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Cultural Competency in New Zealand Industrial and Organisational Psychology and Human Resource Management professionals and students: Is personality or experience a better predictor?

A thesis presented in partial fulfilment of the requirements for the degree of

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Tania Marie Williams

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Andrew my love, I'm finally finished. Let's go see the world!

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Abstract

This thesis explores the relevance of Bio Data verses Personality for predicting Cultural Competence among Industrial and Organisational Psychology and Human Resource Management professionals and students in New Zealand. It also explores the relevance of the model (D.W. Sue, 2001) of Cultural Competence currently in use by the New Zealand Psychologists board and also the relevance of a four factor model of Cultural Intelligence (Early & Ang, 2003). The sample consisted of 113 participants drawn from a population of Industrial and Organisational Psychology, and Human Resource Management professionals and students. A questionnaire which measures the predictors of the Big Five Personality Factors (Goldberg, 1999), and Bio Data, and the criterion variables of Cultural Intelligence (Earley & Ang, 2003) and questions constructed specifically for this thesis was distributed online. The criterion variables were based on an existing three part (Awareness, Knowledge and Skills) Multidimensional Model for Developing Cultural Competence by D.W. Sue (2001). The results of this research were obtained through exploratory factor analysis and subsequent multiple regression analysis. A new model was constructed to represent the tested predictor and criterion relationship. Results suggest that overall Personality is a better predictor of Cultural Competence, with the Personality Factor of Agreeableness being the highest weighted Personality Factor. D.W Sue's (2001) Multidimensional Model for Developing Cultural Competence maintained its three part structure in the analysis and consequently seems relevant to the unique socio-cultural, organisational and professional setting of the tested group. Ang and colleagues (Ang, Van Dyne, Koh, Ng, Templer, Tay & Chandraseker, 2007) Cultural Intelligence Scale maintained its four part factor structure and was reliable for this thesis.

1. Introduction

Cultural Competence is a broad term that has been defined as professionals having "Cultural knowledge and skills of a particular culture to deliver effective interventions to members of that culture" (S. Sue, 2006, p.237). In an organisational context the growing outsourcing of services and expertise, and the rising numbers of international mergers and acquisitions, means that more cultures are coming into contact with one another (Javidan & House, 2001). Hence Cultural Competence is becoming *increasingly* significant for those working in an organisational setting.

The professional group that is the focus of this thesis is Industrial and Organisational Psychology and Human Resource Management professionals and trainee professionals (students) who operate in an organisational setting. Industrial and Organisational Psychology is a field of Psychology that focuses on using psychological theory and research to increase the effectiveness of employers and employees in the workplace setting (Aamodt, 2004). Human Resource Management has been described in general terms as "The concepts, strategies, policies and practices which organisations use to manage and develop the people who work for them" (Rudman, 2002, p.3).

There has been no research in the area of Cultural Competence in the unique professional group of Industrial and Organisational Psychology and Human Resource Management professionals and students in the diverse New Zealand context. As such, this thesis is *exploratory* in nature.

Aim

This research project explores core components of (Awareness, Knowledge and Skills) one model of Cultural Competence (D.W. Sue, 2001). The Model to be Tested (presented in Figure 1.3 p.14) is partially adapted from D.W. Sue's Multidimensional Model for Developing Cultural Competence (2001) for use in this thesis (See Figure 1.2 p.6 for D.W. Sue's model) in addition to Awareness, Knowledge and Skills, this research tests:

- Whether "Personality" or "Bio Data" is the better predictor of Cultural Competence,
- Which Personality characteristic and which Bio Data item best predicts Cultural Competence in Industrial and Organisational Psychology and Human Resource Management professionals and students,
- Cultural Intelligence (Earley & Ang, 2003), and
- Personality (Goldberg, 1999).

The overall aim is to construct a new model of Cultural Competence predictors and criterion variables for Industrial and Organisational Psychology and Human Resource Management professionals and students in New Zealand.

Background

Culture

Culture can be described as "A system of meaning that guides the construction of reality in a social community" (Cheney, Christensen, Zorn, & Ganesh, 2004, p.76). Other authors have defined culture as "A set of beliefs and values about what is desirable and undesirable in a community of people and a set of formal or informal practices to support the values" (Javidan & House, 2001, p.292). Schein (1990) defines cultures as consisting of observable artefacts, values and underlying assumptions. Culture is such a large part of our daily lives because we all have what Hammer and colleagues (Hammer, Bennett & Wiseman, 2003) refer to as a cultural worldview, which is the unique perspective that guides how we interact with others.

While the most obvious form of culture tends to be ethnic culture, likely because people can physically see the differences between themselves and others, in order to have a culture, a group only needs to have some degree of shared history (Schein, 1990). Consequently, cultures can also be found within a number of different groups and locations; for example, the workplace, families, schools, towns, cities, and groups of friends. Most people belong to a number of cultures and subcultures. For those working in an organisational setting, as Industrial and Organisational Psychology and Human Resource Management professionals do, organisational culture can also be a large part of daily interactions. This thesis focuses on the three elements of culture that are relevant to Industrial and Organisational Psychology and Human Resource Management professionals and students. Firstly, *A)* socio-cultural, *B)* professional and *C)* organisational culture. As such, for the purpose of this thesis, culture will be defined as assumptions, values and behaviours that guide socio-cultural, organisational and professional cultural interactions.

Culture is often taken for granted, and many people are not aware of their own culture, simply because it is the "norm" or what they perceived to be normal. It is widely accepted that culture is complex and a difficult construct to measure. This difficulty may in part be due to the layered nature of culture, which is even more complex for Industrial and Organisational Psychology and Human Resource Management professionals and students who have socio-cultural, professional and organisational cultures to work within. Hofstede and colleagues (Hofstede, Neuijen,

Ohayv & Sanders, 1990) illustrate the complex nature of culture well with the Manifestations of Culture: From shallow to deep diagram (Figure 1.1 p. 4). This diagram places symbols as the most visible manifestation of culture, with heroes, rituals and finally values at the core. The diagram clearly illustrates the need to look at not just the physical manifestation of culture, such as behaviours, but also the assumptions and values that underlie the outward signs of culture. As such, the multi layered view of culture portrayed in Figure 1.1 has inspired the examination of culture in this thesis to look at behaviours and deeper levels of culture, for example assumptions, and values. Hofstede and colleagues'(Hofstede et al. 1990) model is a good visual representation of culture as a multilayered construct, although it has a different focus to the Model to be Tested (Figure 1.3 p.14), in that it is descriptive of culture, but does not examine how a person could acquire competence with regards to culture or cultural interactions.

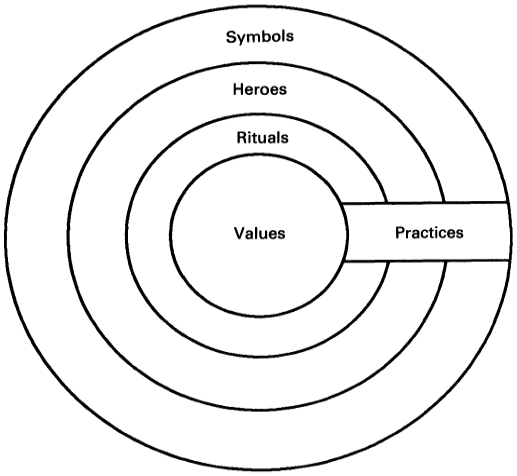


Figure 1.1 Manifestations of Culture: From shallow to deep (Hofstede, Neuijen, Ohayv & Sanders, 1990)

Components of Cultural Competence

Cultural Competence can further be described as having specific knowledge, understanding and skills of a culture, so that the most effective treatment or service can be provided for clients of that particular culture (S. Sue, 2006). Cultural Competency has been described as having an understanding of one's own beliefs and how perception can influence interactions, having specific knowledge about the culture world view, and being culturally sensitive (D.W. Sue, Ivey, & Pedersen, 1996).

These definitions are useful for describing Cultural Competence; however they have been created in an American context with a Counselling or a one-on-one client relationship in mind, such as the interactions between a Clinical Psychologist and patient. The unique professional group and New Zealand environment means that a more contextual and relevant understanding of Cultural Competence is required for Industrial and Organisational Psychology and Human Resource Management professionals in New Zealand. The New Zealand Psychologists Board defines Cultural Competence as "Possession and demonstration of knowledge, skills and attitudes necessary for the level of performance expected by a Registered Psychologist working within their specified scope(s) of practice" (New Zealand Psychologists Board, 2006, p.4). The three part model of Cultural Competence used by the New Zealand Psychologists Board has been adapted from D.W. Sue's (2001) Multidimensional Model for Developing Cultural Competence (Please see Figure 1.2 p. 6).

Likewise, in the Model to be Tested (Figure 1.3 p. 14), Cultural Competence (the criterion variables on the rights hand side of Figure 1.3 p.14) have been adapted from D.W. Sue's (2001) Multidimensional Model for Developing Cultural Competence (Figure 1.2 p. 6). D.W. Sue's (2001) model was selected for use in this thesis because firstly, as mentioned, the New Zealand Psychologists Board - the governing body of Psychologists in New Zealand - has adopted the three part model of Awareness, Knowledge and Skills as guidelines for registration of Psychologists, which suggests that the Awareness, Knowledge and Skills model may be appropriate for the unique New Zealand setting. Awareness, Knowledge and Skills *appear* to be relevant to the field of Industrial and Organisational Psychology and Human Resource Management and the unique New Zealand setting. However, it is important to evaluate the appropriateness of the use of Awareness, Knowledge and Skills for Industrial and Organisational Psychology and Human Resource Management professionals and students rather than taking it at face value.

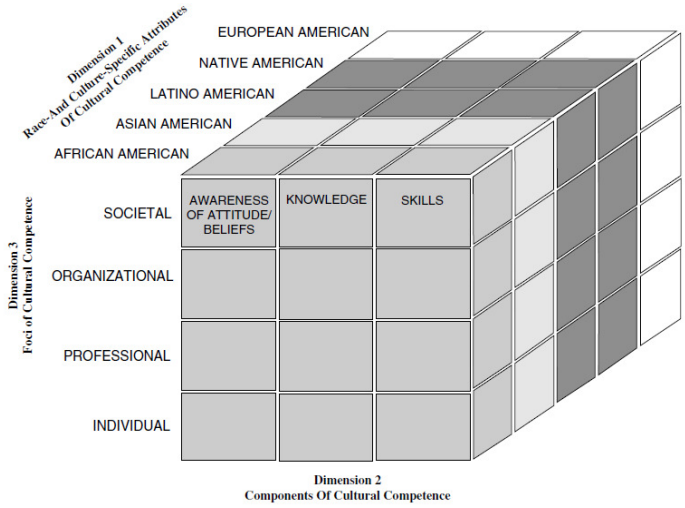


Figure 1.2 A Multidimensional Model for Developing Cultural Competence (D.W. Sue, 2001).

D.W. Sue's model (2001) Figure 1.2 (above) also appears sufficiently flexible to be adapted to an organisational setting from the counselling setting it was designed for. The flexibility of D.W. Sue's model is due to there being no specific outcomes or outlined behaviours of what Cultural Competence should look like. The lack of operational definition of Cultural Competence in D.W. Sue's (2001) model (Suzuki, McRae & Short, 2001) in some respects makes the model vague, but also increases its usefulness and flexibility. D.W. Sue's model (2001), while not specific in outcomes, offers more scope for authors to make their own assumptions and adapt the model according to their needs. Because of the adaptability of D.W. Sue's (2001) model, the "Awareness", "Knowledge" and "Skills" dimensions have been successfully used in other fields such as Social Work (Vonk, 2001).

D.W. Sue's (2001) model as well as the components of "Awareness", "Knowledge" and "Skills" also looks at the "Foci" of Cultural Competence. The "Foci" in part, has also been used in this thesis not directly as part of the Model to be Tested, but to act as the "back drop" or context around the Model to be Tested to structure our understanding of the environment that Cultural Competence exists in for the Industrial and Organisational Psychology and Human Resource Management Student and professional, that is, to understand as in Hofstede and colleagues' model (1990) the

multiple layers in which Industrial and Organisational Psychology and Human Resource Management professionals and students must be Culturally Competent within.

The "Foci" dimension of D.W. Sue's model (2001) (Figure 1. p. 6) that are relevant to this thesis are: *A) Societal-* the external world or *society* when interacting with other cultural groups in their interactions, which includes interactions with diverse ethnic groups. The societal or socio-cultural "back drop" for this thesis is that of obligations to the Treaty of Waitangi and hence Maori culture. *B) Organisational-* Industrial and Organisational Psychology and Human Resource Management professionals and students operate within *organisational* cultures and come into contact with cultures of other organisations, for example external service providers. *C) Professional-* Both Industrial and Organisational Psychology and Human Resource Management have unique professional cultures to be competent in for example professional codes of ethics and expected behaviours. The final "Foci" of D.W. Sue's (2001) model of Cultural Competence (Figure 1.2 p.6) of "Individual" has not been included as part of the unique cultural context of Industrial and Organisational Psychology and Human Resource Management professional and students, because they tend to work at an organisational or group level.

A) Socio-Cultural

In New Zealand, the unique socio-cultural component of Cultural Competency that differs from an American context is a working knowledge of the Treaty of Waitangi (Bryson & Hosking, 2005). The New Zealand Psychologists Board in its Standards of Cultural Competence (2006) state that under the Treaty of Waitangi, Psychologists must "Form partnerships with Maori, recognise and provide for Maori interests, be responsive to the needs of Maori, ensure there are equal opportunities for Maori including recognition and active support of kaupapa initiatives" (p.4). Hence Cultural Competence in New Zealand needs to have a Maori culture element, which is reflected in the "Bi-Cultural Knowledge" section of the Model to be Tested (second circle from top on right hand criterion side of Figure 1.3 (p.14).

An example of a project that focused on making socio-cultural interactions more effective in an organisational setting is Project GLOBE (Global Leadership and Organisational Behaviour Effectiveness) (House, Javidan, Hanges & Dorfman, 2002).

Project GLOBE looked to compare countries using cultural factors in order to give global leaders more information to guide their cultural interactions in the hopes of increasing competence. Project GLOBE did this by examining nine cultural dimensions. For example how individualistic or collectivist a culture is in comparison to other cultures, so that countries could be ranked according to their score on the cultural dimension. The large scale of Project GLOBE (61 countries) shows the relative importance of effective socio-cultural interactions in the business world. Project GLOBE has succeeded in providing managers with information on cultural differences.

One problem with using information such as that obtained from Project GLOBE is that categorising cultures on only nine dimensions is generalising. There are many variations within cultures and reducing the diverse, intricate and complex culture of a whole country into nine dimensions could potentially oversimplify culture. Further, there are no guarantees that managers will be able to apply the knowledge obtained from Project GLOBE skilfully and effectively. That is why Cultural Competence, the ability to effectively apply information such as that gained from project GLOBE, is considered so important, and hence, so too is the focus of this thesis. In order to apply the knowledge gained from Project GLOBE, a person must be *Culturally Competent,* not just in general terms, but in the context of their profession.

B) Professional Cultural Competence

With Industrial and Organisational Psychology and Human Resource Management professionals and students as the focus group of this thesis, there are additional considerations for what comprises Cultural Competence. Professional culture can sometimes be identified by as a group possessing specialist knowledge, some guiding principles such as code of conduct or code of ethics, as well as a commitment to the profession (Bloor & Dawson, 1994). Both Industrial and Organisational Psychology and Human Resource Management professionals and students have professional guidelines around Cultural Competence and their professional interactions.

Within the group of Industrial and Organisational Psychology professionals, some are Registered Psychologists and so come within the Health Practitioners' Competence Assurance Act (2003). The Act is designed to protect the public by ensuring that practitioners are fit to practice (New Zealand Statutes, 2003). When they

are registered, Industrial and Organisational Psychologists use the Code of Ethics for Psychologists Working in Aotearoa/New Zealand (2002). This code is provided by the New Zealand Psychological Society, to guide their Psychologists' interactions and behaviours. The Code of Ethics has clear standards for Cultural Competence. However, Industrial and Organisational Psychology professionals do not have to be registered to work in the field of Industrial and Organisational Psychology and therefore not all professionals are legally required to be Culturally Competent nor assessed in Cultural Competence. Because only Registered Psychologists are legally required to have Cultural Competence, for many other professionals and students, Cultural Competence is not as visible or conspicuous as it should be.

Human Resource Management professionals likewise do not have to be registered to work in their field. However, the Human Resource Institute of New Zealand (HRINZ) provides professional affiliation to those who can achieve their professional standards. HRINZ also has a Code for Professional and Ethical Behaviour (HRINZ, 1993).

C) Organisational Cultural Competence

Cultural Competence in an organisational setting has not been as extensively researched as it has for settings such as Clinical Psychology (Bryson & Hosking, 2005). However, it is of no less importance; rather in some respects it is more important. Industrial and Organisational Psychology and Human Resource Management professionals work at an organisational level and are interacting with, and affecting, large numbers of people, for example making policy decisions such as remuneration systems, or redundancy, hence the impacts of cultural *incompetence* could be more widely spread (Bryson & Hosken, 2005).

Conflict of interest is also a complicating factor that can arise in the organisational setting. If an employer asked an Industrial and Organisational Psychology or Human Resource Management professional to implement an assessment process or policy that could negatively impact on people, or behave in a culturally incompetent manner, who does the Industrial and Organisational Psychology or Human Resource Management professional have a responsibility to (Bryson & Hosken, 2005)? The potential impact that a professional group or culture can have on organisational

decision making is large (Tolbert and Barley, 1991), thus it is important to ensure that the professional influence exerted by Industrial and Organisational Psychology and Human Resource Management professionals is a responsible and Culturally Competent one. Consequently, Cultural Competence in this thesis is considered within the organisational setting, and is thought of great importance.

Background of Cultural Competence in New Zealand

In New Zealand the focus on Cultural Competence has come about through the fusion of ideas from various fields. Awareness of Cultural Safety, an earlier but similar idea to Cultural Competence can be credited to the nursing profession. Cultural Safety has been formally defined by the Nursing Council of New Zealand (2005) as:

> The effective nursing practice of a person or family from another culture, and is determined by that person or family. Culture includes, but is not restricted to, age or generation; gender; sexual orientation; occupation and socioeconomic status; ethnic origin or migrant experience; religious or spiritual belief; and disability (p. 4).

Surprisingly, Cultural Safety has only been formally recognised in New Zealand since 1992 (S. Richardson, 2004). So, like Cultural Competence, it is a relatively new initiative. Both Cultural Safety and Cultural Competence are included in the New Zealand Psychologists Board Guidelines for Cultural Competency (2006).

