assignment is defined as effectively adapting and changing behavior to be successful in the new work environment, the environmental conditions, and in interacting with host nationals (local people).

Non work factor: Spouse/partner adjustment

The adjustment of the partner to an international assignment is the primary non-work factor l examined in this study. Contemporary research has demonstrated that the adjustment of the partner to an international assignment plays a critical role in the adjustment of the expatriate (Black et al., 1989; and Black et al., 1991a).

Black et al. (1989) found significant and positive relationships between the adjustment of partners and expatriates for a sample of American expatriates on an international assignment. This study by Black, et al. posited a two-factor international adjustment measure for a spouse/partner that is comparable to the expatriate adjustment measure. Black et al. (1989) demonstrated that there were two facets of spousal adjustment: 1) adjustment to interacting with host nationals (interaction adjustment), and (2) adjustment to the general environment (general adjustment). The present study examines how spousal adjustment is related to expatriate adjustment.

A study by Kang (2011) of Korean expatriate managers found that spousal adjustment was the most important factor for explaining expatriate adjustment. Spousal adjustment explained 43 percent of the variance in expatriate adjustment. A study by Fukunda and Chu (1994) found that, for Japanese managers, “family-related problems are the most important factors in Japanese expatriates’ failure on

international assignment" (p. 43). A longitudinal study by Caligiuri, Hyland, Bross, and Joshi (1998) found that family characteristics including family support, family communication, and family adaptability were related to expatriates' adjustment to working in the host country. Shaffer and Harrison (2001) also found significant correlations between partner and expatriate adjustment. The present study will contribute to the growing body of research that focuses on the adjustment of the partner in conjunction with the adjustment the expatriate.

Satisfaction

Satisfaction, while not studied as often as performance, is an important determinant of expatriate success (Dong, 2004). Assignment satisfaction, in this context, is feelings of positive affect toward the assignment and current environmental conditions. Many studies have found a significant negative relationship between assignment satisfaction and intention to terminate an expatriate assignment early (Shaffer & Harrison, 1998; Takeuchi et al., 2002). The current study examines the relationship between satisfaction and adjustment in order to clarify how adjustment may lead to satisfaction with an overseas assignment.

The Present Study

The present study was conducted at NATO Air Base Geilenkirchen with both U.S. Air Force personnel and their partners who were on a two to four year international assignment. NATO Air Base Geilenkirchen provides multinational airborne surveillance for NATO and supports NATO objectives abroad. The base receives financial support from eighteen NATO countries, and receives personnel support from sixteen countries. The present study measured cultural intelligence, adjustment, and satisfaction among Airmen and their partners at the base and aims to

provide some insight into how cultural intelligence and adjustment might lead to satisfaction with an international assignment.

First, I proposed that cultural intelligence would be positively related to adjustment for both Airmen and their partners. The rationale behind the relationship between CQ and adjustment stems from the literature on social support (Kim, Kirkman, & Chen, 2008). Cohen and Wills (1985) defined social support as "the provision of beneficial help for an individual to buffer his or her psychological stress" (p. 310). Support from different sources promotes an individual's work adjustment by "reducing psychological strain and feelings of isolation" (Kim, Kirkman, & Chen, 2008, p. 74). On international assignments expatriates may receive emotional, informational, and instrumental support from their family or partner, host nationals, or peers (Kim, Kirkman, & Chen, 2008). Kraimer, Wayne, & Jaworski (2001) posited that social support reduces psychological strain by providing the expatriate with a coping mechanism, by providing them with knowledge about appropriate behaviors and cultural norms, and by providing them with practical resources in the host country. Interacting with host nationals may also provide a form of social support by increasing the positive attitudes towards the host country or people through frequent interaction with host nationals in addition to providing information about the culture and social norms (Kim, Kirkman, & Chen, 2008). Overall, I argue that individuals higher in CQ will have higher levels of adjustment because individuals high in CQ are more likely to gain social and informational support through interactions with the local people and culture. Those individuals with lower CQ are more likely to avoid interaction with locals, and will thus obtain less support and, consequently, will be less adjusted than the individuals who are high in CQ.

Hypothesis 1a. The lower an Airmen's level of cultural intelligence, the lower his or her adjustment.

Hypothesis 1b: The lower a partner's level of cultural intelligence, the lower her or his adjustment.

Second, I propose that adjustment will be positively related to satisfaction. Numerous studies have examined how job performance is related to adjustment (Bhaskar-Shrinivas et al., 2005; Caligiuri, 1997., Shaffer, Harrison, Gilley & Luk, 2001) and have found that poor adjustment is positively related to decreased job performance (Kim, Kirkman, & Chen, 2008). While job performance is a useful construct to measure in association with adjustment, the present study focuses on self report measures of satisfaction with numerous facets of international assignments, including satisfaction with factors above and beyond job satisfaction or job performance. The present seeks to examine not only how adjustment is related to work outcomes but also how it is related to satisfaction with: 1) life on base, 2) life in the community, 3) the physical area, 4) the families' adjustment to the area, and 5) the partners' adjustment to the area. I propose that, since researchers have found a positive correlation between adjustment and job performance that this study will find similar results.

Hypothesis 2a: The lower an Airmen's level of adjustment, the lower her or his overall satisfaction.

Hypothesis 2b: The lower a partner's level of adjustment, the lower his or her overall satisfaction.

Lastly, I propose that the relationship between CQ and expatriate satisfaction will be mediated by adjustment for both expatriates and spouses. I have proposed that CQ is related to adjustment, and that adjustment is related to overall satisfaction. I propose that CQ will actually work through adjustment to affect overall satisfaction. To put it simply, an individual's level of CQ affects their level of adjustment, which in turn affects their overall satisfaction with their overseas assignment. According to Nicholson's (1984) theory of work role transition, the "degree of successful adjustment to a new work situation may affect individual work outcomes," including satisfaction (Kim, Kirkman, & Chen, 2008, p. 76). Because the work role is being relocated to an unfamiliar environment, a smooth transition across work tasks is critical to successful adjustment, and it is here where CQ has an important effect on adjustment. Adjustment, in turn, according to previous research, has a significant effect on satisfaction. I propose CQ has an indirect effect on satisfaction, by operating through adjustment.

Hypothesis 3a: Airmen adjustment will mediate the relationship between Airmen cultural intelligence and Airmen satisfaction.

Hypothesis 3b: Partner adjustment will mediate the relationship between partner cultural intelligence and partner satisfaction.