While Cultural Safety is based in a health setting, specifically in the area of nursing, there are similarities between Cultural Safety and Cultural Competence which can help understanding of Cultural Competence, and its relative importance to the field of Industrial and Organisational Psychology and Human Resource Management. The first of these similarities is the idea of a professional gaining understanding and awareness of their own prejudices and culture. Awareness of our own bias and prejudice is a fundamental component of both Cultural Safety and Cultural Competence (Gibbs, 2005). Awareness is considered essential to Cultural Safety because the cultural attitude or mindset that a person brings to an interaction will sway the service or care provided (Polasckek, 1998). Until a person is aware of their views, they may not give the best service or care (Papps & Ramsden, 1996). Awareness in Cultural Competence is

considered important in order to understand the effect of cultural assumptions on interactions with others (D.W. Sue, 2001). The potential outcome of cultural incompetence in an organisational setting could be the loss of productivity, staff or profit (Bryson & Hosking, 2005).

The second similarity between Cultural Safety and Cultural Competence is that Cultural Safety explores the theme of power in relationships (Polaschek, 1998). In an interaction between nurse and patient, the nurse has the position of power because of his or her expert knowledge (S. Richardson, 2004). Likewise, Human Resource Management and Industrial and Organisational Psychology professionals also often hold a position of power; for example, the power to make or at least influence staffing and appraisal outcome decisions. While the potential outcomes of power imbalances are different in a health and organisational setting, they both exist and can have an effect on people. As such, it is important to be Culturally Competent in order to reduce the impacts of potential power imbalances.

Standards of Cultural Competence

In order for a person to reach a level of Cultural Competence considered acceptable, there needs to be some standard for assessing what is an acceptable level. Kane (1994) writes, "Decisions about readiness for a course or a profession depends on the appropriateness of the passing scores used to make the decision" (p. 425). So what is a "passing score" in Cultural Competence for Industrial and Organisational Psychology and Human Resource Management professionals and students? The New Zealand Psychologists Board (2006) state with regards to assessing Cultural Competence standards: "This has not been finalised. It is important to canvas a wide range of ideas on how to assess competency standards. Suggestions to date are supervisor reports, self-report, professional development plans, and consumer feedback" (p. 7). It is disconcerting that the governing body of Psychologists in New Zealand can only provide suggestions for assessing Cultural Competence standards. The document in which these suggestions are written is supposed to guide Psychologists in their intercultural interactions, yet sets no standards for Cultural Competence levels. In defence of the Board, Cultural Competence is a complex issue with many grey and woolly areas to be considered. But there is certainly room for improvement of their

guidelines, by having some standard for Industrial and Organisational Psychology practitioners and students to achieve to be considered "Culturally Competent".

HRINZ does not overtly address the issue of setting standards of Cultural Competence in its Code of Professional and Ethical Behaviour (1993). HRINZ does include "Culture Management" as part of its Human Resource Management competencies, with a focus on organisational culture. HRINZ on their website writes,

> Successful Human Resource Management professionals develop and implement strategies that are consistent with the organisational culture and that promote structures to support business objectives and meet business needs. They have broad experience of positively influencing and supporting employees at all levels of the organisation. This includes a culture that respects diversity and the principles of the Treaty of Waitangi (HRINZ, 1993, para. 41).

With regards to the cultures that Human Resource Management professionals and students work within, HRINZ have named two of the three key contextual elements of Cultural Competence, the unique socio-cultural background and the organisational setting. HRINZ also expresses that because of the diversity of organisations, there is no "one size fits all" answer to the necessary knowledge, skills and abilities needed to be competent. This thesis looks to investigate Cultural Competence in a specific socio-cultural, professional and organisational setting in order to remove some of the ambiguity (i.e. the "no one size fits all" approach around Cultural Competence in both Industrial and Organisational Psychology and Human Resource Management settings) in the hope that if given enough exposure in the future there will be more of a focus on setting clear standards for Cultural Competence, not just in organisational but across socio-cultural and professional culture as well.

For students, Cultural Competence is included in course work, particularly at Post Graduate level. For example, at Massey University, Psychology students are required to complete a professional practice paper with a large Cultural Competence element. However the academic setting means that while students are provided with information on Cultural Competence, it is their understanding of the idea that is tested, not their actual Cultural Competence level. Universities are not vocational training institutes and therefore it is not their function to provide training and assess specific

competence areas such as Cultural Competence. The focus of Cultural Competence in the university setting seems to be in the area of research and fair treatment of research groups. Massey University has very clear cultural standards in the area of research ethics and how the research process should be sensitive to cultural aspects. The guidelines are set out in Massey University Code of Ethical Conduct (2006). The cultural standards are assessed by a Human Ethics Committee which carefully considers the potential impacts of research on groups and individuals. The guidelines set out by Massey University are the closest thing to standards for Cultural Competence available; however they are only applicable to the research setting.

The Model to be Tested

To explore what could predict Cultural Competence within the unique socio-cultural, professional and organisational setting, a model of Cultural Competence and its potential predictors is proposed.

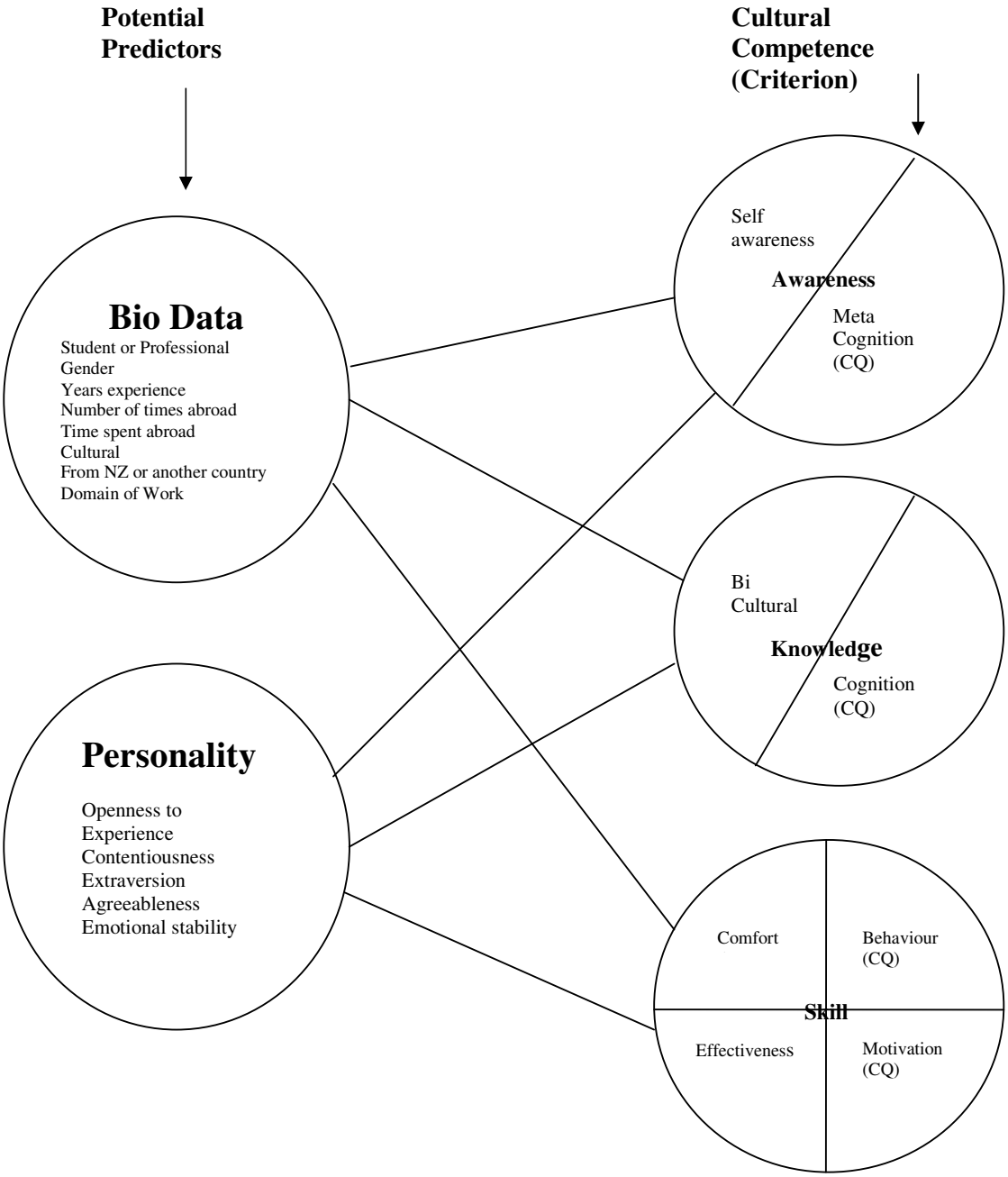


Figure 1.3 –Model to be tested

Predictor Variables Explained

"Bio Data"

The collection of bio data usually involves participants answering self-reported questions on their previous behaviours and experiences (Kilcullen, White, Mumford, & Mack, 2005). The following "Bio Data" constructs were chosen as predictors in the model:

"Domain of Main Work or Study Activity"

Industrial and Organisational Psychology and Human Resource Management often share functions in an organisation. In general terms, perhaps the main difference between the two fields is that Industrial and Organisational Psychology focuses on the more theoretical strategic level, while Human Resource Management tends to focus on administering strategies and theories. Hence the training and work roles for Industrial and Organisational Psychology and Human Resource Management professionals and students have a different a focus. Consequently, the "Domain of Work or Study Activity" has been included in the Model to be Tested to see if the differences between the groups can predict Cultural Competence.

"Years of Experience"

The years of experience a person has had in both education and study could potentially impact on their level of Cultural Competence. In a study that gave students cross cultural experience by getting participants to have email interactions with other cultural groups, it was found that cultural experience is a good learning experience to foster effective cross-cultural interactions (Liaw & Johnson, 2000). While this study was performed using email, it still shows the potential that experience can have for predicting effectiveness and potential Cultural Competence in interactions.

"Student or Professional"

Because students and professionals have different types of experience (i.e., students have more theoretical knowledge, while professionals have experienced situations in real life, whether someone is a student or professional has been included as a potential "Bio Data" predictor in the Model to be Tested.

"Number of Steps Taken to Increase Cultural Experience"

The "Number of Steps Taken to Increase Cultural Experience" was included in the Model to be Tested because professional development such as attending workshops and conferences (examples of steps to increase cultural experience) has been suggested by the New Zealand Psychologists Board to increase and maintain cultural competency (New Zealand Psychologists Board, 2006). Doing so is believed to add to professionals' experience and exposure, and is intended to increase Awareness, Knowledge, and Skills with other cultures (New Zealand Psychologists Board, 2006).

"Number of Times Travelled Outside of Own Country"

Inkson and colleagues (Inkson, Arthur, Pringle, & Barry, 1997) on the basis of research suggested that overseas experience is an important part of professional and personal development. Their research highlighted the importance of interacting with other cultures and the positive impacts for organisations who later hire people who have had overseas experience (Inkson et al. 1997). Gaining experience of others' cultures and world views may enable a person to interact or approach situations with increased awareness and subsequently more competence.

"From Inside or Outside New Zealand"

Whether a person is from New Zealand or from another country is considered relevant to the Model to be Tested because moving from another country would mean that a person has already transitioned through at least one previous cultural adaptation. The experience of adjusting to a new culture could potentially enable a person to be more Culturally Competent. Alternatively, those from New Zealand may be more inclined to be competent because of their experience with the unique socio-cultural environment, for example they may possess more knowledge of Maori customs and greetings.

"Duration of Time Abroad"

People who have not spent any time abroad and only experienced their own world view, are less able to be sensitive to other cultures because they have not experienced the differences between their own and others' world views (Hammer et al. 2003). Gaining experience of others' cultures and world views through travel abroad may enable a person to interact or approach situations with increased "Awareness" and

subsequently more Cultural Competence. When a person travels abroad they have to adapt to a new culture. Cross Cultural Adaptability refers to how comfortable a person feels in their new environment (Black & Gregerson, 1991). Cross Cultural Adaptability shares similarities with Cultural Competence in that it relates to how a person feels about and reacts in relations with people different to themselves. The experience of having to adapt to a new culture potentially could increase a persons Cultural Competence.

Early research by Oberg (1960) suggests that people entering new cultures initially experience "Culture Shock" which is followed by adjustment to the new culture. If time passing can help with cultural adjustment, then it is plausible that the length of time spent abroad may also increase Cultural Competence. Townsend and Wan (2007) found that an increase in the duration of time spent abroad by students, increased student's socio-cultural adaptability. Consequently, the "Total Duration of Time Abroad" has been included as one of the "Bio Data" predictors in the Model to be Tested.

Gender

Females have been found to be more emotionally self aware (Cavallo & Brienza, 2002), and more effective at communicating nonverbally (Briton & Hall, 1995). As such, being female could contribute to a participant's tendency to be Culturally Competent. Hence, gender was selected as one of the potential "Bio Data" predictors.

"Personality"

Personality has been a popular and extensively researched topic in Psychology for well over fifty years. Initially, Allport and Oldbert (1936) proposed a staggering 4500 different personality traits. Later, as the focus shifted to factoring traits in order to have clusters of traits, authors such as Cattell (1943) proposed a 16 factor model of personality. As the genre of Personality Psychology progressed, the number of factors in the proposed personality models decreased. In terms of simplicity, ease of use and empirical backing, the Big Five personality theory is the winning frontrunner among personality theories.

The Big Five theory suggests that Personality can be explained by the five traits of Openness to Experience, often associated with the traits of imagination, an enquiring mind, liberalism, original thinking, innovation and creativity (Barrick & Mount, 1991); Conscientiousness, conceptualised as dutifulness, dependability, consistency and perseverance (Barrick & mount, 1991); Extraversion, seen as outgoingness, talkativeness, and feeling comfortable and seeking out social situations (Barrick & Mount, 1991); Agreeableness, usually characterised by tolerance, friendliness and a tendency to put other at ease (Barrick & Mount, 1991) and finally, Emotional Stability (often referred to in earlier literature as neuroticism) indicated by self confidence, calmness and a person remaining unflustered in emotionally demanding situations (Barrick & Mount, 1991). Various authors have found that the Big Five personality factors have repeatedly held up during factor analysis across varied cultural populations, and therefore, results are generalisable to different cultural groups (Goldberg, 1992, 1993; McCrae & Costa, 1987; McCrae & John, 1992).

"Personality" has been included in the Model to be Tested because, in a key study on expatriate assignment (Caligiuri, 2000), it was found that expatriates were more likely to be seen as effective by their supervisors when Conscientious, and more likely to remain on expatriate assignment if Extraverted or Agreeable. In the study, the Big Five personality characteristic of Openness to Experience was predictive of Cross Cultural Adaptation (Caligiuri, 2000). While this research is in the context of expatriate assignment, the capability required for Cultural Competence and that for adjusting to a new culture are similar, hence it is feasible that "Personality" may be predictive of

Cultural Competence. Ang and colleagues (Ang et al. 2007) in their study found that Openness to Experience was the only one of the Big Five personality characteristics that significantly predicted all of the Cultural Intelligence sub scales. Another key study that points to the relevance of Personality to Cultural Competence was performed by Ones and Viswesvaran (1997). Their research suggests that Openness to Experiences and Conscientiousness can predict people's ability to adjust to new cultures (Ones & Viswesvaran, 1997). Personality may account for Cultural Competence because Openness to Experience seems to be related to the ability of a professional to be open to new ways of thinking and cultural practices, or perceptions different to their own, and Conscientiousness seems to be related to job success (Ones & Viswesvaran, 1997).

Cultural Competence (Criterion Variables) Explained

Cultural Intelligence

Cultural Intelligence is defined as "A person's capacity for successful adaptation to new cultural settings" (Earley & Ang, 2003 p. 9). Cultural Intelligence was thought relevant to Cultural Competence because it appears to have similar theoretical underpinnings to Cultural Competence. The three elements of Awareness, Knowledge, and Behavioural Skill are proposed by Thomas and Inkson (2004) to be the key fundamentals of Cultural Intelligence. The three element model of Cultural Intelligence (Thomas & Inkson, 2004) is very similar to D.W Sue's (2001) Multidimensional Model for Developing Cultural Competence in that they both include Awareness, Knowledge and Skills. As such, it is argued that Cultural Competence and Cultural Intelligence are very similar.

Other authors in the area of Cultural Intelligence have proposed a four factor model of Cultural Intelligence (Earley & Ang, 2003). Their Cultural Intelligence model is made up of elements of Cognition, Meta Cognition, Motivation and Behaviours. Earley and Ang's model (2003) shares similarities with Thomas and Inkson (2004) in that it has an awareness (referred to as Meta Cognition), a knowledge (referred to as Cognition) and a behavioural element. However, it has an additional subscale of Motivational Cultural Intelligence, which can be defined as a person's willingness to engage with a new culture (Earley & Ang, 2003) that differs from Thomas and Inkson's (2004) model of Cultural Intelligence. Earley and Ang (2003) argue that motivation is an essential part of Cultural Intelligence because motivation creates an enthusiasm to participate and persist in cultural interactions. Earley and Ang's (2003) four factor model of Cultural Intelligence has been selected for use as some of the criterion variables to represent Cultural Competence in the Model to be Tested. Earley and Ang's (2003) model of Cultural Intelligence was selected for use as criterion because it is the only Cultural Intelligence model that has taken the theory to the next level and created a scale to test the model (Cultural Intelligence Scale, Ang et al. 2007) in order to gauge Cultural Intelligence levels.

"Awareness"

Thomas and Inkson (2004) describe awareness as being mindful of "Assumptions, ideas and emotions" (Thomas & Inkson, 2004 p. 52). Roysircar (2004) suggest that practitioners' awareness of their subjective world view is a good indication of competence. Having an understanding of your own culture, and cultural assumptions is an important element of achieving Cultural Competence (D.W. Sue, 2001). In order to gauge "Awareness" in the Model to be Tested (the first circle on the top right hand criterion side of Figure 1.3 p.14), "Awareness" has been theorised as having two parts: "Self Awareness" and "Meta Cognition" (from the Cultural Intelligence scale Ang et al. 2007).

"Self Awareness"

Self awareness in an organisational setting has been recognised in a study performed by Church (1997) as important for increased performance of managers. The difference between average performing managers and high achieving managers was found to be self awareness, in terms of the ability to understand and review thoughts, skills and behaviours (Church, 1997). The study performed by Church (1997) is relevant to Cultural Competence in that Industrial and Organisational Psychology and Human Resource Management professionals often have a management element in their roles, for example, overseeing projects and having others reporting directly to them. If self awareness can increase managerial achievement, can "Self Awareness" contribute to Cultural Competence?

T.Q. Richardson and Molinaro (1996) believe that self awareness in a Counselling setting is essential to the development of Cultural Competence in order to deliver better services. Again, while Counselling has different aspects to Industrial and Organisational Psychology and Human Resource Management, counselling often is an element of Industrial and Organisational Psychology and Human Resource Management professionals' role; for example, counselling an employee who has been made redundant. If both management level and Cultural Competence in Counsellors can be increased by self awareness, then perhaps Cultural Competence too may be similarly influenced by "Self Awareness".

"Meta Cognition"

Meta Cognition (the second half of the "Awareness" circle from Figure 1.3 p.14) can be defined as a higher level of cognition that is self-reflective and is the extent to which a person thinks about thinking (Hacker, 1998). In a cultural context, Meta Cognition allows a person to understand their own thought processes around how they interact with others and the cultural knowledge that they possess (Flavell, 1979). For example, during preparation for a job selection interview with a Pacific Island job candidate, an Industrial and Organisational Psychology or Human Resource Management professional may examine any prejudice that they have towards Pacific Islanders and think about how their prejudices could affect their decision. "Meta Cognition" was thought to be conceptually important and therefore, included in the model because, in order to examine our own cultural assumptions, a higher level of awareness of our thoughts is required.

"Knowledge"

E.R. Smith (1994) suggested that knowledge can be categorised into the different categories of Declarative and Procedural knowledge. Declarative Knowledge, also sometimes called Crystallised Knowledge, is possessing specific facts and information about a topic; while Procedural Knowledge, also called Fluid Knowledge, is making inferences, often on the basis of declarative knowledge (E.R. Smith, 1994). Because of the different types of knowledge, it was thought necessary to adapt the Model to be Tested so that both a declarative and procedural knowledge element was included in the "Knowledge" section of the Model to be Tested. The declarative element in the Model to be Tested is "Bi-Cultural Knowledge" which is specific to the socio-cultural environment (i.e., the New Zealand setting which is relevant to the Industrial and Organisational Psychology and Human Resource Management professionals and Students). Also, included as the other part of "Knowledge" is "Cognition" (from the Cultural Intelligence Scale, Ang et al. 2007) which is more procedural in nature, specifically it focuses on a person understanding across cultures.

"Bi-Cultural Knowledge"

Specific knowledge of customs, greetings and other cultural expressions (like removing shoes before entering a meeting house on a Marae) can help a person to avoid offending others. The specific knowledge allows a person to speak, or behave in a way

that is consistent with another's culture. The focus of the "Bi-Cultural Knowledge" section was specifically on knowledge of Maori customs. While focusing on one culture may seem narrow, it was necessary, as the size and scope of this questionnaire did not allow for all relevant cultures in the New Zealand setting to be included.

The second reason for limiting the "Bi-Cultural Knowledge" section to Maori culture is that in documents such as the Guidelines for Cultural Competence (2006) provided by the New Zealand Psychologists Board, there is a duty to have a working knowledge of the Treaty of Waitangi. In its Guidelines for Cultural Safety (2005) the New Zealand Psychologists Board states that the "Government affirms that Maori as tangata whenua hold a unique place in our country, and that the Treaty of Waitangi is the nation's founding document" (p. 4). Hence, the Model to be Tested (Figure 1.3 p.14) contains a bi-cultural knowledge element which includes an item about the Treaty principles of Partnership, Participation and Protection.

"Cognition"

Because of the ever-increasing cultural diversity that all people are coming into contact with, the sheer amount of cultural knowledge required by an Industrial and Organisational Psychology or Human Resource Management professional or student is staggering. While having specific cultural knowledge, like knowledge of Maori customs is important, a more general type of cultural knowledge that can be transferred across cultures would also be ideal. In an attempt to measure a more general (procedural) type of cultural knowledge, the "Cognition" subscale from Ang et al. (2007) Cultural Intelligence Scale was used to represent the second half of the "Knowledge" circle in the Model to be Tested (Figure 1.3 p.14). Cognition is defined by the authors as having understanding of the cultural norms, and processes; for example legal systems of other cultures (Ang et al. 2007).

"Skills"

"Skills" (the bottom circle on the right-hand criterion side of the Model to be Tested) is very simply the ability to perform a task. Johnson (1996) defines skill as a behaviour that is performed on the basis of contextual information and is appropriate for the specific environment. However, the word skill implies not just an ability but mastery or effectiveness in achieving the task at hand (Attwell, 1990). When a person is

effective at performing a task they tend to have a level of comfort or ease and they can perform the task without much conscious thought (Attwell, 1990). Therefore, in the Model to be Tested (Figure 1.3 p. 14), "Skills" has been theorised as having four parts. The first two parts are: Behavioural and Motivation Cultural Intelligence from Earley and Ang's (2003) four factor model of Cultural Intelligence, the third part is "Effectiveness", namely the quality or appropriateness of the skill and final part of "Skills" is "Comfort", that is the ease with which the skill can be used.

"Behaviour"

The Behaviour element of the Cultural Intelligence model (Earley & Ang, 2003) is defined as the "Behavioural repertoire responses needed for a given situation (Earley & Ang, 2003, p. 81). Behaviour is the actual outward response or competence that requires Skill to execute in a culturally competent manner. "Behaviour" was included as part of the "Skills" section in the Model to be Tested (Figure 1.3 p. 14) because a person needs to be able to actually show others their Cultural Competence through behaviours. The Behaviour subscale from Ang et al. (2007) Cultural Intelligence Scale was used to measure "Behaviour" in the Model to be Tested (Figure 1.3 p. 14).

"Motivation"

Motivational Cultural Intelligence can be defined as a person's willingness to engage with a new culture (Earley & Ang, 2003). Earley and Ang (2003) argue that motivation is an essential part of Cultural Intelligence because motivation creates an enthusiasm to participate and persist in cultural interactions. The measurement of "Motivation" in the Model to be Tested (Figure 1.3 p.14) is from Ang et al.'s (2007) Cultural Intelligence Scale. Motivational Cultural Intelligence has been included in the "Skills" section of the Model to be Tested (Figure 1.3 p.14) because wanting to have interactions with others and being motivated to interact with others is thought to increase a person's cultural skill, because they are more likely to actively seek out or engage in cultural interactions (Earley & Ang, 2003).

"Effectiveness"

Effectiveness is very contextual: what is effective in one role may not be so for another. Effectiveness is also subjective and can be open to interpretation. As such in the Model to be Tested, "Effectiveness" has been measured by asking participants about

their "Effectiveness" with different socio-cultural, organisational and professional groups, as well as "Effectiveness" at performing organisational tasks that are likely to be encountered by Industrial and Organisational Psychology and Human Resource Management professionals; for example planning a cross cultural communication training workshop. "Effectiveness" was included in the model to represent part of "Skills", to show not just a person's ability to perform tasks, but to gauge a higher level of mastery or competence in the field of Industrial and Organisational Psychology or Human Resource Management.

"Comfort"

Comfort has been defined as "A state, such as ease, well-being and satisfaction" (Tutton & Seers, 2003 p. 690). According to Festinger (1954) people tend to feel comfortable with those who are more similar to themselves. Hence, feeling comfortable with people from other cultures (i.e., those different to you in some way) should require cultural skill. The questions asked in relation to "Comfort" with other cultures centred on confidence and the ease with which people felt with other cultures. "Comfort" was included in the Model to be Tested because when people have achieved a level of competence they tend to feel much more comfortable and at ease when performing the task again (Bergin & Reilly, 2005). In a study performed by Bergin and Reilly (2005) comfort levels had a significant positive relationship with a person's performance. While that study was on performance of computer programming, the results still show a link between comfort and competence.

Social Desirability

Social Desirability has been described as the tendency of people to want to present themselves in a socially positive way, and in doing so, gain social approval (Collazo, 2005), which in turn reinforces a person's self esteem (Cialdini, & Goldstein, 2004). In any setting, educational or professional, what is considered socially acceptable and hence socially approved is achievement or competence (Arndt, Schimel, Greenberg, & Pyszczynski, 2002); hence the possibility of socially desirable responding in this thesis is likely (i.e. professionals and students will want to appear Culturally Competent). While some degree of socially desirable responding is perceived as normal, overly positive responses may confound the results (Moorman & Podsakoff, 1992). Responding in a socially desirable way can especially occur when the participant has a

vested interest in the outcome of the Personality assessment, for example in pre employment testing (Rosse, Stecher, Miller & Levin, 1998).

Barrick and Mount (1993) found that the personality factor of Conscientiousness is most likely to be answered in a socially desirable manner, probably because of its association with job success. In a study performed by Rosse and colleagues (Rosse et al. 1998), it was found that those applying for positions as opposed to those already in a position were more likely to answer questions in a socially desirable way. These results while found in a different setting do highlight the need for caution in self report measures and in particular personality testing. Also, many Industrial and Organisational Psychology and Human Resource Management professionals and students may be armed with information of personality theory and which Big Five personality factors are seen as desirable and consequently may be more able than other professional groups to present an overly positive image.

Research Questions

Because this thesis is exploratory in nature, research questions rather that exact hypotheses have been formulated to guide and give structure to the research process.

Model to be Tested - main conceptual test:

- Is cultural "Awareness" best predicted by "Bio Data" or "Personality"?
- Is cultural "Knowledge" best predicted by "Bio Data" or "Personality"?
- Are cultural "Skills" best predicted by "Bio Data" or "Personality"?
- Will "Personality" or "Bio Data" be the best overall indicator of Cultural Competence?
- Which "Bio Data" item will be the best indicator of Cultural Competence?
- Which "Personality" Factor will be the best indicator of Cultural Competence?

Testing of other authors models:

- Is D.W. Sue's Multidimensional Model for Developing Cultural Competence (2001) applicable to the Industrial and Organisational Psychology and Human Resource Management setting in New Zealand?
- Will Earley and Ang's (2003) four factor model of Cultural Intelligence maintain its structure and be reliable in this research when tested using the Cultural Intelligence Scale (Ang et al. 2007)?
- Will Goldberg's (1999) International Personality Item Pool (IPIP) measure of the Big Five Personality Factors maintain its factor structure and reliability for this research?

2. Method

Participants

The criteria for participants were decided by their belonging to either HRINZ or IONet (an online network for Industrial and Organisational Psychology students and professionals). It was assumed that any person belonging to either of these professional groups would have, now or in the past worked or studied in the area of Industrial and Organisational Psychology or Human Resource Management. The survey was distributed to approximately 742 people via IONet and HRINZ. There were 143 responses to the survey with an overall response rate of 19%. However some of the questionnaires were not completed. While Statistical Packages for Social Sciences (SPSS) can handle some missing responses, the partially competed responses that were removed from the analysis were missing entire sections of information, and in many cases the participants had only filled out the first few questions. Consequently, the final number of usable participant responses is n=113. Response rates to online questionnaires have been found in a meta analytic study by Cook and colleagues (Cook, Heath, & Thompson, 2000) to be typically 39.6%, which is above the usual response rate of 30% for paper surveys. As such the response rate of 19% is low even by paper format standards. Response rate is important so that a representative sample of the population can be obtained. The low response rate may have implications for generalisability of results to the wider population of Industrial and Organisational Psychology and Human Resource Management professionals and students.

Of the 113 completed responses, 73 participants were female and 40 participants were male. Ages of the participants ranged from 21-59 years, with a mean of 39.9. Within the sample, n = 51 participants identified themselves as belonging to the Human Resource Management professional group, n = 26 identified themselves as Industrial and Organisational Psychology professionals, and n = 20 as both Industrial and Organisational Psychology and Human Resource Management. Some participants (n = 20) identified themselves in the category "Other", and specified their professional group, for example, Forensics, Academic, General Psychology, Education and Marketing**.**

n = 35 participants identified themselves as belonging to the group "Students" and "Students and Professionals", and *n = 72* participants identified themselves solely as professionals. The participants ranged in work experience from 0-35 years and in study experience from 0-25 years.

A range of ethnic groups responded to the questionnaire, English, Dutch, Chinese, Pakeha, Maori, Italian, Swedish, Australian, Filipino, and Malaysian. 61% of the sample identified themselves as Pakeha, European New Zealander, kiwi or simply New Zealander, with 7% identifying themselves as Maori. In New Zealand the percentage of Maori according to the 2001 Census (Frank, 2001) is 1-in-7 people who consider themselves to be "Maori", (just over 14% of New Zealand's population). Hence Tangata Whenua is somewhat under represented in the sample, which may be a reflection of under representation in the professional group.

Measuring Cultural Competence

When examining how other authors have measured Cultural Competence, due to there being no existing measures designed specifically for the Industrial and Organisational Psychology and Human Resource Management New Zealand professional or student, there is a need to look across other fields. An example of a Cultural Competence measure from a mental health perspective is the Cultural Competence Self Assessment Questionnaire (CCSAQ) (Mason, 1995). The CCSAQ focuses on ethnic culture within the mental health care context. An example question is "Do you use treatment interventions that have been developed for populations of colour" (Mason, 1995). The context of the questionnaire means that while the author found the measure to be reasonably reliable and valid for their population, most of the questions are irrelevant for measuring the Cultural Competence of Industrial and Organisational Psychology and Human Resource Management professionals and students.

Also, the measure tends to focus on ethnic culture and does not include professional or organisational culture, two cultures which Industrial and Organisational Psychology and Human Resource Management professionals come into contact with daily. In the questionnaire constructed for this thesis items about culture included socio-cultural, professional and organisational culture at the assumptions, values and

behaviour levels. Finally the use of the term "populations of colour" seems to make the assumption that a person's culture is defined by their physical characteristics, as opposed to the culture that they identify with. This simplistic interpretation of culture as the colour of a person's skin does not capture the complex and layered nature of what culture is. It was for exactly this reason that the Cultural Competence questionnaire constructed for this thesis used different types of culture to gain a perspective that is more relevant to the Industrial and Organisational Psychology and Human Resource Management field.

Another measure, the Cross Cultural Adaptability Inventory (CCAI) written by Kelly and Meyers (1995) is a well known measure that assess the level of inclination a person has to interact with other cultures (Davis, & Finney, 2006). The measure does not directly assess Cultural Competence however Cross Cultural Adaptability is a similar concept since to adapt to a new culture a person often has an awareness of how they are behaving and then must modify their behaviour accordingly (Davis & Finney, 2006). The CCAI is a useful measure for potential employers trying to assess how an employee may adjust to a new country. An internet search showed that the CCAI is used in pre employment testing by a number of organisations.

While each of the above measures has their merits, they have all been designed with other context and purpose in mind, mainly Mental Health, Counselling or where a one on one practitioner client relationship takes place. The varied nature of culture, the individual cultural environment of New Zealand, as well as the specific professional and organisational culture means that in order to measure Cultural Competence of Industrial and Organisational Psychology and Human Resource Management professionals and students, a more tailored and specific approach is needed.

Predictor Variable Measures

In response to the need to have a more tailored measure that is specific to Industrial and Organisational Psychology and Human Resource Management professionals and students, a Cultural Competence questionnaire was created, and contained the following.

"Bio Data"

The questions in the "Bio Data" section varied in format; with some open ended questions, for example "Please indicate the number of years work experience you have had in Industrial and Organisational Psychology, Human Resource Management or Industrial and Organisational Psychology and Human Resource Management". Some questions provided tick boxes, for example "Are you a?" With the three options of: "Student", "Professional" or "Student and Professional". Also some questions provided drop down boxes for example, "For each of the countries that you have visited outside of your own specify the approximate duration of your stay and your primary reason for travel". The participants had a drop down box with the options of: Less than 1 month, 1-5 months, 6-11 months, 12-17 months, 18 months-2 years, More than 2 years. Please see Appendix A (p. 91) for "Bio Data" questions.

Of the "Bio Data" questions there were two types of data collected. The first was the data collected as part of the Model to be Tested (Figure 1.3 p. 14). The "Bio Data" items that were collected as part of the Model to be Tested were: Gender, Years of Experience (study and work combined), Total Duration of Time Abroad (in months), Number of Times Abroad, Cultural Experience i.e. consulting a cultural advisor, visiting a marae, from NZ or another country, Domain of Work (Industrial and Organisational Psychology or Human Resource Management) and whether a person was from inside or outside of New Zealand. The other information such as the age was collected to better understand the population.

International Personality Item Pool-IPIP

The Big Five theory has various measures created by different authors, for example McCrae and Costa (1985) created the NEO Inventory, and also a later updated version (Costa, McCrae & Dye, 1991). Another example of a measure using the Big

Five theory is the International Personality Item Pool (IPIP) (Goldberg, 1992). The IPIP is an online measure (http://ipip.ori.org/ipip/) that is offered to researchers (for no cost). D.R. Smith (1996) writes that "With the Big-Five approach to Personality currently available, none would seem to be able to match the reliability and validity of the instruments developed by Goldberg, other than perhaps the commercially available NEO Personality Inventory" (p. 285). The IPIP is an established Personality measure that is based on the Big Five Personality Factors. The IPIP measure has reliability coefficients ranging from .79-.87 for the five scales (Goldberg, 1999). The measure has also been compared and correlates highly with other measures of the Big Five, for example the NEO Personality Inventory Revised Version (Goldberg, 1999). The high correlation with a similar measure adds weight that the IPIP is measuring the Big Five personality factors.

There are both short (50 items) and Long (100 items) version of the IPIP available. In a study Dillman and colleagues (Dillman, Sinclair & Clark, 1993) found that shorter questionnaires significantly increased response rate by 4.6%. Hence the 50 item test was used in the Cultural Competence questionnaire to limit the questionnaire length in the hopes that response rate would increase.

The "Personality" questions were measured on a Likert scale of 1 to 5 with 1 indicating very inaccurate, and 5 indicating very accurate. The IPIP items are a mixture of both positively and negatively worded questions. The items were not ordered according to the separate subscales, rather just presented to the participants in a random format. Please see Appendix B (p. 95) for the IPIP "Personality" items used in the questionnaire.

Criterion Variable (Cultural Competence) Measures

Cultural Intelligence

The Ang et al.'s (2007) Cultural Intelligence Scale, based on Earley and Ang's (2003) model of Cultural Intelligence is currently the only measure of Cultural Intelligence available. The four factor model of Cultural Intelligence (Earley & Ang, 2003) and the Cultural Intelligence Scale (Ang et al. 2007) is still relatively new and has not been extensively researched. Although results to date look promising and the Cultural Intelligence Scale (Ang et al. 2007) has so far yielded reliability coefficients ranging from .81-.88 for the four subscales (Ang et al. 2007), the results were found in the American and Singaporean context (Ang et al. 2007) and therefore may not be applicable to a New Zealand context and the population tested in this research. As such, exploring the factor structure of the Cultural Intelligence scale in the unique population is important.

In the Model to be Tested (Figure 1.3 p. 14) the Cultural Intelligence Scale (Ang et al. 2007) has been used as criterion to measure Cultural Competence, due to its similar theoretical underpinnings to Cultural Competence. The four subsections have been used separately across the "Awareness", "Knowledge" and "Skills" sections. Meta Cognition represents half of "Awareness" (the top right hand circle of Figure 1.3 p.14), Cognition half of "Knowledge" (the middle circle on the right hand side of Figure 1.3 p. 14), and both Behavioural and Motivation Cultural Intelligence make up part of "Skills" (the bottom right hand circle in Figure 1.3 p.14).