The Model

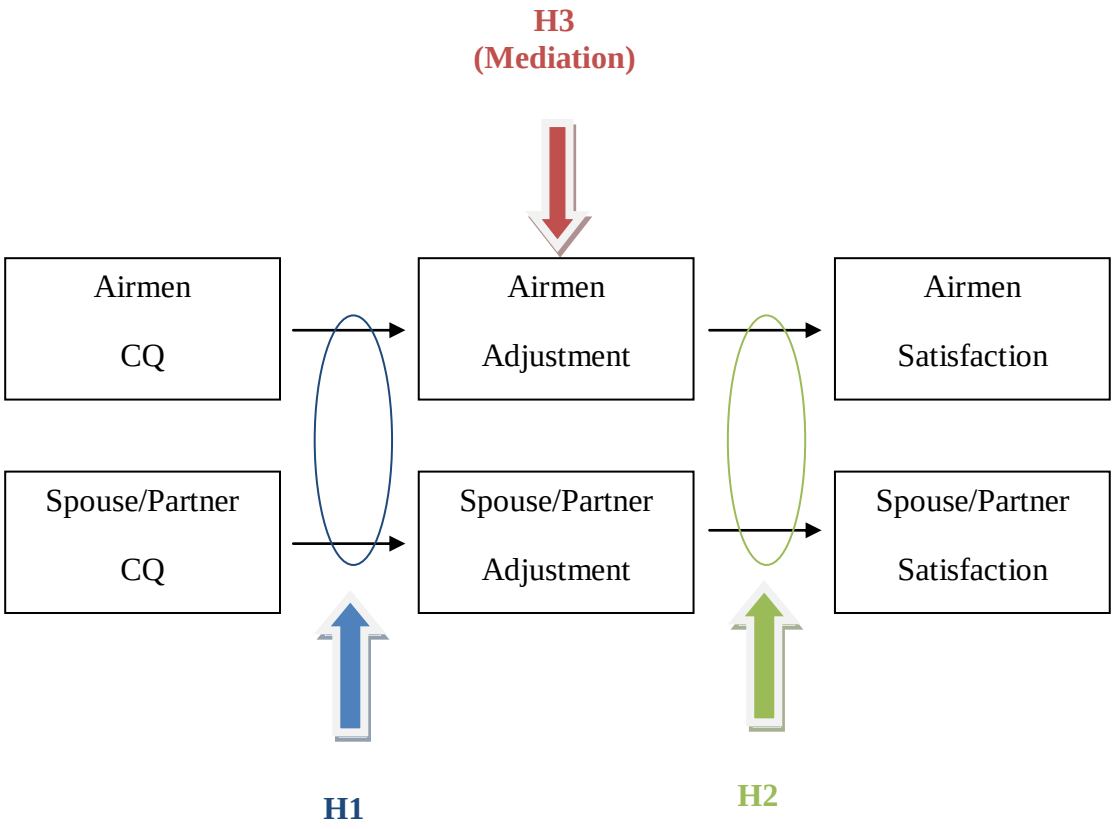


Figure 3. A model of present study.

Method

In this study, NATO airmen and their partners were sent an email invitation and asked to complete an on-line survey. The survey contained 4 scales related to psychological adjustment to an overseas assignment. The survey included a demographic measure, the Cultural Intelligence Scale, the Expatriate Adjustment scale, and the Spouse Adjustment scale. Prior to developing the survey, two unstructured interviews were conducted with mental health professionals at the base. These interviews provided a guide for examining which factors of living in the Tri-border area, the area surrounding NATO Air Base Geilenkirchen, were most frustrating or problematic for members stationed at the base.

Participants

Participants were active duty U.S. Air Force personnel and their partners stationed at NATO Air Base Geilenkirchen in Germany. The base is home to one of two operational elements of the NATO Airborne Early Warning & Control Force. There are approximately 1,500 Air Force personnel and their partners at the base. Personnel live in the towns and villages surrounding the base and the average assignment ranges from 2-3 years.

NATO (North Atlantic Treaty Organization) was created in 1949 and is a political and military alliance between 28 countries. The main purpose of NATO is to, with the cooperation and direction of its member countries, safeguard the freedom and security of its members through political and military means.

Materials

Demographics. To gain information about the participants in the present study, several demographic variables were collected:

Table 1

Demographic Variables Measured in the Present Study

Demographic Variables		
Gender	Age	Family in household
Years in Air Force	Previous time overseas	Occupation
Previous training	Employment status	Marital status
Education	Length of current assignment	

Note. The full demographic items can be found in Appendix A.

Cultural Intelligence (CQ). The Cultural Intelligence Scale (CQS) developed by Ang, Van Dyne, Koh, Ng, Templer, Tay, and Chandrasekar (2007) was used to assess cultural intelligence. The scale contained 20 items with four subscales: Cognitive CQ (six items, $\alpha = .86$), Meta-cognitive CQ (four items, $\alpha = .72$), Motivational CQ (five items, $\alpha = .76$), and Behavioral CQ (five items, $\alpha = .83$), Cronbach's alpha was reported by Ang et al. (2007).

For the present study, the Meta-cognitive CQ subscale was removed from the CQS. This subscale would not be appropriate for the present study for two primary reasons. One, the reading and comprehension level of the items were above a level that was appropriate for the present population. The participants in the present study did not have the appropriate background knowledge or context to answer the items accurately.

Examples of scale items:

- Cognitive CQ: “I know the legal and economic systems of other cultures.”
- Motivational CQ: “I enjoy living in cultures that are unfamiliar to me.”
- Behavioral CQ: “I change my nonverbal behavior when a cross-cultural situation requires it.”

Participants responded to the items on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The full scale and revised scale for the present study can be found in Appendix B.

Adjustment.

Expatriate Adjustment. Adjustment was measured using a sixteen-item Expatriate Adjustment scale drawn from Black & Stephen’s 1989 study of the influence of the partner on American expatriate adjustment. The scale used by Black & Stephen contained fourteen items and was derived from Black’s (1988) earlier study of expatriate adjustment, which had eleven items. The scale contains three facets of adjustment including General Adjustment (7 items, $\alpha = .82$), Interaction Adjustment (4 items, $\alpha = .89$), and Work Adjustment (3 items, $\alpha = .91$). Inter-scale reliabilities reported by Black (1989). In addition to the fourteen item Expatriate Adjustment scale, the researchers added two items to the General Adjustment subscale to assess participant’s adjustment to both the transportation and the weather in the Tri-border area. During initial unstructured interviews with health staff, transportation and weather conditions were issues of dissatisfaction in the area and the research team wanted to examine them further.

Self-report measures of adjustment were obtained from all participants. Participants were asked to "indicate how well adjusted (how comfortable) you are with each of the following aspects of living in the Tri-border area" and responded to the items on a seven-point scale ranging from 1 (*very unadjusted*) to 7 (*very adjusted*). Sample items include "Living conditions in general", "Cost of living" (General Adjustment); "Performance standards and expectations" (Work Adjustment); and "Speaking with host nationals" (Interaction Adjustment). The full scale for the present study can be found in Appendix C.

Spouse/Partner Adjustment. In addition to providing self-report measures of their own adjustment, both expatriates and their partners were asked to complete a Spouse Adjustment scale, developed by Black and Stephen's (1989) in their study of expatriate partners, about their partner or significant other. The scale developed by Black and Stephen's contained nine items. The scale contains two facets of adjustment including General Adjustment (6 items, $\alpha = .86$), and Interaction Adjustment (3 items, $\alpha = .95$). Inter-scale reliabilities reported by Black (1989). The Spouse Adjustment scale in the present study contains eleven items, including the additional items from the expatriate adjustment survey asking about transportation and the weather in the Tri-border area.

Participants were instructed to, "indicate how well adjusted (how comfortable) your partner or partner is with each of the following aspects of living in the Tri-border area" on a seven-point scale ranging from 1 (*very unadjusted*) to 7 (*very adjusted*). Sample items include "Food", "Health care facilities" (General) "Interacting with host nationals on a day-to-day basis" (Interaction). The scale for the present study can be found in Appendix D.

Satisfaction. A scale used to measure satisfaction with numerous dimensions of living in the Tri-border area was developed specifically for this study. Participants responded to the prompt, "Overall, how satisfied are you with…" on a scale ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*). The scale contains five items. Sample items include "Life on base" and "Your partner or partner's adjustment to the area"; the full scale can be found in Appendix E.