The Cultural Intelligence Scale (Ang et al. 2007) (please see Appendix C p. 98 for the Cultural Intelligence Scale) was originally on a 7 point Likert scale, however for consistency of items format and ease for the participants with the other 5 point scales in the questionnaire, the scale was change to a 5 point scale from 1 - Strongly Disagree and 5-Strongly Agree. Also the scale was shortened from 7 to 5 points because it has been suggested that a longer scale can cause participant fatigue, and may decrease response rate (Birkett, 1971).

"Awareness"

"Self Awareness"

In Figure 1.3 (p. 14) "Awareness" is divided into two halves or sub subscales: A) "*Meta Cognition"* from the Cultural Intelligence Scale (Ang et al. 2007) and B) "*Self Awareness"*-questions created especially for this thesis. The "Self Awareness" subscale questions were constructed especially for this research because there were no "Self Awareness" items already available for the unique professional group, and also because the Meta Cognition section of the Cultural Intelligence Scale (Earley & Ang, 2003) was not considered sufficient alone to test for the whole criterion of "Awareness".

"Meta Cognition" from the Cultural Intelligence Scale (Ang et al. 2007) asks questions such as "I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds". While the "Meta Cognition" questions delve into the awareness of a person in a general sense, in order to test the overall criterion of "Awareness" in the unique professional group, questions have been written to also measure the three relevant cultural "Foci" for Industrial and Organisational Psychology and Human Resource Management professionals and students: Socio-cultural, organisational and professional culture (please see appendix D p. 100 for "Self Awareness" questions).

The items for the "Self Awareness" subsection were created to measure awareness of cultural assumptions, values and behaviours in the unique professional group and the organisational setting. Questions for "Self Awareness" have been constructed on two levels, awareness of others and awareness of self to gauge both internal and external awareness around professionals and student's awareness in the areas of, socio-cultural, and organisational and professional culture. The questions were on a 5 point Likert scales ranging from 1-strongly disagree to 5-strongly agree. Participants were asked to rate their "Self Awareness" in the context of their everyday work environment.

"Knowledge"

"Bi-Cultural Knowledge"

In Figure 1.3 (p. 14) "Knowledge" is divided into two halves. A) "*Cognition"* from the Cultural Intelligence Scale (Ang et al. 2007) and B) "*Bi-Cultural Knowledge"* (in the middle circle on the right hand criterion side of the Model to be Tested Figure 1.3 p. 14). The "Bi-Cultural Knowledge" element of the overall "Knowledge" criterion was included for the New Zealand context to measure specific knowledge around the Treaty of Waitangi and Maori customs. In order to ask questions about Maori culture that were relevant i.e. would be useful in intercultural interactions that Industrial and Organisational Psychology and Human Resource Management professionals and students would typically take part in, consultation with a Maori family member who identifies strongly with his culture was sought. The questions that were asked in the "Bi-Cultural Knowledge" subsection were considered general enough that they would be applicable across iwi. The questions were around the Treaty of Waitangi and visiting a Marae (please see Appendix E p.101 for "Bi-Cultural Knowledge" Questions).

"Skills"

"Effectiveness"

In Figure 1.3 (p.14) "Skills" is divided into four subscales. A) & B) "*Behaviour" & "Motivation"* from the Cultural Intelligence Scale (Ang et al. 2007), C) "*Effectiveness"* and D) "*Comfort"*. "Effectiveness" and "Comfort" were included over and above the Cultural Intelligence questions because it was felt that Cultural Intelligence did not cover the whole criterion of "Skills". "Effectiveness" taps into the *professionally specific* and *current* skills that and Industrial and Organisational Psychology or Human Resource Management professional or student may be effective at. For example, Right at this minute, how confident would you be about accepting a consultancy to design (within say a week) a workshop that focuses on...

- Cross cultural communication
- Merger potential from the perspective of compatibility between organisational cultures
- The bringing together of different professional groups (and their occupational cultures) at work.

Questions regarding "Effectiveness" were on a five point Likert scale and specific to the professional and organisational setting. The questions were particular to activities that Industrial and Organisational Psychology and Human Resource Management professionals and students would likely come into contact with or have completed in the past (please see Appendix F p. 103 for "Effectiveness" questions).

"Comfort"

Questions for the "Comfort" subsection asked how comfortable and how confident participants felt interacting with people from different socio-cultural, organisational and professional groups. Again these questions were on a five point Likert scale and designed to measure comfort within the specific professional and organisational context (please see Appendix F p. 103 for "Comfort" questions).

Social Desirability-The Marlowe-Crowne

The Marlowe-Crowne (1960) is one of the most well known and well used social desirability scales (Moorman & Podsakoff, 1992). The original Marlowe-Crowne consisted of 33 items and was designed to tap into Social Desirability (Marlowe & Crowne, 1960). Over the last 40 years, the Marlowe-Crowne Social Desirability Scale has been shortened to include only the most relevant questions. Research has found that the shortened 10 item versions of the Marlowe-Crowne are almost as reliable as the full length version (Strahan & Gerbasi, 1972) and that even a few as 6 items produced a reliable measure (Greenwald & Satow, 1970). Hence a shortened version of the Marlowe-Crowne was used for this research. An 8 item version was chosen from an inventory table produced by Greenwald and Satow (1970) (please see Appendix G p. 105 for Marlowe Crowne items used). Greenwald and Satow (1970) suggested that researchers chose the items from the inventory to suite their research project. The version used for this thesis was selected by choosing the top four loading items from each of the two subscales, which are four positively keyed questions and four negatively keyed questions.

The Social Desirability questions in the form of a short version of the Marlowe-Crowne were altered to the same 1-5 scale as and randomly distributed among the IPIP items. Industrial and Organisational Psychology and Human Resource Management professionals and students are often familiar with Personality profiling and social

desirability, so it is difficult to pull the wool over their eyes. As such it was important to make sure that the Social Desirability questions were well disguised by altering the answer format to enable the questions to blend with the IPIP items. The questions were altered from a question to a statement format to blend with the "Personality" questions, for example "Are you always a good listener, no matter whom you are talking to?" was altered to "I am always a good listener, no matter who I am talking to". Greenwald and Satow (1970) found that when the Marlow-Crowne items on a Likert scale when compared with a true false answer format, they correlated consistently higher with the Social Desirability score.

Procedure

Permission from Involved Parties

Permission from both IONet (granted by IONet's champion Bernie Frey) and HRINZ (by Debbie Bridge) was sought and granted to ensure that the questionnaire could be distributed via these two online networks. Please see Appendix H (p. 106) for emails to IONet and HRINZ and response to request for permission.

Ethics Application

The first stage of this research involved the submission of an application to the Massey University Human Ethics Committee, which was reviewed and approved (Application 08/046). All research involving human participants who may cause any harm is reviewed by the committee. The main ethical considerations for this project were protecting the privacy of participants and ensuring that the questionnaire was culturally sound. These consideration were dealt with by using an online format that meant participants responses could not be identified, and also, consulting a Maori family member about cultural issues.

Pilot Study

Once ethics permission was granted, a pilot study was performed to fine tune the questionnaire, and to ensure that it was user friendly and easy to understand. The questionnaire was sent out to friends, colleagues and associates. Feedback from the respondents ($n=2$) suggested that the social desirability scale be better disguised to blend into the IPIP items. This useful feedback was taken on board and the change was made. Also, there was a technical difficulty with one of the questions not working correctly; the question format was altered to remedy the problem.

Questionnaire Distribution

After the changes were made, the survey was distributed via Survey Monkey (surveymonkey.com) which is a program designed for the construction and distribution of research questionnaires. Once the questionnaire was made a link was provided by Survey Monkey, and the link was then pasted in the body of the email that was sent out to IONet and HRINZ (Please see appendix I p. 110 for the emails sent out to

participants). To complete the questionnaire, participants were required to cut and past the link into their web browser. Distribution of the link involved for IONet sending out an email introduction which contained a link that redirected participants to the online consent form and survey. Once participants had read the consent form they continued on and completed the assessment which took up to 30 minutes to complete. The questionnaire consisted of questions about "Bio Data", the established IPIP "Personality" assessment, the Cultural Intelligence Scale (Ang et al, 2007), questions constructed specifically for this questionnaire about "Self Awareness", "Bi-Cultural Knowledge", "Comfort" and "Effectiveness" and also a shortened (8 item) version of the Marlowe-Crowne Social Desirability Scale. Each of these measures is discussed below. Once the assessment was complete the results were automatically saved by Survey Monkey. For distribution of the questionnaire to HRINZ the survey link and email message was given to Debbie Bridge, and she then distributed the email to the HRINZ research mailing list. The slightly different technique used to distribute the questionnaire was used so that HRINZ could protect the privacy of their members contact details.

Reminders to participants have been suggested to double online response rates (Kettleson, 1995) hence, after one week a reminder email was sent out, and again on week three.

Once the participants completed the survey, they were provided with a code word. If the participant wanted to enter the prize draw, they could email the code word to the researcher. Once the research phase was complete, two participants were drawn at random and each was posted a $50 Westfield shopping voucher.

Data Collection and Analysis

The data collected in Survey Monkey was automatically stored and once the data collection was finished, the raw data was downloaded in the form of Microsoft Excel spread sheets. The data was then cut and pasted into SPSS where analysis in the form of data reduction and then multiple regression analysis were performed. As in accordance with Massey University regulations, the results will be stored on campus for the period of five years (in the form of a USB key) and then destroyed.

Informing Participants of Results

All participants were promised and are entitled to a summary copy of the results upon competition of this thesis. A summary sheet will be written and distributed via IONet and given to Debbie Bridge at HRINZ so that she can distribute the results to HRINZ participants. The distribution of results will be complete by the submission of this thesis.

3. Results

Missing Data

An initial visual analysis of the data suggested that the participants who missed questions tended to miss items that were further on in the questionnaire. Hence, a missing values analysis was conducted in SPSS. The missing data analysis showed that the area in which data was missing was predominantly the "Bio Data" section, which was the penultimate section of the questionnaire (followed by the "Personality" section). The three "Bio Data" questions that had the highest number of missing values were as follows:

- "In which of the three domains is most of your study/work activity? Industrial and Organisational Psychology, Human Resource Management or Industrial and Organisational & Human Resource Management?"
- "If you are studying are you studying in the area of? Industrial and Organisational Psychology or Human Resource Management or Industrial and Organisational Psychology and Human Resource Management?"
- "Please indicate the number of times you have visited outside your own country".

The missing data and its implications will be addressed further in the discussion section

Data Reduction

Although Cultural Competence is not a new concept, its measurement is. The measures used in this questionnaire are either newly created for the purpose of the research or, as in the case of the Cultural Intelligence Scale (Ang et al. 2007), have previously been tested in only one or two other, different cultural settings (Singapore and USA). They have not been tested specifically for New Zealand, or for Industrial and Organisational Psychology and Human Resource Management professionals and students. Hence the mode of data reduction was exploratory rather than confirmatory.

As a general process, the first step in reducing the data was to conduct an exploratory factor analysis (PCA) to check for overall factor structure. Items loading highly on to two factors, or counter-intuitively, were deleted and the factor analysis was repeated. The process of deletion and repetition of factor analysis was continued until a

satisfactory and interpretable factor solution was obtained. During the analysis, loadings with Eigen values of less than .3 were suppressed.

Alpha coefficients were calculated for each of the sub scales to assess their internal reliability (Spicer, 2005). Reliability coefficients of .7 are considered to be of an acceptable level (Spicer, 2005). Once the data had been reduced to the items which clearly loaded onto separate factors, the new factors were named according to either the existing model, or, using the items that loaded most highly on the factor in question to determine a name.

Statistical Assumptions

For factor analysis to apply, the data must be either continuous or dichotomous dummy coded which all of the data in the analysis is. A second assumption is that the data is normally distributed. Histograms graphs were generated in SPSS and examined to check for normality. Both skewness (symmetry of the data) and kurtosis (steepness of the slope) were examined to determine the normality of the population. A value of 0 skewness and kurtosis would indicate that the distribution was exactly normal (Coakes & Steed, 2007). The further from 0 the number, the further the variable is from being normally distributed. As a rule of thumb, absolute values of skewness and kurtosis should be no greater that 1 or should not be any more than twice their standard error (Humphries, 2006). Outliers are extreme scores - either high or low - that can distort the data and be misleading. Outliers can be detected by looking at the data to see if there are any extreme scores. The fourth assumption is that there is a linear relationship between the variables. Linearity is assessed by examining scatter plots. Homoscedasticity can be checked by examining scatter plots of the variables (Coakes & Steed, 2007). The variables should cluster in a reasonably uniform way around the regression line to have homoscedasticity (Coakes & Steed, 2007). Finally, the data must be factorable.

The Kaiser-Meyer-Olkin (KMO) is a measure of sampling adequacy which provides information as to the factorability level of the data (Spicer, 2005). The KMO measure has a possible range 0-1, with scores below .5 considered not factorable (Hair, Black, Babin, Anderson & Tatham, 2006). Bartlett's test of Sphericity is also important in determining factorability of data and it indicates if the correlation matrix required for the factor analysis is significantly different from an identity matrix; i.e. the factor

structure is appropriate. Statistical assumptions have been met unless otherwise stated in the following presentation of results.

The Model to be Tested-Predictor Measures

The "Bio Data" section did not require factor analysis. The data reduction for the Bio data section was performed by a combination of tallying and calculation of new variables.

The "Bio Data" constructs that were used as predictors are:

- From inside or outside New Zealand-this variable was simply altered to a dummy coded format.
- Student or professional-Altered to a dummy coded format.
- Domain of main work or study activity-altered to a dummy coded format.
- Years of experience-calculated from summing years of work experience and years of study experience.
- Cultural experience-summation of the number of cultural experiences to give a tally score.
- Number of times of travelled outside of own country-simple tally score.
- Total duration of time abroad-measured in months.
- Average duration of time abroad-a calculated variable that was formulated from the total duration of time abroad in months divided by the number of times abroad.
- Gender-Altered to a dummy coded format.

Please see appendix A (p. 91) for "Bio Data" items asked in the questionnaire.

International Personality Item Pool –IPIP

Data from the IPIP section of the questionnaire was examined with histograms and scatter plots for statistical assumptions. The data appears relatively normal, to have linear type relationships and to have homoscedasticity. Also there are no outliers to distort the data. The KMO and Bartlett's Test of Sphericity for the IPIP analysis was

above adequate at .672 and significant to .000. These scores indicate that the data from the IPIP section of the questionnaire is factorable.

A PCA exploratory factor analysis was performed to reduce the data. A confirmatory factor analysis was not used because the sample size is not adequate, and also because there is not much research in the New Zealand context on the structure of the IPIP. Only two published instances were found regarding testing of the IPIP in the New Zealand context. In the first, Black (2000) focused on the New Zealand Police, a very different group to Industrial and Organisational Psychology and Human Resource Management professionals, and the second study performed by Guenole & Chernyshenko (2005) had a very large sample size and used a confirmatory factor analysis technique. The IPIP has not been tested before in the New Zealand context with Industrial and Organisational Psychology and Human Resource Management professionals: Hence this factor analysis remains exploratory.

Goldberg (1999) used Orthogonal rotation when testing the IPIP factor structure; likewise Varimax rotation was used for the analysis of the IPIP data. Varimax rotation is typically used when variables are not expected to be inter-correlated. The IPIP is a well researched measure based on the Big Five Personality Factors; hence the number of factors was specified in the analysis as five.

After removing cross-loading items the final factor structure clearly differentiated five factors that are in accordance with the Big Five personality factors (see Table 3.1 p. 45 for Final Factor Solution). All reliability coefficients for the IPIP are well above the acceptable .7 level, indicating that the IPIP is a reliable measure in this particular context. The factors are clear and distinct, and a total of 48.142% of the total variance is explained by the five factors. The factors labels have been kept the same as the original factor labels, “Openness to Experience”, “Conscientiousness”, “Extraversion”, “Agreeableness”, and “Emotional Stability”.

Table 3.1 Final Factor Solution for the IPIP

	Component				
	1-Extraversion	2-Emotional Stability	3-Agreeableness	4-Conscentious-ness	5-Openness to Experience
I don't talk a lot	**.852**				
I start conversations	**.758**				
I don't mind being the centre of attention	**.729**				
I am quiet around strangers	**.726**				
I have little to say	**.721**				
I feel comfortable around people	**.665**				
I keep in the background	**.625**				
I am the life of the party	**.592**		.424		
I talk to a lot of different people at parties	**.566**				
I have frequent mood swings		**.712**			
I get irritated easily		**.658**			
I get upset easily		**.645**	-.383		
I often feel blue		**.643**			
I am easily disturbed		**.634**			
I get stressed out easily		**.618**			
I change my mood a lot		**.615**			
I worry about things		**.575**			
I am relaxed most of the time		**.434**			
I feel others' emotions			**.669**		
I make people feel at ease			**.643**		
I can be rude to people on occasion			**.642**		
am interested in people			**.623**		
I am not really interested in others			**.588**		
I sympathise with others' feelings			**.562**		
I am not interested in other people's problems			**.536**		
I have a soft heart			**.531**		
I pay attention to details				**.723**	
I like order				**.681**	
I am always prepared				**.635**	
I follow a schedule				**.615**	
I often forget to put things back in their proper place				**.587**	
I get chores done right away				**.580**	
I leave my belongings around				**.570**	
I am exacting in my work	-.326			**.521**	
I have excellent ideas					**.794**
I am full of ideas					**.766**
I have a rich vocabulary					**.631**
I am quick to understand things			.311		**.619**
I use difficult words					**.617**
I have difficulty understanding abstract ideas		.399			**.598**
I am not interested in abstract ideas					**.572**
Eigen values	6.892	4.439	3.875	3.445	2.528
% of Variance accounted for by each factor	15.663	10.088	8.808	7.829	5.745
Total % of Variance accounted for by factors					48.142
Cronbach's Alpha Reliability Coefficient	.878	.803	.785	.771	.816

Values less than .3 were suppressed

Cultural Competence (Criterion Measures)

Cultural Intelligence

In the Model to be Tested, the Cultural Intelligence Scale (Ang et al. 2007) was separated into its four subsections and used to partially measure the criterion of Cultural Competence. The four subscales measured: Half of "Awareness" in the form of "Meta Cognition", half of the "Knowledge" section in the form of "Cognition" and half of the "Skills" section in the form of "Motivation" and "Behaviour".

Overall the data from the four Cultural Intelligence subsections measured were slightly positively skewed. Also, various items have some slightly high levels of kurtosis. Overall the distribution of the data is slightly abnormal; but factor analysis is quite robust with regards to violations of the normality assumption (Coakes & Steed, 2007). So while the reduced normality of the data needs to be acknowledged during interpretation of the results, the reduced normality of the data should have little effect on subsequent analysis. A visual examination of the data indicated that outliers were not present in the cultural intelligence data. The generated scatter plots for the Cultural Intelligence Scale (Ang et al. 2007) show that the relationships are linear type relationships for all of the subscales. The scatter plots also indicated that homoscedasticity was acceptable. The KMO score for the Cultural Intelligence data is .870 and Bartlett's test of Sphericity is statistically significant to .000.

The Cultural Intelligence Scale (Ang et al. 2007) has, in past research (Ang, Van Dyne & Koh, 2006) been found to have four obliquely related factors; consequently, the number of factors was specified during the analysis as four, and the rotation was set at Oblique i.e. Direct Oblimin. There were no cross loading factors. The factor solution is presented in Table 3.2. (p.48). From this table, Alpha coefficient calculated for each of the Cultural Intelligence subscales all exceed the required level of .7, which indicates that the Cultural Intelligence Sclae for this data set is reliable. The factors are clear and distinct, and a total of 66.977% of the total variance is explained by the four factors. The names of the scales from the Cultural Intelligence Scale (Ang et al. 2007) have been altered to better align with the Model to be Tested and to be more logical for the reader by referring to the section of the model i.e. "Awareness", "Knowledge" or "Skills" that the Cultural Intelligence sub scale relates to. Meta Cognition has been

changed to “Cultural Awareness”, Cognition changed to “Cultural Knowledge” Behavioural Cultural Intelligence to “Behavioural skill”, and Motivational Cultural Intelligence has been changed to “Motivational Skill”.

“Self Awareness”

The data from this section was slightly positively skewed, however, the KMO of .729 and Bartlett's Test of Sphericity significance (.000) indicates that the items are factorable.

Direct Oblimin rotation was used for this analysis because factors were likely to be inter-correlated because it was thought that all of the questions in the “self Awareness” section of “Awareness” in the Model to be Tested were all tapping into similar or the same construct. Ten cross-loading items in the analysis were removed and the analysis repeated. The number of factor extracted was determined by the Kaiser stopping rule (Jackson, 1993), meaning that all factors with Eigen values below 1 were removed.

The final factor solution (see table 3.3 p. 49) consists of two factors that have Eigen values above 1 and been interpreted and consequently named as “Awareness of Own Culture” on the basis of the questions being all about a person’s own cultural assumptions, values and behaviours and “Awareness of Others Culture” named so because of the loading questions focus on other values and behaviours. The reliability analysis of the two subscales suggested that the two factors are above the required .7 and therefore reliable. The factors are clear and distinct, and a total of 70.3557% of the total variance is explained by the two factors. The reliability coefficient for “Awareness of Own Culture” = .900 and =.857 for “Awareness of Other Culture” which indicates that both factors are reliable for this data set. The second factor “Awareness of Other Culture” has only two items, which may reduce the viability of the factor in subsequent analyses.

Table 3.2 -Final Factor Solution for the Cultural Intelligence Scale (Ang et al. 2007)

	From "Skills" **Motivational-Skill** (Motivational CQ)	From "Knowledge" **Cultural Knowledge** (Cognitive CQ)	From "Awareness" **"Cultural Awareness"** (Meta cognitive CQ)	From "Skills" **Behavioural-Skill** (Behavioural CQ)
I am sure that I can deal with the stress of adjusting to a culture that is unfamiliar to me	**.858**			
I am confident that I can get accustomed to the shopping conditions in a different culture	**.814**			
I enjoy living in cultures that are unfamiliar to me	**.771**			
I am confident that I can socialise with locals in a culture that is unfamiliar to me	**.742**			
I enjoy interacting with people from different cultures	**.701**			
I know the marriage systems of other cultures		**.815**		
I know the cultural values and religious beliefs of other cultures		**.752**		
I know the rules (e.g. vocabulary, grammar) of other languages		**.730**		
I know the arts and crafts of other cultures		**.710**		
I know the legal and economic systems of other cultures		**.676**		
I know the rules for expressing non verbal behaviours in other cultures		**.652**		
I am conscious of the cultural knowledge I use when interacting with people from different cultural backgrounds			**-.852**	
I am conscious of the cultural knowledge that I apply to cross - cultural interactions			**-.796**	
I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me			**-.773**	
I check the accuracy of my cultural knowledge as I interact with people from different cultures			**-.683**	
I change my non verbal behaviour when a cross-cultural situations requires it				**-.849**
I use pause and silence differently to suite different cross-cultural situations				**-.825**
I vary the rate of my speaking when a cross-cultural situations requires it				**-.788**
I alter my facial expressions when a cross-cultural interaction requires it				**-.773**
I change my verbal behaviour (e.g. accent, tone) when a cross-cultural interaction requires it				**-.763**
Eigen values	7.525	2.623	1.753	1.494
Total % of Variance accounted for by each factor	37.626	14.116	8.765	7.470
Total Variance Combined % accounted for by factors				66.977
Cronbach's Alpha Reliability Coefficient	.839	.866	.829	.876

Values less than .3 were suppressed

Table 3.3 Final Factor Solution for "Self Awareness"

	Component	
	1 Awareness of own Culture	2- Awareness of others Culture
When I am in my everyday work interacting with representatives from organisations, I am aware of my own professional cultural *assumptions*	.909	
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own professional* cultural *values*	.897	
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own professional* cultural *behaviours*	.873	
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own organisation's* cultural *behaviours*	.748	
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own organisation's* cultural *assumptions*	.738	
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own organisation's* cultural *values*	.722	
When I am in my everyday work interacting with representatives from organisations, I am aware of *their organisation's* cultural *values*		.922
When I am in my everyday work interacting with representatives from organisations, I am aware of *their organisation's* cultural behaviours		.911
Eigen values	4.665	1.667
Total % of Variance accounted for by factor	51.838	18.517
Total Variance Combined %		70.355
Cronbach's Alpha Reliability Coefficient	.900	.857

Values less than .3 were suppressed

"Bi-Cultural Knowledge"

The "Bi-Cultural Knowledge" section of the questionnaire was an inventory tally of the number of questions that a participant answered correctly (i.e., a knowledge *test*). Consequently, "Bi-Cultural Knowledge" did not require factor analysis. The data reduction of "Bi-Cultural Knowledge" occurred by adding the number of correct answers for each participant to give a score out of 9 for each person. The overall score for each participant was calculated as a new variable and named "Bi-Cultural Knowledge." The scores for the "Bi-Cultural Knowledge" tally ranged from 0-9 with an average score of 6.2.

"Skills"-"Comfort" and "Effectiveness"

Examination of graphs and data showed that the "Skills" section was slightly positively skewed. Other statistical assumptions for the "Skills" section of the questionnaire have been met. The significant KMO of .788 indicated that the data was factorable. Direct Oblimin rotation was used for the analysis.

Cross loading questions were removed and the analysis repeated. The questions removed were:

- "Working with people from different socio-cultural, organisational and professional cultural groups comes easily to me",
- "Right at this minute, how confident would you be about accepting a consultancy to design (within say a week) a workshop that focuses on-cross-cultural communication, merger potential from the perspective of compatibility between organisational cultures, the bringing together of different professional groups (and their occupational cultures) at work?" and
- "Right at this minute, how confident would you be about accepting a consultancy to design (within say a week) a whanau interview for an organisational client?"

Once the cross-loading items were removed, the remaining items were interpreted and named according to the items that loaded onto the factor. The three factors that emerged were named on the basis of the questions that loaded onto them and were labelled: "Comfort," which has questions about confidence working with others of a different culture and ease of cross cultural interactions loading onto the factor, "Effort Required" which has questions about how hard a participant has to think in intercultural interactions and "Effectiveness" which has questions about how effective a person is at cross cultural communication. These factors account for 87.510% of the total variance. The alpha coefficients for "Comfort" = .927, "Effort Required" = .901 and for Effectiveness =.814 indicate that the factors are reliable for this set of data. Please see table 3.4 p. 51.

Table 3.4 Final Factor Solution for "Skills"

	Comfort	Effort required	Effectiveness
I feel confident in my ability to work effectively with people from different organisational cultural groups	**.967**		
I feel at ease with different socio-cultural groups	**.963**		
I feel at ease with different organisational cultural groups	**.958**		
I feel confident in my ability to work effectively with people from different socio-cultural groups	**.955**		
I feel confident in my ability to work effectively with people from different professional cultural groups	**.933**		
I feel at ease with different professional groups	**.933**		
I have to think hard when I am communicating with different socio-cultural groups		**.958**	
I have to think hard when I am communicating with different organisational cultural groups		**.955**	
I have to think hard when I am communicating with different professional groups		**.927**	
I am an effective cross cultural communicator across different organisational cultural groups			**.899**
I am an effective cross cultural communicator across different professional cultural groups			**.887**
I am an effective cross cultural communicator across different socio-cultural groups			**.873**
Eigen values	5.588	2.869	2.044
Total % of Variance accounted for by factor	46.569	23.911	17.031
Total Variance Combined %			87.510
Cronbach's Alpha Reliability Coefficient	.927	.901	.814

Values less than .3 were suppressed

Marlowe-Crowne Social Desirability Scale

Examination of histograms and scatter plots showed data meet basic statistical assumptions. The KMO of .730 significant to .000 indicated that the data is factorable. Direct Oblimin rotation was used to find the factor solution, on the basis that the items can reasonably be expected to be inter correlated. Crowne and Marlowe (1960) do not use factor analysis in their analysis, so there is no suggestion from the authors as to what rotation method should be used.

Two statements, "I sometimes feel resentful when I don't get my own way?" and "I am always courteous, even to people who are disagreeable" were cross loading and subsequently removed, and the factor analysis was then repeated. The final factor solution (table 3.5 p. 52) emerged in accordance with the two types of statements in the measure-honest responses or positively worded e.g. "I sometimes try to get even rather

than forgive and forget," and also faking type statements or negatively worded e.g. "I sometimes feel resentful when I don't get my own way."

Two clearly defined factors emerged from the analysis and were named "Candour" and "Impression management". The two factors accounted for 58.447% of the total variance. The reliability analysis yielded an alpha coefficient of .753 for Candour and .550 for Impression management. However for the purpose of this thesis both of the scales will be included to make one overall Social Desirability scale. Because both factors are used together to make up the Social Desirability scale in this thesis, the combined reliability coefficient of .717 was calculated for the six items, which is above the acceptable .7.

Table 3.5 Final Factor Solution for Marlowe Crowne Social Desirability Scale

	Candour	Impression management
There have been occasions when I took advantage of someone	**.836**	
I have sometimes taken unfair advantage of another person	**.833**	
I sometimes try to get even rather than forgive and forget	**.745**	
I am quick to admit making a mistake		**.895**
I am always willing to admit when I make a mistake		**.632**
I am always a good listener, no matter who I am talking to		**.595**
Eigen values	2.264	1.244
Total % of Variance accounted for by factor	37.741	20.736
Total Variance Combined %	58.447	
Cronbach's Alpha Reliability Coefficient	.753	.550

Common Method variance

Common method variance is when error is introduced by the measurement technique introducing systematic error (Doty & Glick, 1998). The occurrence of common method variance is a problem often associated with self-report measures (Podsakoff & Organ, 1986). In order to identify any issues with common method variance a factor analysis containing all of the trimmed down measures i.e. those that have been factor analysed was generated in SPSS (please see Appendix J p. 113). The factor analysis was completed to ensure that the factors from all of the measures remained distinct from one another. The Exploratory factor analysis with Varimax

rotation showed that when all of the measures were analysed, the majority of the factors remained distinct from one another. The factors that did cross load were the Cultural Intelligence subscales now called “Behavioural Skill” and “Motivational Skill”, which did cross load onto the same factor, Also “Effectiveness” from the “Skills” section appears to be cross loading with “Cognitive Knowledge”.

Main Data Analysis

Correlation matrix

A correlation matrix was formulated to explore the correlations between the data-reduced variables in the model, and to subsequently remove any variables that did not have a significant predictor-criterion relationship before the main multiple regression analysis. It was necessary to complete the removal of variables that did not have at least one significant predictor-criterion relationship, since the more predictors in an analysis the more degrees of freedom, which can lower the t and F values. Having too many or superfluous variables in a regression analysis can make it difficult to derive sample specific effects (Cohen, 1990). Please see Appendix K, L and M p. 120, 124, 128 respectively for the formulated correlation matrix. Due to the size of the correlation matrix it has been broken down into three parts – "Awareness", "Knowledge" and "Skills" - for ease of display.

The type of correlation that has been used for this analysis is the Pearson correlation because data is continuous, or dichotomous dummy coded (Hair et al. 2006. The criteria for a variable not to be considered redundant and therefore kept in the analysis is that each predictor variable needs to have at least one significant correlation with a criterion variable and vice versa.

The magnitude of correlation that was used as a cut off point for inclusion was set as a minimum level of .2. All the variables below the cut-off point of .2 were discarded from further analysis. A correlation below .2 would indicate an extremely small relationship, potentially only produced by chance, and not an actual relationship.

The significance level of the correlations was set at .01 or lower in order to remain in the analysis. Setting a p value of >.01 indicates that there is 1% chance of rejecting the null hypothesis, given that the null hypothesis is true (Spicer, 2005). All variables that had a significance of >.01 were considered to be significant in the analysis. The level of significance > p .01 is a stringent criteria for the variables to meet. The significance value was set low for the correlation matrix phase of the analysis to: Reduce the risk of type 1 error, and also to remove variables that could increase the degrees of freedom in the following multiple regression analysis.

During multiple comparisons some researchers use Bonferroni correction to lower the *p* values to account for the increase risk of type 1 error that multiple comparisons can introduce (Nakagawa, 2004). The Bonferroni correction was considered for this thesis, but was not used on the basis that, the sample size collected for this thesis is small and hence applying the Bonferroni correction may mean that it is very difficult if not to detect an effect on the sample (Garamszegi, 2006).

Criterion and Predictor Variables

From the correlation matrices (Appendices K, L and M p. 120, 124 and 128) the criterion variables that have some significant relationship to at least one predictor and hence will be further analysed in the following multiple regression analysis are:

- "Cultural Awareness" (previously Meta Cognition from Ang et al. 2007)
- "Cultural Knowledge", (previously Cognition from Ang et al. 2007)
- "Motivational Skill", (previously Motivational Cultural Intelligence from Ang et al. 2007)
- "Behavioural Skill", (previously Behavioural Cultural Intelligence from Ang et al. 2007)
- "Skill Effectiveness"

Predictor Variables that correlate with at least one criterion and hence will be used in the subsequent multiple regression analysis are:

- "Personality"-"Extraversion"
- "Personality"-"Conscientiousness"
- "Personality"-"Agreeableness"
- "Bio Data"-"Total Duration of Time Abroad".

Multicollinearity

While the correlation relationships that are of interest in the correlation matrix are the ones between the predictor and criterion variables, the inter-correlations among the predictors must also be examined. Multicollinearity is an indication of the magnitude of relationship between more than two independent variables (Humphries, 2006). Multicollinearity can indicate problems with the constructs, error, or can make it difficult to tell what independent variable is contributing to the dependent variable

(Humphries, 2006). The generated correlation matrix showed that among the predictor variables there were some significant inter correlations, however many of those predictor variables did not have any correlations with any criterion variables and hence were removed from the analysis. As such only the predictors that have relationships with criterion i.e. those that will remain in the analysis that have inter correlations among predictors are "Extraversion" and "Total duration of time abroad" which correlated as .661 *p* .000. Also "Agreeableness" and "Extraversion" correlated .359 *p* .000. The moderate and significant inter correlation between these predictor variables means that the predictive power of these variables may be decreased because it will be more difficult to differentiate the unique contribution of each upon the criterion variables. Consequently the multicollinearity statistics for each multiple regression analysis will be presented in the following.

Social Desirability

Social Desirability (both factors combined) appears to correlate with the personality factors of "Emotional Stability" .308 *p* .001 and "Conscientiousness" .349 *p* .000. Correlation with the Social Desirability Scale indicates that the questions from the "Emotional Stability" and "Conscientiousness" scales were sometimes answered in a socially desirable manner. As such, the Social Desirability scale (all 6 items) has been included in further analysis to ensure that Social Desirability is not a confounding variable.

Multiple Regression

The multiple regression analysis involved taking the remaining predictors as group and testing with each individual dependent variable. The dependent variables were analysed individually because it is the impact of each of the predictors on each of the criterion that is of interest. All the predictors are included in each analysis so that that the unique contribution of each predictor on the criterion can be identified, while the influence of the other predictor variables is held constant.

Multiple regression shares similar statistical assumptions to correlations in terms of normality and distribution of data, however multivariate linearity, normality and homoscedasticity is also a consideration. Consequently diagnostics such as residual error plots to check for outliers have been run. Statistical assumptions will only be presented if there are violations. Cook's distance which is a measure of distortion (Humphries, 2006) has also been calculated during the following multiple regression analysis to identify any distortions produced by outliers. Typically it is considered necessary to investigate Cook's distance statistics that are over 1.

Because this thesis is exploratory and the model has not been tested before, there is no theory to suggest the order in which the variables should be entered into the regression analysis. Hence the variables were entered simultaneously. Simultaneous entry is the default entry type in SPSS.

While the significance level used for the correlation matrix was >.01 a significance level of >.05 was used for the multiple regression analysis. The justification for increasing the risk of type 1 error in the analysis is that the purpose of the correlation matrix was to remove irrelevant variables, so having "tougher" criteria was necessary. Once the irrelevant variables were removed, there was no need to retain the stringent significance level.

Multicollinearity can be measured by generating multicollinearity diagnostics in SPSS which give a variance inflation factor (VIF) as well as a tolerance level in order to gauge the level of multicollinearity. There are many views on what is an acceptable

tolerance level. For this thesis acceptable tolerance will be considered .3 or larger, and the VIF level will be 2 or lower.

"Cultural Awareness"

"Cultural Awareness" relates to part of "Awareness" in the Model to be Tested (top right hand corner of Figure 1.3 p.14) and is originally the Meta Cognition scale from the Cultural Intelligence Scale (Ang et al. 2007). "Cultural Awareness" now represents the whole criterion of "Awareness" because none of the "Awareness of Own Culture" and "Awareness of Other Culture" questions designed specifically for this thesis had any significant relationships with any of the predictor variables.

The variables were entered simultaneously into the multiple regression calculation in SPSS. The significant F statistic for "Cultural Awareness" of 2.871 (see Table 3.6 p. 59) indicates that the predictor variables (on the left-hand side of the Model to be Tested) of: "Total of Duration Abroad in Months", "Extraversion", "Conscientiousness", "Agreeableness" and Social Desirability do have some significant associations with the criterion of "Cultural Awareness" (please see Appendix N p. 131 "Cultural Awareness" for Model Summary). Cook's distance was a maximum of .119 which indicates that there is very little distortion due to the leverage of outliers. The tolerance levels for "Cultural Awareness" are all above .3 and VIF are all below 2 which indicates that multicollinearity is at a very acceptable level for "Cultural Awareness" (Please see Appendix N p. 131 for multicollinearity statistics).