Procedure

Potential participants were contacted via email by a NATO base commander, a "key spouse" (spouses of Airmen that coordinate events and resources for groups of spouses) in the community, and through a social media network. Participants were sent an email or post with a short description of the study and an anonymous survey link that they were prompted to follow if they wanted to participate. No compensation was provided for participation. Once the participant clicked on the anonymous survey link, they were prompted to read a consent form, and then proceeded to take the online survey.

Results

Demographics

There were 178 Airmen respondents. After removing participants who did not complete a significant portion of the assessment, 153 remained. In the sample 64.7% were male and 35.3% female, with an average age of 37. The average tenure in the Air Force ranged from 2 to 70 years, with an average of 14.5 years. Average length of tenure at NATO Air Base Geilenkirchen was 27 months, or just over two years. The majority of Airmen respondents had some college education (84%), with 41% earning either Bachelor's or Master's degrees. Approximately half (51%) of the Airmen surveyed were married, and approximately 41% had children living in their households between 0 and 17 years.

There were 89 partner respondents. After removing participants who did not complete a significant portion of the assessment, 63 remained. In the sample 13% were male and 87% female with an average age of 39. The average length of tenure at NATO Air Base Geilenkirchen was 27 months, very similar to the length of tenure with the Airmen sample. Approximately half of partners had children between the ages of 0-17 years living in their household, and 68% of partners were married. The majority of partners had some college education (81%), with 56% earning either Bachelor's or Master's degrees. Examining primary partner occupation, 28.6% of partners were employed for wages, 31.7% of partners identified as homemakers, and the rest identified as either self-employed (1.6%), out of work for more than one year (7.9%), out of work for less than one year (6.3%), a student (4.8%), retired (3.2%), or unable to work due to the inability to obtain a work visa (1.6%).

Overall, our sample of Airmen and their partners were very similar across multiple demographic variables.

Expatriate Adjustment Scale

Nine items were combined to create a General Adjustment subscale (α = .89). Four items were combined to create an Interaction Adjustment subscale (α = .94). Three items were combined to create a Work Adjustment subscale (α = .90). Overall, the sixteen item Expatriate Adjustment scale had acceptable reliability (α = .94).

Table 2

Descriptive statistics for the Expatriate Adjustment Scale

Scale	Range	Mean	Std. Dev.	α
General Adjustment	1-7	5.2	1.1	.89
Interaction Adjustment	1-7	5.1	1.4	.94
Work Adjustment	1-7	5.4	1.4	.90

Spouse Adjustment Scale

Nine items were combined to create a General Adjustment subscale (α = .93). Two items were combined to create an Interaction Adjustment subscale (α = .97). Overall, the entire eleven item Spouse Adjustment scale had acceptable reliability (α = .93).

Table 3

Descriptive statistics for the Spouse/partner Adjustment Scale

Scale	Range	Mean	Std. Dev.	α
General Adjustment	1-7	5.3	1.1	.93
Interaction Adjustment	1-7	5.0	1.8	.97

Cultural Intelligence Scale (CQS)

Six items were combined to create a Cognitive CQ subscale (α = .89). Five items were combined to create a Motivational CQ subscale (α = .91). And five items were combined to create a Behavioral CQ subscale (α = .91). Overall, the entire sixteen item Cognitive Intelligence scale had acceptable reliability (α = .92)

Table 4

Descriptive statistics for the CQS Scale

Scale	Range	Mean	Std. Dev.	α
Cognitive CQ	1-7	4.5	1.1	.89
Motivational CQ	1-7	5.6	1.1	.91
Behavioral CQ	1-7	5.4	1.1	.91

Satisfaction

The reliability of the satisfaction scale that was developed for the present study, α = .66, was unacceptably low. In order to address this issue, I removed the item "Overall, how satisfied are you with life on base" (base satisfaction) and will

address it independently of the four remaining satisfaction items (overall satisfaction). The four remaining items were combined to make an overall satisfaction scale (α = .74). On average, satisfaction scores were 16.3, indicating that overall, both Airmen and partners are satisfied with their experience abroad. See Table 5.

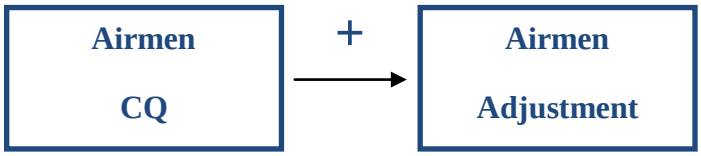
Table 5

Descriptive statistics for the satisfaction scale

Scale	Range	Mean	Std. Dev.	α
Overall Satisfaction	5-20	16.3	2.97	.74
Base Satisfaction	1-5	3.4	1.1	

The Airmen

Hypothesis 1a: The lower an Airmen's level of cultural intelligence, the lower his or her adjustment.



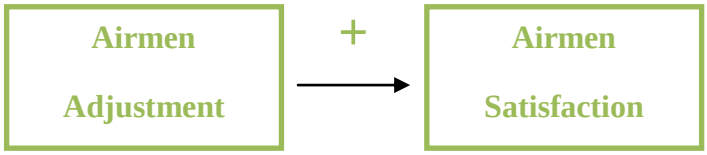
To test this relationship, I calculated the correlation between overall airmen CQ and airmen adjustment and found that airmen CQ was significantly and positively related to airmen adjustment ($r = .54$, $p < .01$).

To further clarify this relationship, I conducted a regression analysis to determine which factors of cultural intelligence were driving airmen adjustment.

A multiple regression of overall airmen adjustment on cognitive CQ, motivational CQ, and behavioral CQ indicated that both motivational CQ ($\beta = .44$, $p < .01$) and

cognitive CQ (β = .21, $p < .05$) explained 31% of the variance in airmen adjustment scores ($R^2 = .31$, $F(2, 93) = 20.87$, $p < .01$). Overall, motivational CQ was the strongest driver of airmen adjustment. This hypothesis was supported.

Hypothesis 2a: The lower an Airmen's level of adjustment, the lower his or her overall satisfaction.



To test this relationship, I calculated the correlation between overall airmen adjustment and overall satisfaction and found that airmen adjustment was significantly and positively related to overall satisfaction ($r = .55$, $p < .01$). I then calculated the same correlation for overall airmen adjustment and base satisfaction and found that the relationship was very similar ($r = .44$, $p < .01$).

To further clarify this relationship, I conducted a regression analysis to determine which factors of airmen adjustment were driving both overall satisfaction and base satisfaction. A multiple regression of overall satisfaction on general adjustment, interaction adjustment, and work adjustment indicated that general adjustment by itself (β = .56, $p < .01$) explained 31% of the variance in airmen adjustment scores ($R^2 = .31$, $F(1, 68) = 30.61$, $p < .01$).

Another multiple regression of base satisfaction on general adjustment, interaction adjustment, and work adjustment found that both work adjustment (β = .30, $p < .05$) and general adjustment (β = .21, $p = .07$) together explained 20% of the variance in base satisfaction scores ($R^2 = .20$, $F(2, 90) = 11.60$, $p < .01$).

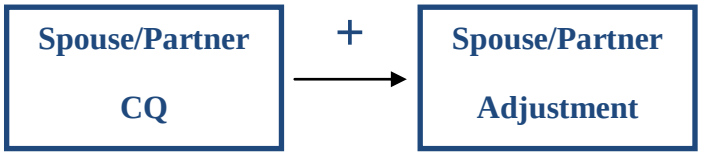
Overall, general adjustment was the strongest driver of overall satisfaction. While general adjustment drives base satisfaction, work adjustment was a slightly stronger driver of base satisfaction. This hypothesis was supported.

Hypothesis 3a: Airmen adjustment will mediate the relationship between airmen cultural intelligence and airmen satisfaction.