There is one significant (p <.011) positive standardised beta weight between "Cultural Awareness" and the "Personality" Factor of Agreeableness (See appendix N p. 131 for model summary). There is no significant relationship with the "Bio Data" predictor of "Duration of Time Abroad". "Cultural Awareness" appears to be predicted by "Personality", more specifically "Agreeableness".

The t statistics, which indicate the significance between the predictor groups (Hair et al, 2006) are presented in the model Summary for "Cultural Awareness" (Appendix N p. 133). The t statistics indicate that only "Agreeableness" (t =2.616 p. >.05) has had a significant impact on the criterion of "Cultural Awareness".

The amount of variance in "Cultural Awareness" explained by "Agreeableness" is indicated by adjusted R^2=.093 which suggests that "Agreeableness" only accounts for only a small amount of the variance in "Cultural Awareness" when adjustments for the sample size and number of predictors is made.

Table 3.6 ANOVA (b) For "Cultural Awareness"

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	89.280	5	17.856	2.871	.019(a)
	Residual	534.927	86	6.220		
	Total	624.207	91			

"Cultural Knowledge"

"Bi-Cultural Knowledge" was not correlated with any of the predictors in the correlation matrix, as such "Cultural Knowledge" (formerly Cognition from the Cultural Intelligence Scale Ang et al. 2007) now represents the entire "Knowledge" construct in Model to be Tested.

The F statistic = 5.559 for "Cultural knowledge" (see Table 3.7 p 60) indicates that there is a significant (p <.000) relationship between the group of independent predictor variables of "Duration of Time Abroad", "Extraversion", "Conscientiousness", "Agreeableness" and Social Desirability and "Cultural Knowledge" (please see Appendix O p. 132 for "Cultural Knowledge" Model Summary). Cook's distance was a maximum of .082 which indicates very little distortion due to the leverage of outliers. The tolerance levels for "Cultural Knowledge" are all above .3 and VIF are all below 2 which indicates that multicollinearity is at a very acceptable level and hence not an issue for "Cultural Knowledge" (please see Appendix O p. 132 for multicollinearity statistics).

There are three significant (p <.05) relationships or predictors of "Cultural Knowledge" as a result of the regression analysis (please see Appendix O p. 132 for "Cultural Knowledge" Model Summary). The first relationship is with the personality factor of "Agreeableness" and is a positive relationship. The second is a negative relationship with the personality factor of "Conscientiousness". Third is a positive relationship with the "Bio Data" predictor of "Duration of Time Abroad".

It appears from the t statistics, which are 2.82 for "Duration of Time Abroad", 2.346 for "Agreeableness", that both "Personality" and "Bio Data" has had a significant impact on the criterion of "Cultural Knowledge". The amount of variance in "Cultural Knowledge" explained by "Agreeableness", "Conscientiousness" and "Duration of Time Abroad" is Adjusted R^2 = .200 indicating that the three predictors have accounted for a moderately small amount of the variance in "Cultural Knowledge" when adjustments for the sample size and number of predictors is made.

Table 3.7 ANOVA (b) "Cultural Cognition"

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	495.944	5	99.189	5.559	.000(a)
	Residual	1534.610	86	17.844		
	Total	2030.554	91			

"Behavioural Skill"

"Behavioural Skill" relates to the "Skills" Construct in the Model to be tested and is originally from the Cultural Intelligence Scale (Ang et al. 2007).

The F statistic of 2.852 (see Table 3.8 p. 61) indicates that there is a statistically significant relationship between independent predictor variables of "Total Duration of time Abroad", "Extraversion", "Conscientiousness", "Agreeableness" and Social Desirability and the criterion variable of "Behavioural Skill" (please see Appendix P p. 133 for "Behavioural Skill" Model Summary).

There is one significant positive relationship in this analysis between the predictor of the personality factor "Agreeableness" and "Behavioural Skill". Hence it is "Personality" and not "Bio Data" that appears to predict "Behavioural Skill". Cook's distance was a maximum of .329 which indicates very little distortion due to the leverage of outliers. The tolerance levels for "Behavioural Skill" are all above .3 and VIF are all below 2 which indicates that multicollinearity is at a very acceptable level and hence not an issue for "Behavioural Skill" (please see Appendix P p. 133 for multicollinearity statistics).

The t statistic of 2.041 for "Agreeableness" indicates that "Personality" and not "Bio Data" has had a significant impact on the criterion of "Behavioural Skill". The amount of variance in "Behavioural Skill" explained by "Agreeableness", is Adjusted R^2 = .092 indicating that the predictor has accounted for a small amount of the variance in "Behavioural Skill" when adjustments for the sample size and number of predictors is made.

Table 3.8 ANOVA (b) "Behavioural Skill"

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	169.140	5	33.826	2.852	.020(a)
	Residual	1020.088	86	11.861		
	Total	1189.217	91			

"Motivational Skill"

"Motivational Skill" (formerly Motivational Cultural Intelligence (Ang et al. 2007) relates to the "Skills" Circle in the Model to be Tested (bottom right of Figure 1.3 p. 14).

The F statistic of 4.997 (see Table 3.9 p. 62) indicates a significant relationship between the criterion variable of "Motivational Skill" and the predictor variables of "Duration of Time Abroad", "Extraversion", "Conscientiousness", "Agreeableness" and Social Desirability in the analysis (please see Appendix Q p. 134 for "Motivational Skill" Model Summary).

There is one significant and positive relationship in this analysis between the predictor of the "Personality" Factor Extraversion and "Motivation Skill" (Please see Appendix Q p. 134 for Model Summary). It appears that "Personality" is a predictor of "Motivational Skill" and "Bio Data" is not. Cook's distance was a maximum of .096 which indicates very little distortion due to the leverage of outliers. The tolerance levels for "Motivational Skill" are all above .3 and VIF are all below 2 which indicates that multicollinearity is at a very acceptable level and hence not an issue for "Motivational Skill" (please see Appendix Q p. 134 for multicollinearity statistics).

The significant t statistic of 2.617 for "Extraversion" indicates that "Extraversion" has had a significant impact on the criterion of "Motivational Skill". The amount of variance in "Motivational Skill" explained by "Extraversion", is Adjusted R^2= .180 indicating that the predictor has accounted for a moderately small amount of the variance in "Motivational Skill" when adjustments for the sample size and number of predictors is made.

Table 3.9 ANOVA (b) "Motivational Skill"

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	175.438	5	35.088	4.997	.000(a)
	Residual	603.812	86	7.021		
	Total	779.250	91			

"Skill Effectiveness"

Effectiveness relates to the "Skills" Circle in model (bottom right of Figure 1.3 p.14 Model to be Tested).

The F Statistic of 3.847 (see Table 3.10 p. 64) indicates a significant relationship between the predictor variables of "Duration of Time Abroad", "Extraversion", "Conscientiousness", "Agreeableness" and Social Desirability and the dependent criterion variable of "Skill Effectiveness" (please see Appendix R p. 135 for "Skill Effectiveness" Model Summary).

One significant *negative* relationship has emerged between the predictor of "Conscientiousness" and "Skill Effectiveness". The result suggests that an increase in "Skill Effectiveness" can be predicted by a decrease in "Conscientiousness". "Personality" appears to predict "Skill Effectiveness" and not "Bio Data". Cook's distance was a maximum of .204 which indicates very little distortion due to the leverage of outliers. The tolerance levels for "Skill Effectiveness" are all above .3 and VIF are all below 2 which indicates that multicollinearity is at a very acceptable level and hence not an issue for "Skill Effectiveness" (please see Appendix R p. 135 for multicollinearity statistics).

The significant t statistic of -2.140 for "Conscientiousness" indicates that "Conscientiousness" has had a significant negative impact on the criterion of "Skill Effectiveness". The amount of variance in "Skill Effectiveness" explained by "Conscientiousness", Adjusted R^2 = .145 indicates that the predictor has accounted for a moderately small amount of the variance in "Skill Effectiveness" when adjustments for the sample size and number of predictors is made.

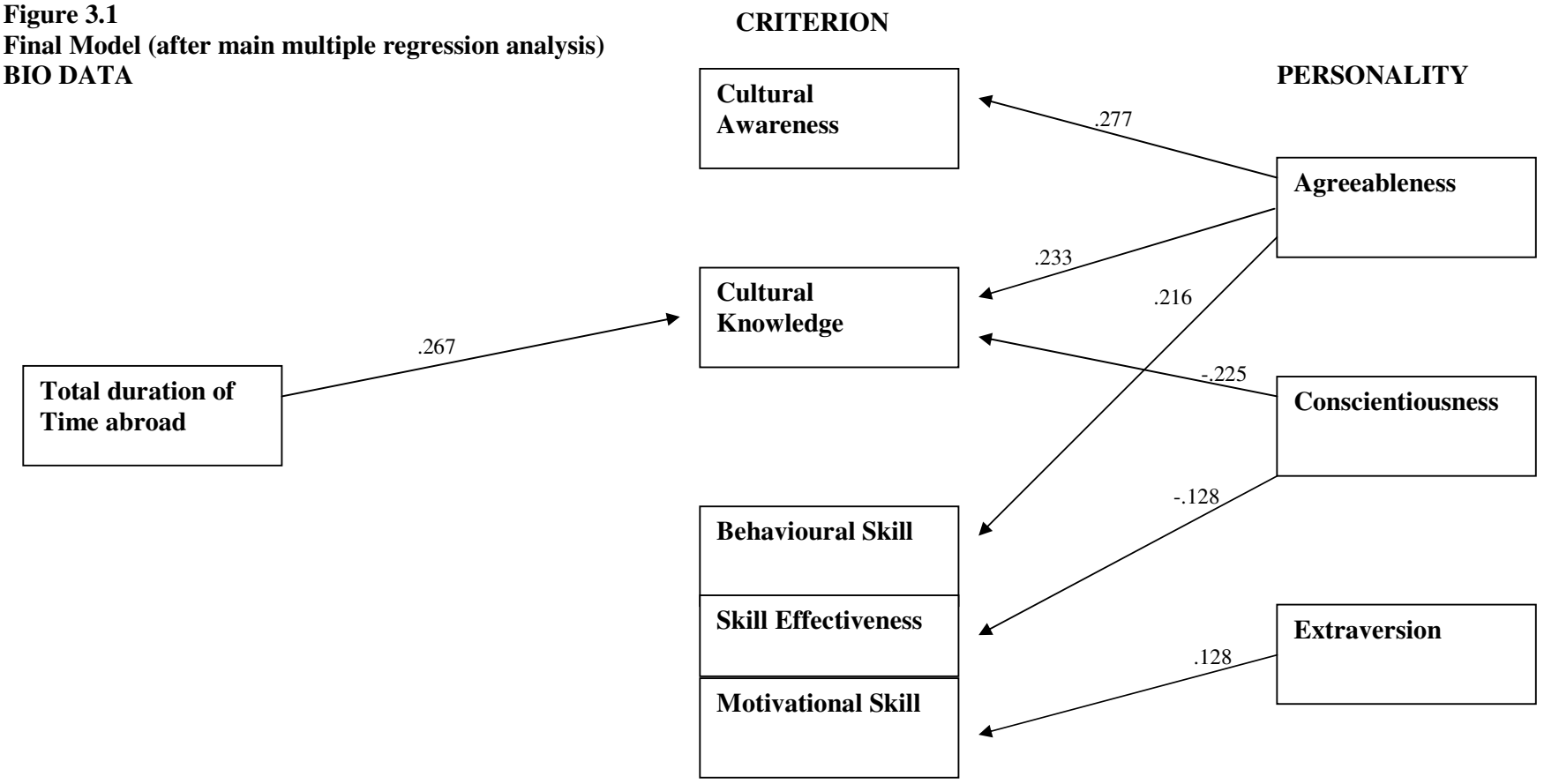
Table 3.10 ANOVA (b) "Skill Effectiveness"

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.940	5	11.988	3.847	.003(a)
	Residual	267.973	86	3.116		
	Total	327.914	91			

Revised Model Overview

The Final Model (Figure 3.1 p. 64) indicates that both "Personality" and "Bio Data" are predictors of Cultural Competence. However, "Personality" overall is a better indicator of Cultural Competence. More specifically, the highest positive scoring personality factor appears to be "Agreeableness". The only "Bio Data" question to survive the multiple regression analysis was that of the "Duration of Time abroad".

Figure 3.1
Final Model (after main multiple regression analysis)
BIO DATA



4. Discussion

Research Questions Revisited

Is "Awareness" best predicted by "Bio Data" or "Personality"?

"Awareness" now represented in the Tested Model by "Cultural Awareness" (as measured by the Meta Cognition sub scale of the Cultural Intelligence Scale Ang et al. 2007) from the results obtained, is predicted by "Personality", more specifically the personality factor of "Agreeableness".

Is "Knowledge" best predicted by "Bio Data" or "Personality"?

"Knowledge" now represented by "Cultural Knowledge" in the Tested Model (as measured by Ang et al.'s 2007 Cultural Intelligence Cognition subscale) is best predicted by the "Bio Data" item of "Duration of Time Abroad". The finding indicates that those who have spent a longer duration overall overseas are more likely to have "Cultural Knowledge" that is possessing knowledge and understanding of customs of other cultures. Interestingly, the average time abroad or the reason for travelling (for example work or holiday) did not appear to predict "Cultural Knowledge" (or any of the other criterion variables), as such it appears that it is the quantity (i.e. the length of time spent abroad) rather than the quality (i.e. the reason for travel or time spent in each place) that predicts "Cultural Knowledge". The result may be due to the impacts of Culture Shock. Culture shock occurs when a person feels anxiety as a result of moving to an unfamiliar culture (Oberg, 1960). Culture Shock can cause a person to feel isolated, suspicious towards the host country, overwhelmed, aggressive, helpless and as a result people experiencing Culture Shock can withdraw and refuse to engage with the new culture (Oberg, 1960). As such, Culture Shock is likely to impair a person's ability to take in "Cultural Knowledge". However Culture Shock eventually passes with time (Oberg, 1960) and once a person has recovered from Culture Shock they may be in a better frame of mind to acquire "Cultural Knowledge". The time delay in adjusting to other cultures due to Culture Shock may be the reason as to why longer stays abroad are more likely to increase "Cultural Knowledge" and consequently Cultural Competence.

Are Cultural "Skills" best predicted by "Bio Data" or "Personality"?

The three remaining parts of "Skills": "Behavioural Skill" (Behavioural Cultural Intelligence), "Motivational Skill" (Motivational Cultural Intelligence) and "Skill Effectiveness" were each predicted by a personality factor. "Behavioural Skill" was predicted by the personality factor of "Agreeableness", which suggests that those who are agreeable are more likely to be able to behave in a culturally skilled manner and subsequently be more Culturally Competent. This relationship may be due to agreeable people wanting to put others at ease and consequently taking care to act in a way that does not make others feel uncomfortable, for example an English speaker taking care to speak clearly and use words that a person who has English as a second language can understand. Agreeable people are aware of others needs and want to ensure that others feel comfortable (Barrick & Mount, 1991). It appears based on the research finding that "Agreeableness" can predict Cultural Competence in the sample group of Industrial and Organisational Psychology and Human Resource Management professionals and students.

"Motivational Skill" was predicted by the personality factor of "Extraversion". Extraverts tend to be outgoing and communicative with the urge and confidence to interact with others (Barrick & Mount, 1991). In a study that measured enjoyment of social situations, Lucas and Diener (2001) found that the most defining characteristic of Extraverts is that they tend to rate their social interactions more positively than Introverts. The positive view of social interactions means that Extraverts simply enjoy engaging with others. People are much more likely to engage in behaviours that they enjoy and hence Extraverts may be more intrinsically motivated to engage with others. It appears from the results of this study that for Extraverts, interactions with people from other cultures are no exception. The results suggest that Extraverts enjoy interacting with others regardless of cultural differences.

"Skill Effectiveness" had an inverse relationship with "Conscientiousness", i.e. as "Conscientiousness" increases "Skill Effectiveness" decreases and vice versa. The negative relationship between "Skill Effectiveness" and "Conscientiousness" is surprising. As mentioned, Conscientiousness in two key studies by Caligiuri (2000) and Ones and Viswesvaran (1997) has been associated with Cross Cultural Adaptability and job effectiveness. Conscientious people tend to be persevering, consistent and dutiful

(Barrick & Mount, 1991) This previous research was based around Cross Cultural Adaptability and job effectiveness. It was suggested in the introduction of this thesis that Cross Cultural Adaptability shared similar characteristics to Cultural Competence, on the basis that both seemed to centre on interactions and reactions with people from other cultures. It may be that Cultural Competence and Cross Cultural Adaptability are far different than originally thought. Similarly, job success and Cultural Competence on the basis of the finding of an inverse relationship between "Conscientiousness" and "Skill Effectiveness" may also be very different to one another. The potential difference may also be due to the unique socio cultural, professional and organisational focus of the research group which may have altered the findings and produced a result different to what other researchers have discovered.

Will "Personality" or "Bio Data" be the best overall indicator of Cultural Competence?

"Personality" by virtue of predicting the most criterion variables and also having the highest standardised beta weight is the best overall indicator of Cultural Competence in the Tested Model (Figure 3.1 p. 64). The personality factor of Agreeableness predicts all three of the "Awareness", "Knowledge" and "Skills" elements of Cultural Competence. "Bio Data" appears to only predict "Cultural Knowledge". The potential implications of "Personality" predicting Cultural Competence for professionals and students Industrial and Organisational Psychology and Human Resource Management in New Zealand are that personality is something that is relatively stable across time (Chen, Gully, Whiteman, & Kilcullen, 2000). If a person does not naturally possess the personality characteristic of "Agreeableness", then they are unlikely to be able to acquire "Agreeableness". However, they are likely to be able to spend some time overseas. As such, while "Personality" is the best predictor of Cultural Competence, "Bio Data", particularly spending time overseas is the most practical way of achieving Cultural Competence.

Which "Bio Data" item will be the best indicator of Cultural Competence?

The only "Bio Data" question to survive the analysis is the "Duration of Time Abroad" item, so by default this item is the best "Bio Data" indicator of Cultural Competence in the Tested Model. If the Tested Model was to have any practical application, it would be to encourage people to travel. The findings of this thesis fit with Inkson and colleagues (Inkson et al. 1997) research, which suggests that overseas experience, is adventitious for the development of people, which in turn also has a positive flow on effect for organisations. In New Zealand the "Big OE" or overseas experience is a tradition where people typically in their twenties travel abroad for anywhere from a few months to a few years. It seems that undertaking the "Big OE" based on this research (which is in agreement with Inkson et al. 1997) is a worthwhile endeavour.

Which Big Five Personality Factor will be the best indicator of Cultural Competence?