Following the Baron & Kenny (1986) approach, I first regressed airmen adjustment on airmen CQ, and found a significant relationship ($\beta = .54$, $p < .01$). Next, I regressed airmen satisfaction on airmen adjustment, and found a significant relationship ($\beta = .55$, $p < .01$). Finally, I regressed airmen satisfaction on airmen CQ, and found a significant association ($\beta = .28$, $p < .05$); however, once airmen adjustment was added to the model, airmen CQ had a non-significant coefficient ($\beta = -.02$, $p = ns$). Hence, I found support for a full mediation.

Partners

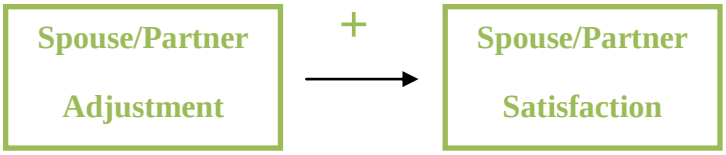
Hypothesis 1b: The lower a partner's level of cultural intelligence, the lower their adjustment.



To test this relationship, I first calculated the correlation between overall partner CQ and partner adjustment and found that partner CQ was significantly and positively related to partner adjustment (r = .55, p < .01).

To further clarify this relationship, I conducted a regression analysis to determine which factors of cultural intelligence were driving partner adjustment. A multiple regression of overall partner adjustment on cognitive CQ, motivational CQ, and behavioral CQ indicated that motivational CQ alone (β = .57, p < .01) explained 32% of the variance in partner adjustment scores (R^2 = .32, F(1, 27) = 12.79, p < .01). Overall, motivational CQ was the strongest driver of partner adjustment. This hypothesis was supported.

Hypothesis 2b: The lower a partner's level of adjustment, the lower their overall satisfaction.



To test this relationship, I t calculated the correlation between overall partner adjustment and overall satisfaction and found that partner adjustment was significantly and positively related to the partners' overall satisfaction (r = .59, p < .01). I then calculated the same correlation for overall partner adjustment and base satisfaction and found a similar relationship (r = .47, p < .05).

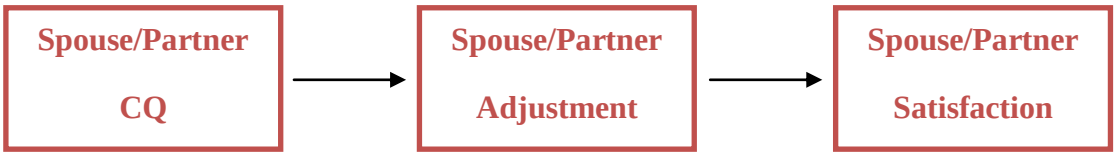
To further clarify this relationship, I conducted a regression analysis to determine which factors of partner adjustment were driving both overall satisfaction and base satisfaction. A multiple regression of overall satisfaction on general

adjustment and interaction adjustment indicated that general adjustment by itself (β = .71, $p < .01$) explained 51% of the variance in overall satisfaction scores ($R^2 = .51$, $F(1, 20) = 20.70$, $p < .01$).

Another multiple regression of base satisfaction on general adjustment and interaction adjustment found that only interaction adjustment (β = .47, $p < .05$) explained 22% of the variance in base satisfaction scores ($R^2 = .22$, $F(1, 19) = 5.39$, $p < .05$).

General adjustment was the strongest driver of overall satisfaction, while interaction adjustment drives base satisfaction. This hypothesis was supported.

Hypothesis 3b: Partner adjustment will mediate the relationship between partner cultural intelligence and partner satisfaction.



Following the Baron & Kenny (1986) approach, I first regressed partner adjustment on partner CQ, and found a significant relationship (β = .55, $p < .01$). Next, I regressed partner satisfaction on partner adjustment, and found a significant relationship (β = .59, $p < .01$). Finally, I regressed partner satisfaction on partner CQ, and did not find a significant association (β = .22, $p > .05$). Hence, I did not find support for a full mediation.

Discussion

Adjustment

The findings of this study indicate that cultural intelligence is positively and significantly related to adjustment to an overseas assignment. All three facets of cultural intelligence, motivational CQ, behavioral CQ, and cognitive CQ were positively and significantly related to overall adjustment for both U.S. Airmen and their partners.

Motivational CQ

Motivational CQ was the strongest driver of both Airmen and partner adjustment. It appears that both Airmen and partners tend to be better adjusted to an assignment overseas when they are motivated to direct their attention and energy towards gaining the skills that are necessary to function in cross-cultural situations, and believe that they can do it successfully. According the findings of the present study, an individual's self-efficacy and intrinsic motivation in relation to cross-cultural situations is the strongest predictor of successful adjustment above and beyond both having specific knowledge of other cultures (cognitive CQ), and knowing the verbal and non-verbal actions appropriate in other cultures (behavioral CQ). Individuals high in motivational CQ tend to seek out cross-cultural situations and place value in being able to interact with individuals and successfully navigate cross-cultural situations and their surrounding environment compared to individuals low in motivational CQ.

Practically speaking, the results indicate that motivational CQ can be more useful in predicting overall adjustment than behavioral or cognitive CQ and Templar, Tay, and Chandrasekar (2006) found that motivational CQ relates to both general and

work adjustment over and above a realistic job preview and a realistic living conditions preview. This is important because motivational CQ may be, according to the results, a tool that can predict whether an individual is likely to effectively adjust to the general environment on an international assignment. Because motivational CQ appears to be a relatively stable trait, according to motivation research on intrinsic motivation, it may be important for officers or managers to select individuals who are already high in motivational CQ or to provide long-term opportunities for developing motivational CQ.

Three strategies for developing motivational CQ were proposed by Earley and Ang (2003). The first strategy is to set goals for employees working in a culturally diverse environment. By setting specific, measurable, attainable, realistic, and time-based goals employees can achieve success in their work role and build their self-efficacy in culturally diverse situations. The next strategy is to increase, through training, knowledge of local customs and the local language. This strategy, along with facilitating exposure to the environment and emphasizing the personal value that the new situation offers, can lead to increased intrinsic motivation for the individual. When the individual can gain experience and knowledge and begin to understand how interacting with the environment could lead to successful and satisfactory adjustment, they may be more likely to seek out these experiences on their own.

Cognitive CQ

Cognitive CQ was also significant predictor of overall adjustment for the Airmen. Having high cognitive CQ is characterized by having explicit knowledge, either through personal experiences or education about economic, legal, and social aspects of different cultures (Kim, Kirkman, & Chen, 2008).. Understanding the

forces that drive behavior and appropriate interactions is critical for making correct judgments and sound decisions in culturally diverse settings. Individuals with high cognitive CQ are "better able to interact with people from a culturally different society" (p. 74) and this study provides some evidence that cognitive CQ plays a role in overall adjustment overseas (Ang & Van Dyne, 2008).

I can only speculate as to why cognitive CQ was a significant predictor for the Airmen sample and not the partner sample. The majority of the initial interaction and navigation of the Tri-border area is done upon arrival by the Airmen, instead of the partner. Also, the Airmen receive primary instruction from the U.S. Air Force, attend meetings at the base when they arrive, and often begin their new work tasks fairly quickly upon arrival. Cognitive CQ may play an important role in adjustment to the new host country for the Airmen because they are forced to interact with their environment more quickly than their partners. Therefore, having knowledge and experiences with other cultures that are different from one's own may play a more influential role in successful adjustment for the Airmen at Geilenkirchen. Because there are greater demands on the Airmen, especially upon arrival, both cognitive and motivational CQ may be instrumental in adjustment. Practically speaking, this finding indicates that numerous facets of CQ, in this case cognitive and motivational, may be related to the type or amount of adjustment associated with a new role abroad. While high motivational CQ may be adequate in adjusting to the general environment, the Airmen may also benefit having high cognitive CQ when adjusting to both the general and work environment.

Earley and Ang (2003) offer two approaches to enhancing and developing cognitive CQ. The first strategy, and the most common, is to conduct cross-cultural training to teach individuals about the customs, values, language, and norms of the

host culture. The ultimate goal of this training is to increase an individual's knowledge of appropriate behavior so that they can apply their training and change or adapt their behavior to be successful in cross-cultural situations. The second approach is called "cultural assimilator" training. This type of training presents an individual with a scenario in a culturally diverse setting. The individual must then determine what is driving or influencing the actions of the actors in the scenario, in relation to their culture. This type of training is often called critical-incident training where scenarios are presented that contain actions or behaviors that are either appropriate or inappropriate for the situation, and the individual must choose which answer correctly reflects the drivers of that behavior. This approach has shown some success above cross-cultural training because it forces the individual to think critically about the situation, apply their knowledge, and reflect on what drives appropriate behaviors in the given culture. Cognitive CQ may be developed or improved by engaging in critical thinking and learning the norms, values, and beliefs of a culture through critical-incident training. The overarching goal of both types of training programs is to help the individual understand the forces that drive behavior in particular culture so they can make correct judgments and sound decisions.

Satisfaction

This study also found significant relationships for both Airmen and partners between their level of adjustment and their satisfaction with their overall assignment and life on base. I examined both overall satisfaction and satisfaction with life on base separately because my reliability analysis indicated that they are two separate issues and I found that the higher an individual's reported level of adjustment, the higher satisfaction they reported with both their assignment in general, and more specifically

with life on base. This finding was the same for Airmen and their partners, indicating that level of adjustment may play an important role in satisfaction.

Additional analyses showed that, overall, general adjustment was the strongest driver of overall satisfaction for both partners and Airmen. The general adjustment factor focuses on how adjusted an individual is to the general living conditions of their new environment. Some of living conditions I measured included "living conditions in general," "health care facilities," "transportation," "food," "housing," and "entertainment and recreational facilities." This finding demonstrates that a successful or satisfactory international assignment requires not only adjustment to the new work environment, but primarily adjustment to the new living environment for both the expatriate and the partner. Practically speaking, this finding indicates that it is most important, when preparing an Airman and his/her partner for an overseas assignment, to prepare them for the living conditions they will be experience for the next few years, as this preparation and instruction both prior to leaving and upon arrival may increase both life and work satisfaction.

When I examined the relationship between satisfaction with "life on base" and adjustment, I found different factors that predicted base satisfaction.

For the Airmen, both general and work facets of adjustment were significant drivers of base satisfaction. I speculate that this finding is somewhat specific to the Geilenkirchen Base because, unlike many other bases, Airmen live off-base and only work, shop, and receive health care on-base. This being the case, it is logical to assume that base satisfaction and work adjustment are significantly related to each other, as the base in this situation is mostly a place of work, instead of a place to live. In this situation (on-base) work and general adjustment both drive satisfaction. For

different domains in life, it appears that different types or facets of adjustment may drive satisfaction. As an employer or military officer sending an individual on an overseas assignment, the cross-cultural differences in both the work and living environment need to be considered. It is important to look for, or train, people that will be successful at adjusting to both their new job and specific tasks and also to their new living conditions in a culturally diverse setting, as this may lead to greater satisfaction.

For the partners, interaction adjustment was the strongest driver of base satisfaction. Interaction adjustment primarily focuses on socializing and speaking with "host nationals," or people from different cultures. A partner typically spends most of their time on base shopping for goods, using on-base resources, or seeking information regarding services and, therefore, may interact frequently with individuals from a multitude of cultures. Satisfaction with life on base for the partner may be a function of how adjusted they are to interacting and speaking with the individuals they encounter and conduct transactions with on the base. The practical implications for this finding are location-specific, as a typical military, non-NATO base would not have employees from multiple nations. For a partner to adjust on a NATO Base, it may be most important for them to have or gain interaction CQ and to understand how to effectively interact and speak with people from other cultures in order to gain information and resources.

For both Airmen and their partners, adjustment to the general environment had the greatest effect on overall satisfaction while satisfaction with the base was driven by both work adjustment for the Airmen, and interaction adjustment for their partners. The results of this study indicate that specific types of adjustment are important for driving satisfaction in different situations, or, that adjustment is a multi-faceted

construct. Therefore, when adjusting to an international assignment, it is important to be successfully adjusted all three facets of adjustment because this will lead to higher satisfaction.

Mediation

The final hypothesis explored overall adjustment as a mediator for the relationship between CQ and satisfaction, and our findings partially supported this hypothesis.

For the Airmen, I found that adjustment to an overseas assignment did fully mediate the relationship between CQ and satisfaction. My results indicate that cultural intelligence may play an integral role in successful adjustment to overseas assignments, which then in turn influences satisfaction. For the sample of Airmen, the direct effect between CQ and satisfaction was relatively small, but the indirect effect between CQ, adjustment, and satisfaction was relatively large, indicating that adjustment is mediating the relationship between CQ and satisfaction.

For partners, adjustment did not mediate the relationship between CQ and satisfaction. There were far less partner respondents than Airmen respondents, and relatively few partners overall (n = 63), so a non-significant finding may be a power issue. From a theoretical perspective, adjustment may not mediate the effect between CQ and satisfaction simply because CQ is less instrumental in adjustment for partners. The relationship between CQ and adjustment is slightly weaker for partners compared to the Airmen, providing some support for this conclusion. Cultural intelligence may play a more important role in adjustment for the Airmen because they have to be successful in two separate domains of adjustment, both work adjustment and general adjustment, while the partners, theoretically, have less

adjusting to do and must primarily adjust to general living conditions (general adjustment). The Airmen have additional barriers to successful adjustment (an unfamiliar work environment) that the partners do not experience. In other words, I believe that the degree or amount of cultural intelligence may not be a significant differentiator between adjusted and unadjusted partners. There may be other variables at work that have stronger influences on partner adjustment, and those should be examined in future research.

The results of this study found partial support for the mediation hypothesis but according to the results of this study, the strongest predictor of adjustment was motivational CQ and the strongest predictor of overall satisfaction was general adjustment. In future studies, it would be interesting to test the path from motivation CQ, to general adjustment, and then to overall satisfaction to explore the possibility of a simplified model that could be more easily adapted for practical use in organizations.

Table 6

A summary of proposed hypotheses

Hypothesis	Result
1a: The lower an Airmen's level of cultural intelligence, the lower his or her adjustment.	Supported
1b: The lower a partner's level of cultural intelligence, the lower his or her adjustment.	Supported
2a: The lower an Airmen's level of adjustment, the lower his or her overall satisfaction.	Supported
2b: The lower a partner's level of adjustment, the lower his or her overall satisfaction.	Supported
3a: Airmen adjustment will mediate the relationship between Airmen cultural intelligence and Airmen satisfaction.	Supported
3b: Partner adjustment will mediate the relationship between partner cultural intelligence and partner satisfaction.	Not Supported

Practical Implications

To gain insight into some of the practical implications and difficulties with adjusting to an overseas assignment, I asked both partners and Airmen to provide some practical recommendations for making their transition into their international assignment easier.