"Agreeableness" has shown to be the best Big Five indicator of Cultural Competence in the Tested Model. The result is interesting because Openness to Experience and Conscientiousness as mentioned in the introduction were found by Ang et al. (2007) and Barrick and Mount (1993) to be indicators of Cultural Intelligence and Job effectiveness respectively. "Openness to Experience" was not found to be a predictor of any of the Cultural Competence criterion in the Tested Model (Figure 3.1 p. 64), and "Conscientiousness" had a negative relationship with Cultural Competence.

Testing of Other Authors Models

Is D.W. Sue's Multidimensional Model for Developing Cultural Competence *applicable to the Industrial and Organisational Psychology and Human Resource Management setting in New Zealand?*

Questions from all three areas of "Awareness", "Knowledge" and "Skills" sections have survived the analysis i.e. the three part model is still intact and represented in the new model. The result indicates that D.W. Sue's (2003) model is applicable to the unique professional, organisational and socio cultural setting tested in this thesis. As mentioned in the introduction, the New Zealand Psychologists Board has adopted the three part Awareness, Knowledge and Skills model for Cultural Competence in their guidelines (New Zealand Psychologists Board, 2006). It seems that the New Zealand Psychologists Board was correct in doing so and has chosen a relevant model of Cultural Competence for their standards. D.W. Sue's model of Cultural Competence appears to be useful and able to be adapted from the Counselling and Clinical setting it was designed for to meet the needs of different fields such as Industrial and Organisational Psychology and Human Resource Management.

Will Earley and Ang's (2003) four factor model of Cultural Intelligence maintain its structure and be reliable in this research?

The four factor model showed a clear and distinct factor structure for the data collected and also was reliable. The result indicates that the Cultural Intelligence measure was factorable and reliable for this research. Also, all four of the factors have survived the analysis and consequently represented in the new model. As such, Earley and Ang's (2003) four factor model of Cultural Intelligence appears to be useful for measuring not only Cultural Intelligence but Cultural Competence as well. Further research would be required but the result is promising, and the Cultural Intelligence measure may be useful for future assessment of Cultural Competence. Previous research on the Cultural Intelligence model has been with different cultural groups (Singapore and USA), so having obtained the results in the unique professional, organisational and socio cultural environment adds evidence to the reliability and validity of the Cultural Intelligence model (Earley & Ang 2003) when measured by the Cultural Intelligence Scale (Ang et al. 2007).

Will Goldberg's (1999) IPIP measure of the Big Five Personality Factors maintain its factor structure and reliability for this research?

The IPIP measure maintained its Five Factor structure and was reliable for this data set. The result is not surprising, while this is the first time the IPIP has been tested for the unique professional group in New Zealand, numerous past studies have found the IPIP to be a reliable and valid measure (Goldberg, 1992, 1993; McCrae & Costa, 1987; McCrae & John, 1992).

Limitations of Research

Response Rate

The low response rate (19%) of the Cultural Competence questionnaire is disappointing and may be an indicator of non response error (Dey, 1997). Non response error occurs when those that do answer a questionnaire differ in a systematic way to those who do not respond (Dillman, 1991; Groves & Cooper, 1998). If response error is present then results can not be generalised to the wider population because the population is not representative (Dillman, 1993). When examining the response rate for a data set it is important to question the differences between those who responded and those who did not (Dey, 1997). The potential differences between those who responded to the Cultural Competence questionnaire and those who didn't could be: Those who responded were more aware of Cultural Competence, they may believe it to be important, or may be more interested in the topic, they may have had more exposure to Cultural Competence, may have had the time to complete the questionnaire, or there may be no difference between the groups. Other potential explanations for the low response rate are:

- The length of the questionnaire-some in the population may have been put off by the 30 minute approximation of time on the survey. Longer surveys have been found to have a lower response rate (Kalantar, 1999). People are busy and may simply not have had the time or have been put off by the length of time required. Reducing the questionnaire length so that it could have been completed in less time may have increased the response rate.
- Topic of the research-some may have thought the topic was not of interest to them. Baumgartner and Rathbun (1997) found that people were much less likely to take part in research if the topic was not relevant to them. It may have been beneficial to have put more of an emphasis on the importance of Cultural Competence for professionals and students in the introduction email in order to clearly outline the relevance to individuals.
- Large amounts of research invitations causing people to become less inclined to want to participate. In a study performed by Curtin and Colleagues (Curtin, Presser & Singer, 2000) it was discovered that response rates have dropped slightly since 1979, and there has been a significant increase in the amount of effort (number and length of telephone calls) of the public to take part in research. Is it that people are constantly bombarded with research responses and

are becoming tired of being asked to take part in research? Or potentially that people receive so many emails in their in box that they don't take any notice of something that is not directly relevant to them? It may also be that email invitations are easy to ignore, or could potentially be screened out by junk mail filters.

Unfortunately there is no way to compare those who did and did not respond to the Cultural Competence questionnaire so it is impossible to know if the low response rate has introduced non response error. As such an "assume the worst and hope for the best" attitude will be taken i.e. the assumption is made that those who responded to the questionnaire are different in some way to those who did not. When response bias is present, it means that the results are difficult to generalise to other populations (Cozby, 2004). In the case of this thesis that would mean that the results obtained could not be generalised to the wider Industrial and Organisational Psychology and Human Resource Management population. Generalising to the wider population is preferable so that the results have some application outside of the research field (Cozby, 2004). Consequently, inferences about the ability of "Personality" and "Bio Data" to predict Cultural Competence can not be made to the wider population of Industrial and Organisational Psychology and Human Resource Management professionals and students. In order for the results to have external validity, some type of replication study would be required.

Representation of Maori in Population

The percentage of Maori participants in the research was half of the percentage of Maori in the New Zealand population. In a report prepared for the New Zealand Psychologists Board, Levy (2002) stresses the low number of Maori in Psychology. While this report tends to focus more on Clinical Psychology it still indicates that Maori are underrepresented in the area of Psychology. In a study that examined the make up of New Zealand Human Resource Professional it was found that only 2% of the population sample identified themselves as Maori (Cleland, Pajo & Toulson, 2000). With that in mind the 7% of participants that identified themselves as Maori while not representative of the New Zealand population is actually an *over representation* of Maori in the wider population of Industrial and Organisational Psychology and Human Resource Management.

Self Report Measures

A consideration with self reported questions such as those used for the questionnaire is how well does past experience predict potential future behaviour? In a study Bentler and Speckart (1979) found that higher levels of self reported levels of behaviour increase the likeliness repeated future behaviour. Likewise Ajzen (2002) suggests that the frequency with which behaviour has been performed in the past can predict future behaviour.

In defence of self reported format questions in a meta analytic study performed by Dunn, Smith, & Montoya, (2006) it was found that 82% of Cultural Competence type assessments used a self report measures as a form. It seems that self assessment is the dominant form of questioning to determine Cultural Competence. The reason that self report measures are so commonly used is because of their practical application in research (Podsakoff & Organ, 1986). The adaptability and usefulness of self report format questions work in their favour. One main difficulty associated with self report measures is common method variance.

Common method variance

Common method variance is considered to be one of the main contributors to measurement error (Podsakoff, Mackenzie, Lee & Podsakoff, 2003). While the effects of common method variance were controlled by using a social desirability scale and checking the factor structure of all of the trimmed down measures, there is the potential that there is still some common method variance. The reason that there may be some impact still is that common method variance can be the results of a large number of influences, ranging from the construction of the items to the mood of the participants (Podsakoff et al. 2003). For this thesis if common method variance was introduced, it will most likely have been by the consistent Likert scales. The consistency of scales makes questions easier for participants to answer, but participants may answer the scales consistently rather than answering the items (Podsakoff et al. 2003). There is no way to know the full extent of the impact of common method variance on the data obtained for this project. As such the results must be interpreted with caution as there may be additional error either inflating or deflating the results.

Missing data

There is some missing data in the collected data set, especially so in the "Bio Data" section. It seems that the missing data may as a result of the way questions were worded in the questionnaire. For example, some of the questions not having an "other'' category for participants to choose if they felt that they didn't fit into the categories provided. Perhaps if the participant felt they did not fit in with the categories provided they may have skipped the question. Also the type of information required for example, participants trying to remember the number of times they have been out of their country could have been hard to recall, and may have felt frustrated and not answered. SPSS deals with the missing data, however because data is missing more from the "Bio Data" section, "Bio Data" may not have had a fair chance in order to compete with "Personality". If the research were done again, rewording of the questions, and reformatting for ease of answering would be done in order to reduce the amount of missing data.

Items Removed During Factor Analysis

While removing cross loading items during factor analysis does reduce the data by removing irrelevant items, removing too many items i.e. having a small number of items representing a factor, can mean that there may not be enough items to represent or operationalise the factor (Russell, 2002). Having too many items per factor can also reduce the accuracy of results (Russell, 2002), so finding a balance of enough items to represent the factor without over representing is important. Russell (2002) suggests that researchers should have at least three items per factor in order to make the model identifiable. In this thesis all of the factors have at least three items, with the exception of "Awareness of Others Culture". This factor had only two surviving factors; over 10 items were removed from during the analysis. The potential implications for having only two items are that the two items may not accurately represent the factor. The "Awareness of Others Culture" did not remain in the analysis and was removed during the correlation matrix stage of the analysis, however it may be that the reason "Awareness of Others Culture" did not show and significant relationships with any predictors is that there were too few items on the factor. The implications for this research is that "Awareness of Others Culture" may have been an element of Cultural Competence, but because of the difficulties with the number of items loading onto the factor, may have hindered the factor in later analysis.

Recommendations for Future Research

Because of the exploratory nature of this thesis as well as the limitations of this project, the results have opened up many potential directions for future research in the exciting and emerging field of Cultural Competence and cultural intelligence. Some potential areas for research are:

- Because the results potential lack of generalisability to the wider population, replication of the study would be useful to determine if the results obtained are typical for the Industrial and Organisational Psychology and Human Resource Management population.
- Replication of the study but with the redesigning of the Cultural Competence questionnaire to better capture Cultural Competence and to reduce the amount of missing data.
- Testing of the newly constructed model of Cultural Competence (Figure 3.1 p. 64) either for Industrial and Organisational Psychology and Human Resource Management professional and students, or for a completely different group, for example educational professionals would be useful to see if the model "stands up" when further analysed. Particularly useful would be a confirmatory factor analysis technique.
- Ang et al.'s (2007) four factor Cultural Intelligence measure has proven to be useful in this project. Further study of the measure in different settings and populations may be useful to further examine its reliability and validity.
- Finding some way to collect information about what is and is not Culturally Competent (possibly through critical incidents technique) in the work place and construct standards for Cultural Competence on the basis of the information.

5. Conclusion

Cultural Competence is an important consideration for the field of Industrial and Organisational Psychology and Human Resource Management in New Zealand because of the unique professional, organisational and socio-cultural environment. A model was constructed and tested to explore if "Personality" or "Bio Data" was a better predictor of Cultural Competence of Industrial and Organisational Psychology and Human Resource Management professionals and students. In the Tested Model (Figure 3.1 p. 64) both "Personality" and "Bio Data" have shown to be significant predictors of Cultural Competence. "Personality" appears to be the best overall indicator, particularly the "Personality" Factor of Agreeableness, which predicts all three elements of Cultural Competence. The research findings must be interpreted with some caution because of the limitations of the research such as a low response rate, and potential error in the measurement technique.

This thesis explored Cultural Competence in Industrial and Organisational Psychology and Human Resource Management students and Professionals, by adapting D.W. Sue's Multidimensional Model for Developing Cultural Competence (2001) into a model that was tested for the unique professional and organisational setting of the researched group. D.W. Sue's Multi Dimensional model of Cultural Competence has shown to be a useful framework for theorising and measuring Cultural Competence in the unique professional group, and it appears that the "Awareness", "Knowledge" and "Skills" elements of D.W. Sue's model is appropriate for use in the unique professional group.

The Cultural Intelligence model (Earley & Ang, 2003) and Cultural Intelligence Scale (Ang et al. 2007) has shown to be very useful for the measure of Cultural Competence in the researched group. While the measure is still relatively new, it shows promise for use in the measurement of Cultural Competence.

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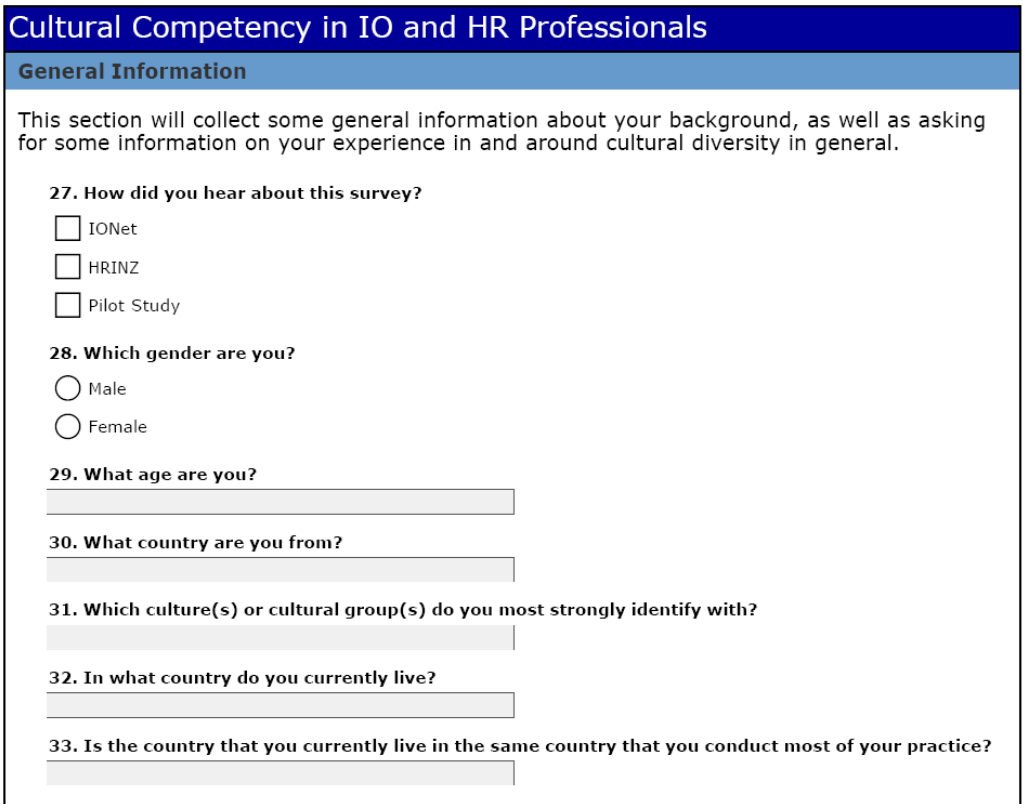
7. Appendix

Appendix A: “Bio Data” Questions



Cultural Competency in IO and HR Professionals

General Information

This section will collect some general information about your background, as well as asking for some information on your experience in and around cultural diversity in general.

27. How did you hear about this survey?

- ☐ IONet
- ☐ HRINZ
- ☐ Pilot Study

28. Which gender are you?

- ◯ Male
- ◯ Female

29. What age are you?

30. What country are you from?

31. Which culture(s) or cultural group(s) do you most strongly identify with?

32. In what country do you currently live?

33. Is the country that you currently live in the same country that you conduct most of your practice?

34. Are you a?

- ◯ Student
- ◯ Professional
- ◯ Student and professional

Other (please specify)

35. In which of the three following domains is most of your study/work activity?

- ◯ Industrial and Organisational Psychology
- ◯ Human Resources
- ◯ IO and HR

Other (please specify)

36. If you are in the area of IO are you a registered psychologist?

37. If You answered yes to question 36 how many years have you been registered for?

38. If you are studying, are you studying in the area of?

- ◯ Industrial and Organisational Psychology
- ◯ Human Resources
- ◯ IO and HR

39. Please indicate the number of years work experience you have had in the area of I/O, or HR, or both (if you answered both to q 36)

40. Please indicate the number of years of study you have had in the area of I/O or HR or both.

41. How many languages other than English do you speak fluently?

42. If you do speak a language or languages other than English, please specify which one(s).

Cultural Competency in IO and HR Professionals

Experience

This section will ask questions about your cross cultural experience.

43. How many of the following steps have you taken to increase your cultural competency? Please indicate an estimated frequency. Please remember that each questions focuses on activities that have had a full or *at least significant* component that *focused overtly on cultural competency of some kind.*

Attended a workshop on professional development	
Attended a workshop or training program on the Treaty of Waitangi	
Studied an undergraduate paper at a tertiary institution	
Studied a graduate paper at a tertiary institution	
Obtained a first degree	
Took a short course at tertiary or professional level	
Obtained a postgraduate diploma or degree	
Undertook an OE (overseas experience)	
Completed an overseas assignment for a company or not-profit organisation	
Secured a cultural advisor	
Consulted a cultural advisor	
Modified an assessment to	

accommodate cultural differences	
Modified a process (e.g. selection) to accommodate cultural differences	
Conducted a whanau interview	
Attended a conference	
Presented or co-presented a paper at a conference	
Gave or co-facilitated a workshop at a conference	
Attended a tangihanga	
Attended a powhiri	
Visited a marae	

Cultural Competency in IO and HR Professionals

Travel Abroad

44. Please indicate

The number of times you have traveled outside of your own country	

45. For each of the countries you have visited outside of your own specify the aproximate duration of your stay and your primary reason for travel

	The duration of your Stay	Your reason for travel to this location
Country 1		
Country 2		
Country 3		
Country 4		
Country 5		
Country 6		
Country 7		
Country 8		
Country 9		
Country 10		
Country 11		
Country 12		
Country 13		
Country 14		
Country 15		

Appendix B: IPIP Questions

Cultural Competency in IO and HR Professionals

Personality

On the following pages there are some questions about your own individual differences, including for example how much importance you place on impression management. Please use the rating scale below to describe how accurately each statement describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, in relation to other people you know of the same sex as you are, and roughly your same age.