Overall, comments centered on aspects of general adjustment (living conditions), and interaction adjustment (socializing and speaking with host nationals). Approximately half of all respondents felt that their sponsor (an individual responsible for assisting new arrivals) they were provided to help them adjust to the area was adequate and provided them with useful resources and information but other issues were addressed that could help the sponsor target important adjustment issues for newcomers.

Respondents recommended providing detailed information about living conditions in the area. By providing tangible information about where to live and what amenities specific communities offer, Airmen and their partners felt that they could have made a better decision about where to live, especially since they are living in a community for multiple years. Some respondents thought it would be helpful to have more access to support, information, and resources about the areas surrounding the base, including where to buy familiar U.S. brands and where to get local medical support. Providing information about the quality and availability of housing, the cost of living, and the proximity of communities to the base and shopping facilities could ease the decision making process for the Airmen and their partners, making the adjustment to general living conditions easier.

Another important thing to consider is the time it takes to adjust upon arrival. Some respondent indicated that they needed additional time upon arrival to adjust to living conditions, set up their housing, and become familiar with their surroundings prior to beginning their new work role. This concern was especially common among Airmen who had families or partners. Providing additional time to adjust to the Tri-border area could, according to current research, also make the transition to the new work role easier and less stressful.

Providing education about local language and customs was a common theme in many responses. While language classes were available before departure, requiring or making available a cross-cultural course covering basic courtesies and communication skills upon arrival was suggested to help make the transition to communicating and interacting effectively in the Tri-border. Many respondents indicated that a German immersion or conversational German course would be beneficial, while others recommended providing access to a translator upon arrival to help set up housing logistics including phone service and utility service.

While both Airmen and their partners recommended useful, practical changes that could aid in adjustment, there are simply things about the area that cannot be readily changed. The available cellular and internet providers, the lack of "normal" American things, the vehicles available, the housing available, the job opportunities in local communities, and the dollar to euro rate are all fairly stable, entrenched things that result from the culture in the area. When addressing these issues, it is best practice to prepare the Airmen and their partners with information about their resources and options but, when it comes down to adjusting effectively, it is vitally important, as this study also indicates, for the individual to take initiative and be motivated to gain information about the local area and culture, interact with the local people, and explore the community. As one respondent said, "As long as you don't hide in your house, you should be fine here." Overall, the personnel at NATO Air Base Geilenkirchen can provide resources, support, and language training but the real responsibility of adjusting to the Tri-border area falls on the shoulders of the Airmen and their partners to be motivated and willing to interact and engage with the local culture.

Limitations and Directions

This study provides additional evidence that cultural intelligence plays a key role in both the adjustment to and satisfaction with overseas assignments. It is the first study to examine adjustment as a mediator between CQ and satisfaction, but there are many areas to explore in the future.

In the future I propose connecting data between partners and expatriates so researchers can examine how spousal adjustment may be related to, or impact, the adjustment of the expatriate. There are some studies that examine how the presence of the partner impacts the adjustment of the expatriate, but I think it would be interesting to look at the reverse relationship to see how the expatriate or Airman's adjustment impacts the adjustment of the partner. I also suggest examining how an individual's *perception* of their own partner's adjustment may be related to, or influence, individual adjustment.

A longitudinal study would help further clarify the relationship of adjustment as a mediator between CQ and satisfaction. A longitudinal study could examine if CQ is an antecedent to adjustment and can provide insight into how the path between CQ, adjustment, and satisfaction functions over time.

There are a host of other variables to look at, which I will be looking at in the future, that may influence or impact the relationships examined in the present study. Some of these variables include previous time spent abroad, previous cross-cultural training, satisfaction with children's adjustment to the overseas environment, level of education, partner employment, community factors both on and off the base, and personality variables. Examining how these variables impact adjustment and

satisfaction will help paint a clearer picture of the specific drivers of adjustment to an overseas assignment.

The present study was limited to relatively small sample of partners in the Tri-border area and this study has some sampling problems that should be considered. The individuals who participated in this study may not be a representative sample of personnel at the base. Participants were contacted by a "key spouse", a base Commander, or sought out information from the organization's Facebook page, potentially indicating that they are more active in the base community. Participants were not randomly selected and participated voluntarily, and our sample was not limited to partners, but included significant others as well. All measures were self-report and, due to the addition of other scales in the survey for future research, response bias and dropout rate may be an issue in the present study.

Overall, the results of this study are location-specific. NATO Air Base Geilenkirchen is a unique place in the world. Not only is the base situation on the corner of three different countries, or the Tri-border area, but the base also has military personnel from 16 nations, making it a very culturally diverse place and a great place to continue the examination of how CQ may help increase adjustment and satisfaction with an overseas assignment.

Appendices

Appendix A

1. Gender

- Male
- Female

2. What year were you born?

3. How many years have you been in the Air Force?

4. Was your last assignment overseas or in the U.S.

- Overseas
- U.S.

5. How many years have you spent overseas prior to your assignment in the Tri-border area?

6. What is your job on base in the Tri-border area?

- Air Crew (enlisted)
- Air Crew (officer)
- Maintenance (enlisted)
- Maintenance (officer)
- Military Police/ Security Forces (enlisted)
- Military Police/ Security Forces (officer)
- Medical (enlisted)
- Medical (officer)
- Other support position (enlisted)
- Other support position (officer)
- Commander
- First Sergeant/ Superintendent
- Other

7. In which countries have you worked or lived and for how long? Please write below, starting with your most recent assignment. (i.e. England, 1 year).

8. How many months of service in your current assignment in the Tri-border area?

9. What is your level of education?

- Some high school
- High school diploma
- Some college
- Bachelor's degree
- Master's degree
- Ph.D/ Professional Degree

10. Marital Status

- Married
- Never been married
- Divorced
- Widowed
- Separated
- A member of an unmarried couple

11. How many people, including yourself and any other over age 17, are living in your household in the Tri-border area?

12. Do you have children living in your household between the ages of 0 and 17 years?

- No
- Yes

13. How many children live in your household who are between the ages of 0 and 17 years old?

14. Which level of school do your children attend? Check all that apply.

- Before pre-school
- Pre-school
- Elementary school
- Middle school
- High school
- Other

15. Do you have extended family (close relatives other than your spouse or child(ren)) in the Tri-border area?

16. Have they lived in the area for over (1) year prior to your arrival?

- Yes
- No

17. Did you have any cross-cultural training (i.e. any training that prepared you for relocating overseas) before departure?

- Yes
- No

18. Did you study outside the United States during high school or college?

- Yes
- No

19. How many hours did you have of training?

20. Was the training you received effective?

- Yes
- No

21. (For spouses/partners only) Employment Status

Are you currently…

- Employed for wages
- Self-employed
- Out of work for more than 1 year
- Out of work for less than 1 year
- A homemaker
- A student
- Retired
- Unable to work (unable to obtain a work visa)

22. (For spouses/partners only) What is your occupation or job title?

23. (For spouses/partners only) What was your occupation/job title back in the United States?

24. (For spouses/partners only) Were you able to continue your past job/occupation after moving to the Tri-border area?

- Yes
- No

25. (For spouses/partners only) Would you be able to continue your past job/occupation if you could obtain a Work Visa in the Tri-border area?

Appendix B

CQ (Cultural Intelligence) Scale- Original

Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE.

1 = Strongly Disagree	2 = Disagree	3 = Somewhat Disagree	4 = Neither Agree nor Disagree	5 = Somewhat Agree	6 = Agree	7 = Strongly Agree

1.	I am conscious of the cultural knowledge I use when I am interacting with people with different cultural backgrounds.	1	2	3	4	5	6	7
2.	I am conscious of the cultural knowledge I apply to cross-cultural interactions.	1	2	3	4	5	6	7
3.	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	1	2	3	4	5	6	7
4.	I check the accuracy of my cultural knowledge as I interact with people from different cultures.	1	2	3	4	5	6	7
5.	I know the legal and economic systems of other cultures.	1	2	3	4	5	6	7
6.	I know the religious beliefs of other cultures.	1	2	3	4	5	6	7
7.	I know the marriage systems of other cultures.	1	2	3	4	5	6	7
8.	I know the arts and crafts of other cultures.	1	2	3	4	5	6	7
9.	I know the rules (e.g., grammar) of other languages.	1	2	3	4	5	6	7
10.	I know the rules for expressing non-verbal behavior in other cultures.	1	2	3	4	5	6	7
11.	I enjoy interacting with people from different cultures.	1	2	3	4	5	6	7
12.	I enjoy living in cultures that are unfamiliar to me.	1	2	3	4	5	6	7
13.	I am confident that I can socialize with locals in a culture that is unfamiliar to me.	1	2	3	4	5	6	7
14.	I am confident that I can get accustomed to the shopping conditions in a different culture.	1	2	3	4	5	6	7
15.	I am sure that I can deal with the stresses of adjusting to a culture that is new to me.	1	2	3	4	5	6	7
16.	I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	1	2	3	4	5	6	7
17.	I change my non-verbal behavior when a cross-cultural situation requires it.	1	2	3	4	5	6	7
18.	I use pause and silence differently to suit different cross-cultural situations.	1	2	3	4	5	6	7
19.	I vary the rate of my speaking when a cross-cultural situation requires it.	1	2	3	4	5	6	7
20.	I alter my facial expressions when a cross-cultural interaction requires it.	1	2	3	4	5	6	7

CQ (Cultural Intelligence) Scale- Revised

Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE.

1 = Strongly Disagree	**2 = Disagree**	**3 = Somewhat Disagree**	**4 = Neither Agree nor Disagree**	**5 = Somewhat Agree**	**6 = Agree**	**7 = Strongly Agree**

1. I know the legal and economic systems of other cultures.	1	2	3	4	5	6	7
2. I know the religious beliefs of other cultures.	1	2	3	4	5	6	7
3. I know the marriage systems of other cultures.	1	2	3	4	5	6	7
4. I know the arts and crafts of other cultures.	1	2	3	4	5	6	7
5. I know the rules (e.g., grammar) of other languages.	1	2	3	4	5	6	7
6. I know the rules for expressing non-verbal behavior in other cultures.	1	2	3	4	5	6	7
7. I enjoy interacting with people from different cultures.	1	2	3	4	5	6	7
8. I enjoy living in cultures that are unfamiliar to me.	1	2	3	4	5	6	7
9. I am confident that I can socialize with locals in a culture that is unfamiliar to me.	1	2	3	4	5	6	7
10. I am confident that I can get accustomed to the shopping conditions in a different culture.	1	2	3	4	5	6	7
11. I am sure that I can deal with the stresses of adjusting to a culture that is new to me.	1	2	3	4	5	6	7
12. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.	1	2	3	4	5	6	7
13. I change my non-verbal behavior when a cross-cultural situation requires it.	1	2	3	4	5	6	7
14. I use pause and silence differently to suit different cross-cultural situations.	1	2	3	4	5	6	7
15. I vary the rate of my speaking when a cross-cultural situation requires it.	1	2	3	4	5	6	7
16. I alter my facial expressions when a cross-cultural interaction requires it.	1	2	3	4	5	6	7

Appendix C

Expatriate Adjustment

Please indicate how well adjusted (how comfortable) you are with each of the following aspects of living in the Tri-border area.

1 = Very Unadjusted	2 = Unadjusted	3 = Somewhat Unadjusted	4 = Neutral	5 = Somewhat Adjusted	6 = Adjusted	7 = Very Adjusted
1. Living conditions in general.				1	2 3 4 5 6 7	
2. Housing conditions.				1	2 3 4 5 6 7	
3. Food.				1	2 3 4 5 6 7	
4. Shopping.				1	2 3 4 5 6 7	
5. Cost of Living.				1	2 3 4 5 6 7	
6. Transportation.				1	2 3 4 5 6 7	
7. Weather.				1	2 3 4 5 6 7	
8. Entertainment/ recreation facilities and opportunities.				1	2 3 4 5 6 7	
9. Health care facilities.				1	2 3 4 5 6 7	
10. Socializing with host nationals.				1	2 3 4 5 6 7	
11. Interacting with host nationals on a day-to-day basis.				1	2 3 4 5 6 7	
12. Interacting with host nationals outside of work.				1	2 3 4 5 6 7	
13. Speaking with host nationals.				1	2 3 4 5 6 7	
14. Specific job responsibilities.				1	2 3 4 5 6 7	
15. Performance standards and expectations.				1	2 3 4 5 6 7	
16. Supervisory responsibilities.				1	2 3 4 5 6 7	

Appendix D

Spouse Adjustment:

Please indicate how well adjusted (how comfortable) your spouse or partner is with each of the following aspects of living in the Tri-border area.

1 = Very Unadjusted	2 = Unadjusted	3 = Somewhat Unadjusted	4 = Neutral	5 = Somewhat Adjusted	6 = Adjusted	7 = Very Adjusted
1. Living conditions in general.				1	2 3 4 5 6 7	
2. Housing conditions.				1	2 3 4 5 6 7	
3. Food.				1	2 3 4 5 6 7	
4. Shopping.				1	2 3 4 5 6 7	
5. Cost of Living.				1	2 3 4 5 6 7	
6. Transportation.				1	2 3 4 5 6 7	
7. Weather.				1	2 3 4 5 6 7	
8. Entertainment/ recreation facilities and opportunities.				1	2 3 4 5 6 7	
9. Health care facilities.				1	2 3 4 5 6 7	
10. Socializing with host nationals.				1	2 3 4 5 6 7	
11. Interacting with host nationals on a day-to-day basis.				1	2 3 4 5 6 7	

Appendix E

Overall satisfaction scale

"Overall, how satisfied are you with…

1 = Very Dissatisfied	2 = Dissatisfied	3 = Neither	4 = Satisfied	5 = Very Satisfied	6 = Does not apply to me
1. Life on base.					1 2 3 4 5 6
2. Life in the town/village where you are housed.					1 2 3 4 5 6
3. The Tri-border area.					1 2 3 4 5 6
4. Your kids' adjustment to the area.					1 2 3 4 5 6
5. Your spouse or partner's adjustment to the area.					1 2 3 4 5 6

Appendix F

Table 7

Correlation table with all variables in the present study

	1	2	3	4	5	6	7	8	9	10	11	12
1. General Adjustment	(.89)											
2. Interaction Adjustment	.63**	(.94)										
3. Work Adjustment	.58**	.51**	(.90)									
4. Overall Adjustment	.94**	.84**	.75**	(.94)								
5. Spouse General Adjustment	.82**	.57**	.48**	.81**	(.93)							
6. Spouse Interaction Adjustment	.48**	.74**	.38**	.63**	.65**	(.97)						
7. Spouse Overall Adjustment	.80**	.65**	.49**	.82**	.98**	.78**	(.93)					
8. Cognitive CQ	.31**	.46**	.22**	.39**	.32**	.47**	.38**	(.89)				
9. Motivational CQ	.45**	.57**	.31**	.55**	.33**	.43**	.38**	.48**	(.91)			
10. Behavioral CQ	.37**	.38**	.26**	.41**	.31**	.30**	.33**	.43**	.61**	(.91)		
11. Overall CQ	.46**	.58**	.32**	.55**	.39**	.50**	.44**	.81**	.83**	.81**	(.92)	
12. Overall Satisfaction	.61**	.48**	.40**	.61**	.66**	.37**	.63**	.05	.35**	.36**	.29**	(.68)

Note: Numbers in parentheses are reliability coefficients
*p<.05, **p<.01

References

Ang, S., & Van Dyne, L. (2008). Conceptualization of cultural intelligence: Definition, distinctiveness, and nomological network. In Ang, S., & Van Dyne, L. (Eds.), *Handbook of Cultural Intelligence: Theory, Measurement, and Applications* (pp.3-15). Armonk, New York: M.E.Sharpe.

Ang, S., & Van Dyne, L. (2008). *Handbook of cultural intelligence: theory, measurement, and applications*. Armonk, N.Y.: M.E. Sharpe.

Ang, S., Van Dyne, L., Koh, C.K.S., Ng, K.Y., Templer, K.J., Tay, C., & Chandrasekar, N.A. (2007). Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance. *Management and Organization Review*, 3: 335-371

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51(6),* 1173-1182

Black, J. S. (1988). Work role transitions: A study of American expatriate managers. *Journal of International Business Studies, 19*(2), 277.

Black, J. S., & Gregersen, H. B. (1991a). Antecedents to cross-cultural adjustment for expatriates in pacific rim assignments. *Human Relations, 44(5),* 497-515.

Black, J. S., & Stephens, G. K. (1989). The influence of the spouse on American expatriate adjustment. *Journal of Management,15(4),* 529.

Briscoe, D.R., Schuler, R.S., Claus, L. (2009). *International human resource management: Policy and practice for the global enterprise.* New York*:* Routledge.

Caligiuri, P.M., Hyland, A., Joshi, A., Bross, A. (1998). A theoretical framework for examining the relationship between family adjustment and expatriate adjustment to working in the host country. *Journal of Applied Psychology 83)4*, 598-614.

Cohen, S., Wills, T.A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98 (2): 310-357.

Copeland, L., & Griggs, L. (1985). *Going international: How to make friends and deal effectively in the global marketplace*. New York: Random House.

Costa, P.T., & McCrae, R.R. (1992). *Revised NEO-Personality Inventory (NEO-PI-R) and NEO Five Factor Inventoy (NEO-FFI) professional manual.* Odessa, FL: Psychological Assessment Resources.

Dawis, R. V., & Lofquist, L. H. (1984). A psychological theory of work adjustment: An individual-differences model and its applications. University of Minnesota Press.

Department of the Army. (2006). Counterinsurgency. *Field Manual*. Marine Corps Warfighting Publication. Washington DC, No. 3-33.5

Dong, G. (2004). An examination of intent to leave among united states expatriates in Taiwan: The relative effect of organizational commitment, job satisfaction, and expatriate adjustment. *ProQuest,* (UMI Dissertations Publishing).

Earley, C.P., Ang, S., & Tan, J.S. (2006). *Developing cultural intelligence at work*. Stanford, CA: Stanford University Press

Earley, P.C., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Stanford, CA: Stanford University Press.

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology, 53,* 109-32.

Fukuda, K.J., & Chu, P. (1994). Wrestling with expatriate family problems. Japanese experiences in East Asia. *International Studies of Management and Organizations, 24,* 36-47.

Gardner, H. (1993). *Multiple intelligence: The theory in practice*. New York: Basic Books

Kang, H. (2011). The relationship between community and family factors and expatriate adjustment. ProQuest, UMI Dissertations Publishing.

Kim, K., Kirkman, B.L., & Chen, G., (2008). Cultural intelligence and international assignment effectiveness: a conceptual model and preliminary findings. In Ang, S., & Van Dyne, L., (Eds.), *Handbook of cultural intelligence: theory, measurement, and applications.* (71-90). New York: M.E. Sharpe, Inc.

Kok-Yee, N., & Earley, P. C. (2006). Culture + intelligence: Old constructs, new frontiers. *Group & Organization Management, 31*(1), 4-19.

Kraimer, M.L., Wayne, S.J., & Jaworski, R.A. (2001). Sources of support and expatriate performance: The mediating role of expatriate adjustment. *Personnel Psychology, 54,* 71-99.

Lustig, M.W., Koester, J. (1999). *Intercultural competence: Interpersonal communication across cultures.* New York: Longman.

Maurer, R. (2013). Survey: Companies fail to train managers for overseas assignments. *SHRM: HR Topics & Strategy, Global HR.* Retrieved from

https://www.shrm.org/hrdisciplines/global/articles/pages/fail-train-managers-overseas-assignments.aspx

Mendenhall, M., & Oddou, G. (1985). The dimensions of expatriate acculturation: A review. *The Academy of Management Review, 10*(1), 39-47

Mercer. (2013). Global employee mobility- short and long-term overseas assignments expected to increase in 2013. *Mercer Press Release*. Retrieved from http://www.mercer.com/press-releases/1521435

Mercer/Expatica (2008). Measuring the cost of international assignments. *Expatica HR: HR Home.* Retrieved from http://www.expatica.com/hr/story/Measuring-the-cost-of-international-assignments.html

Ng, K.Y., Van Dyne, L., & Ang, S. (2012). Cultural intelligence: A review, reflections, and recommendations for future research. In A.M. Ryan, F.T. Leong, & F.L. Oswald (Eds.), *Conducting multinational research: Applying organizational psychology in the workplace* (pp. 29-58). Washington, DC: American Psychological Association.

Nicholson, N. (1984). A Theory of Work Role Transitions. *Administrative Science Quarterly, 29*(2), 172-191.

Shaffer, M. A., & Harrison, D. A. (2001). Forgotten partners of international assignments: Development and test of a model of spouse adjustment. *Journal of Applied Psychology, 86(2),* 238-254.

Shaffer, M. A., Harrison, D. A., & Gilley, K. M. (1999). Dimensions, determinants, and differences in the expatriate adjustment process. *Journal of International Business Studies, 30(3),* 557-581.

Shaffer, M.A., & Harrison, D.A. (1998). Expatriates' psychological withdrawal from international assignments: Work, nonwork, and family influences. *Personnel Psychology, 51,* 87-118.

Sternberg, R.J., & Detterman, D.K. (1986). *What is intelligence?* Norwood, NJ: Ablex

Takeuchi, R., Yun, S., & Russell, J. E. A. (2002). Antecedents and consequences of the perceived adjustment of Japanese expatriates in the USA. *International Journal of Human Resource Management, 13(8),* 1224-1244.

Templer, K. J., Tay, C., & Chandrasekar, N. A. (2006). Motivational cultural intelligence: Realistic job preview, realistic living conditions preview, and cross-cultural adjustment. *Group and Organization Management, 31,* 154-173.

Torbiörn, I. (1982). *Living abroad: Personal adjustment and personnel policy in the overseas setting.* John Wiley & Sons Australia, Limited.

U.S. Army. (2014). The history of the human terrain system. *About HTS.* Retrieved from http://humanterrainsystem.army.mil/history.html.

Ward, C., Fischer, R., Lam, F.S., & Hall, L. (2009). The convergent, discriminant, and incremental validity of scores on a self-report measure of cultural intelligence. *Educational and Psychological Measurement, 69(1),* 85-105.