46. Please answer the following

	Very Inaccurate	Moderately Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
I sometimes try to get even rather than forgive and forget	◯	◯	◯	◯	◯
I have little to say	◯	◯	◯	◯	◯
I have sometimes taken unfair advantage of another person	◯	◯	◯	◯	◯
I do not have a good imagination	◯	◯	◯	◯	◯
I leave my belongings around	◯	◯	◯	◯	◯
I don't talk a lot	◯	◯	◯	◯	◯
I get upset easily	◯	◯	◯	◯	◯
There have been occasions when I took advantage of someone	◯	◯	◯	◯	◯
I feel little concern for others	◯	◯	◯	◯	◯
I often forget to put things back in their proper place	◯	◯	◯	◯	◯
I am always prepared	◯	◯	◯	◯	◯
I have a soft heart	◯	◯	◯	◯	◯
I have excellent ideas	◯	◯	◯	◯	◯
I am the life of the party	◯	◯	◯	◯	◯
I am not interested in other people's problems	◯	◯	◯	◯	◯
I start conversations	◯	◯	◯	◯	◯

I am relaxed most of the time	◯	◯	◯	◯	◯
I have difficulty understanding abstract ideas	◯	◯	◯	◯	◯
I am easily disturbed	◯	◯	◯	◯	◯
I get chores done right away	◯	◯	◯	◯	◯
I am interested in people	◯	◯	◯	◯	◯
I have a rich vocabulary	◯	◯	◯	◯	◯
I get stressed out easily	◯	◯	◯	◯	◯

47. Please answer the following

	Very Inaccurate	Moderatly Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Very Accurate
I have a vivid imagination	◯	◯	◯	◯	◯
I make a mess of things	◯	◯	◯	◯	◯
I change my mood a lot	◯	◯	◯	◯	◯
I use difficult words	◯	◯	◯	◯	◯
I feel resentful when I don't get my own way	◯	◯	◯	◯	◯
I seldom feel blue	◯	◯	◯	◯	◯
I keep in the background	◯	◯	◯	◯	◯
I like order	◯	◯	◯	◯	◯
I am always willing to admit when I make a mistake	◯	◯	◯	◯	◯
I can be rude to people on occasion	◯	◯	◯	◯	◯
I am quick to admit making a mistake	◯	◯	◯	◯	◯
I talk to a lot of different people at parties	◯	◯	◯	◯	◯
I am not really interested in others	◯	◯	◯	◯	◯
I have frequent mood swings	◯	◯	◯	◯	◯
I take time out for others	◯	◯	◯	◯	◯
I worry about things	◯	◯	◯	◯	◯
I am not interested in abstract ideas	◯	◯	◯	◯	◯
I sympathise with others' feelings	◯	◯	◯	◯	◯
I don't like to draw attention to myself	◯	◯	◯	◯	◯
I pay attention to details	◯	◯	◯	◯	◯
I shirk my duties	◯	◯	◯	◯	◯
I am always	◯	◯	◯	◯	◯

courteous, even to people who are disagreeable					
I am quick to understand things	◯	◯	◯	◯	◯
I feel comfortable around people	◯	◯	◯	◯	◯

48. Please answer the following

	Very inaccurate	Moderatly Inaccurate	Neither Inaccurate nor Accurate	Moderately Accurate	Verry Accurate
I follow a schedule	◯	◯	◯	◯	◯
I am quick to understand things	◯	◯	◯	◯	◯
I change my mood a lot	◯	◯	◯	◯	◯
I am always a good listener, no matter who I am talking to	◯	◯	◯	◯	◯
I often feel blue	◯	◯	◯	◯	◯
I have frequent mood swings	◯	◯	◯	◯	◯
I don't mind being the center of attention	◯	◯	◯	◯	◯
I feel others' emotions	◯	◯	◯	◯	◯
I am full of ideas	◯	◯	◯	◯	◯
I get irritated easily	◯	◯	◯	◯	◯
I am always courteous, even to people who are disagreeable	◯	◯	◯	◯	◯
I like order	◯	◯	◯	◯	◯
I talk to a lot of different people at parties	◯	◯	◯	◯	◯
I spend time reflecting on things	◯	◯	◯	◯	◯
I am not really interested in others	◯	◯	◯	◯	◯
I don't like to draw attention to myself	◯	◯	◯	◯	◯
I am quiet around strangers	◯	◯	◯	◯	◯
I shirk my duties	◯	◯	◯	◯	◯
I feel resentful when I don't get my own way	◯	◯	◯	◯	◯
I make people feel at ease	◯	◯	◯	◯	◯
I use difficult words	◯	◯	◯	◯	◯
I am exacting in my work	◯	◯	◯	◯	◯
I take time out for others	◯	◯	◯	◯	◯

Appendix C: The Cultral Intelligence Scale (CQS).
(Ang Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar, 2007).

Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE (1 = strongly disagree; 7 = strongly agree)

CQ Factor Questionnaire items

Metacognitive CQ
MC1 I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.

MC2 I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.

MC3 I am conscious of the cultural knowledge I apply to cross-cultural interactions.

MC4 I check the accuracy of my cultural knowledge as I interact with people from different cultures.

Cognitive CQ
COG1 I know the legal and economic systems of other cultures.

COG2 I know the rules (e.g., vocabulary, grammar) of other languages.

COG3 I know the cultural values and religious beliefs of other cultures.

COG4 I know the marriage systems of other cultures.

COG5 I know the arts and crafts of other cultures.

COG6 I know the rules for expressing nonverbal behaviours in other cultures.

Motivational CQ
MOT1 I enjoy interacting with people from different cultures.

MOT2 I am confident that I can socialize with locals in a culture that is unfamiliar to me.

MOT3 I am sure I can deal with the stresses of adjusting to a culture that is new to me.

MOT4 I enjoy living in cultures that are unfamiliar to me.

MOT5 I am confident that I can get accustomed to the shopping conditions in a different culture.

Behavioural CQ

BEH1 I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it.

BEH2 I use pause and silence differently to suit different cross-cultural situations.

BEH3 I vary the rate of my speaking when a cross-cultural situation requires it.

BEH4 I change my nonverbal behaviour when a cross-cultural situation requires it.

BEH5 I alter my facial expressions when a cross-cultural interaction requires it.

Appendix D: “Self Awareness” Questions

Cultural Competency in IO and HR Professionals

Awareness

This section will ask questions about your awareness, both of *yourself* and of *others* at work. The questions focus on awareness of culture in the broad (i.e., socio-cultural background) sense, how much you think about organisational culture on a daily basis, and finally how much the culture of your own professional group is in your awareness at work.

1. When I am in my everyday work interacting with people, I am aware of *others'* cultural...

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Assumptions	◯	◯	◯	◯	◯
Values	◯	◯	◯	◯	◯
Behaviours	◯	◯	◯	◯	◯

2. When I am in my everyday work interacting with people, I am aware of *my own* cultural...

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Assumptions	◯	◯	◯	◯	◯
Values	◯	◯	◯	◯	◯
Behaviours	◯	◯	◯	◯	◯

3. When I am in my everyday work interacting with representatives from organisations, I am aware of *their organisation's* cultural...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Assumptions	◯	◯	◯	◯	◯
Values	◯	◯	◯	◯	◯
Behaviours	◯	◯	◯	◯	◯

4. When I am in my everyday work interacting with representatives from organisations, I am aware of *my own organisation's* cultural...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Assumptions	◯	◯	◯	◯	◯
Values	◯	◯	◯	◯	◯
Behaviours	◯	◯	◯	◯	◯

5. When I am in my everyday work interacting with representatives from organisations, I am aware of *others' professional* cultural...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Assumptions	◯	◯	◯	◯	◯
Values	◯	◯	◯	◯	◯
Behaviours	◯	◯	◯	◯	◯

6. When I am in my everyday work interacting with representatives from organisations, I am aware of *my own professional* cultural...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Assumptions	◯	◯	◯	◯	◯
Values	◯	◯	◯	◯	◯
Behaviours	◯	◯	◯	◯	◯

Appendix E: “Bi-Cultural Knowledge” Questions

9. What are the three principles of the Treaty of Waitangi outlined in the Standards of Cultural Competence for Psychologists Registered under the Health Practitioners Assurance Act (2003)?

- ◯ Partnership, Participation, Protection
- ◯ Partnership, Participation, Practice
- ◯ Participation, Protection, Partaking
- ◯ Partnership, Protection, Practice
- ◯ None of the above

10. On a Marae food should never be consumed in what area?

- ◯ Inside the meeting house (Wharenui)
- ◯ Standing outside
- ◯ Sitting outside
- ◯ Standing in the kitchen
- ◯ The Whare Kai or eating house

11. When visiting a Marae during the powhiri (introducing and welcoming visitors) what should the visitors avoid doing?

- ◯ Talking
- ◯ Drinking
- ◯ Eating
- ◯ Smoking
- ◯ All of the above

12. Before entering the wharenui (meeting house) on a marae you should?

- ◯ Take off your jacket
- ◯ Wipe your shoes on the mat outside
- ◯ Remove your shoes
- ◯ Leave your bag outside
- ◯ Wash your hands

13. How many days does an average tangihanga (funeral) last?

- ◯ 1/2 day
- ◯ 1 day
- ◯ 2 days
- ◯ 3 days
- ◯ 4 days

14. In Maori culture to sit on a pillow or a table is?

- ◯ Acceptable if there are no other seats
- ◯ Never acceptable
- ◯ Ok to sit on a pillow but not a table
- ◯ Ok to sit on a table but not a pillow
- ◯ Only acceptable in the evening

15. When visiting a Marae, the tangata whenua are?

- ◯ The visitors to the marae
- ◯ The children of the visitors
- ◯ The people from the marae
- ◯ The speakers
- ◯ The people who prepare the food on the marae

16. When visiting a marae the Manuhiri are?

- ◯ The visitors to the marae
- ◯ The children of the visitors
- ◯ The people from the marae
- ◯ The speakers
- ◯ The people who prepare the food on the marae

17. The purpose of a powhiri (traditional Maori welcome ceremony) is?

- ◯ To welcome the new visitors to the marae
- ◯ To remove the tapu of the visitors to make them one with the Home people
- ◯ To follow tradition
- ◯ To make the new visitors want to stay
- ◯ All of the above

Appendix F: “Skills” – “Comfort” and “Effectiveness” Questions

Cultural Competency in IO and HR Professionals

Skill

This section will ask questions on how effortless you find interacting with others who are culturally different to yourself in some way, plus how confident and effective you may feel when interacting with them.

18. I feel at ease with different...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Socio cultural groups	◯	◯	◯	◯	◯
Organisational cultural groups	◯	◯	◯	◯	◯
Professional groups (i.e. occupational cultures)	◯	◯	◯	◯	◯

19. I have to think hard when I am communicating with different...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Socio cultural groups	◯	◯	◯	◯	◯
Organisational cultural groups	◯	◯	◯	◯	◯
Professional groups (i.e. occupational cultures)	◯	◯	◯	◯	◯

20. I feel confident in my ability to work effectively with people from different...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Socio cultural groups	◯	◯	◯	◯	◯
Organisational cultural groups	◯	◯	◯	◯	◯
Professional groups (i.e. occupational cultures)	◯	◯	◯	◯	◯

21. I am an effective cross cultural communicator across...

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Socio cultural groups	◯	◯	◯	◯	◯
Organisational cultural groups	◯	◯	◯	◯	◯
Professional groups (i.e. occupational cultures)	◯	◯	◯	◯	◯

22. Working with people from other _____ comes easily to me

	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
Socio cultural groups	◯	◯	◯	◯	◯
Organisational cultural groups	◯	◯	◯	◯	◯
Professional groups (i.e. occupational cultures)	◯	◯	◯	◯	◯

25. Right at this minute, how confident would you be about accepting a consultancy to design (within say a week) a workshop that focuses on...

	Very low	Low	Neither high nor low	High	Very high
Cross-cultural communication	◯	◯	◯	◯	◯
Merger potential from the perspective of compatibility between organisational cultures	◯	◯	◯	◯	◯
The bringing together of different professional groups (and their occupational cultures) at work	◯	◯	◯	◯	◯

26. Right at this minute, how confident would you be about accepting a consultancy to design (within say a week) a whanau interview for...

	Very low	Low	Neither high nor low	High	Very high
An organisational client	◯	◯	◯	◯	◯

Appendix G: Marlowe Crowne Questions

1. There have been occasions when I took advantage of someone
2. I have sometimes taken unfair advantage of another person
3. I sometimes try to get even rather than forgive and forget
4. I am quick to admit making a mistake
5. I am always willing to admit when I make a mistake
6. I am always a good listener, no matter who I am talking to
7. I sometimes feel resentful when I don't get my own way
8. I am always courteous, even to people who are disagreeable

Appendix H: Emails and permission granted

From Bernie Fray (IONet) and Debbie Bridge (HRINZ)

RE: IONet validation study

From: **bernie - praxxis group** (b.frey@praxxisgroup.com)
Sent: Thursday, 14 March 2008 8:54:21 p.m.
To: 'Tania' (taniadub@hotmail.com)

Hi Tania,

Just go ahead when you're good and ready. If you want my advice, keep the invite short and to the point (e.g., leave consent details, introduction blurb etc. to the web site).

Rgds,
-Bernie

From: Tania [mailto:taniadub@hotmail.com]
Sent: Friday, 14 March 2008 9:46 a.m.
To: 'bernie - praxxis group'
Subject: RE: IONet validation study

Hi Bernie
Thanks for that. I am still awaiting ethics approval so my questionnaire should be ready to go in about 6 weeks.
Is it ok if I just go ahead and email it out when it's ready, or would you like to have a look over first?

T

From: bernie - praxxis group [mailto:b.frey@praxxisgroup.com]
Sent: Friday, 14 March 2008 8:22 a.m.
To: 'Tania'
Cc: stewart@fxc.co.nz
Subject: RE: IONet validation study

Hi Tania,

We currently have 384 members – although it fluctuates a bit it generally goes up rather than down.

I think ionet is an appropriate medium for you – keeping in mind that you're talking to i/o psyc professionals and wannabes who (a) probably know what you're talking about and/or (b) can pass your message and link on to other appropriate parties if that's what your design calls for.

Good luck.

Rgds,
-Bernie

From: Stewart Forsyth [mailto:stewart@fxc.co.nz]
Sent: Thursday, 14 March 2008 1:19 p.m.
To: 'Tania'
Cc: b.frey@praxxisgroup.com
Subject: RE: IONet validation study

I do remember your visit to collect the critical incidents Tania. Great that you have got a draft measure ready for validation.

From my point of view your plan to use the ionet is a valid one. I have copied this to Bernie Frey who is the champion of the ionet – so wait till you hear his reaction as well.

From memory there are about 300 ioneters (Bernie will have a better idea). I think you will only get a small take-up, so do think about suggesting that people pass the link on – especially to people from other cultures (?). And promise them a summary of results. But do also think of trying to get the message out to other networks – university, maybe some local cultural groups (Indian Society…?)

All the best.

Stewart Forsyth
FX Consultants - making performance matter

stewart@fxc.co.nz
www.fxc.co.nz
www.personaplus.co.nz
ph +64 9 378 9299; 021 392 667

From: Tania [mailto:taniadub@hotmail.com]
Sent: Thursday, 14 March 2008 10:29 a.m.
To: stewart@fxc.co.nz
Subject: IONet validation study

Hi Stewart

I just want to find out whose permission I need to get to send out a survey link for my thesis research to IONet. The survey is to collect data for the second part of my research, which is an anonymous validation study of a measure of cultural competency. If you remember I came into an IOSig meeting November last year to collect the critical incidents to make this measure. Rather than doing the validation using pen and paper I thought I might have more success doing it online. The assessment should take no more than 20 mins and I was planning on having the participant consent for in the body of the email and then a link for participants to click on.

Also, do you by any chance know approximately how many people are on the IONet?

Kind Regards

Tania Williams

RE: Research Participation Request

From: **Debbie Bridge** (debbie.bridge@hrinz.org.nz)
Sent: Sunday, 29 June 2008 10:05:59 p.m.
To: 'Tania Williams' (taniadub@hotmail.com)

Attachments: image001.gif (1.4 KB)

Hi Tania
Know I understand, yes that is find to mention HRINZ in that capacity.
With regards
Debbie

From: Tania Williams [mailto:taniadub@hotmail.com]
Sent: Monday, 30 June 2008 9:46 a.m.
To: Debbie Bridge
Subject: RE: Research Participation Request

Hi Debbie
Sorry for the confusion
All I need is for you to say is that you realise that HRINZ will be named in my research when I write it up. For example in my methods section I would write something about how the questionnaire was distributed through the HRINZ network. I just need clarification that you are aware of this and that it is ok.

Hope that makes sense

Tania

From: debbie.bridge@hrinz.org.nz
To: taniadub@hotmail.com
Subject: RE: Research Participation Request
Date: Mon, 30 Jun 2008 09:29:25 +1200

Hi Tania
Thank you for your email. However, I am bit unclear about what you are asking me?

Are you asking for HRINZ endorsement of your research? As if this is the case, then you would have to apply to the R&P Committee for research approval and publication in our Academic Journal.
We are more than happy to assist you in your research participation request which you directly approached us to do.

With regards to being named in your research, you can state that we have agreed to assist you with your research via participation survey to your target research group. As part of accessing your target audience through HRINZ is that we get to a copy of your research that you are to publish for our members to access for future use.

However, if you are looking for HRINZ to be involved in any other way, this you will have to formally approach us with a proposal.
I hope this has answered your query
With regards
Debbie

From: Tania Williams [mailto:taniadub@hotmail.com]
Sent: Monday, 30 June 2008 7:43 a.m.
To: 'Debbie Bridge'
Subject: RE: Research Participation Request

Hi Debbie
I have just heard back from the ethics committee and my application for my research will be formally approved once I have done a couple of things. On thing that I must do is

ensure that you are aware that HRINZ may be named in my thesis. Is it ok for me to proceed with the research if HRINZ will be named?
Kind Regards

Tania Williams

From: Debbie Bridge [mailto:debbie.bridge@hrinz.org.nz]
Sent: Friday, 6 June 2008 10:04 a.m.
To: taniadub@hotmail.com
Subject: Research Participation Request

Hi Tania
Thank you for your telephone enquiry about research participation.
We have a dedicated stream of our members to participate in such requests which is approx 364, nationally based HR professionals of all levels.

We cannot guarantee how many members will reply, however, the last survey sent out we had about a third of members responded and participated in the survey. Unfortunately as we are a membership organisation we will not give access to an external organisations to our database.

We would be happy to consider your research proposal. Please can you send us the following information:

1. Short synopsis of what this research is looking to achieve, aims, objectives and why it is relevant to HR professionals.
2. Is this for commercial or academic purposes?
3. If academic, have you received ethics approval from your university to distribute your survey?
4. A web-link for our members to access. Any queries regarding the survey are sent directly to the researcher
5. Deadline for the survey to be completed
6. When approximately do you want this to be sent out to the members. For e.g.: this week, next week etc?
7. Approximately time frame of when you believe your research will be completed for publication
8. The researchers contact details for future communications

If approval is granted, it is on the proviso that survey participation will be anonymous and that HRINZ will be given a copy of the results of the survey they have participated in, when the research has been completed for members use.

I look forward to hearing from you.
If you have any queries, please don't hesitate to contact me.
With thanks
Debbie

Appendix I: Invitation emails sent out to participants

Tania Williams

From: Tania Williams [taniadub@hotmail.com]
Sent: Monday, 1 September 2008 9:36 a.m.
To: ionet@massey.ac.nz
Subject: Cultural Competence Research

Hi everyone

I'm Tania, a Masters student at Massey University. I am currently conducting research in the area of cultural competence, to explore the ways in which professionals and students like you think about, and develop cultural competence in their careers.

The research is being conducted via an online survey which can be accessed by cutting and pasting the below link into your web browser. The survey takes up to 30 minutes to complete. I would very much appreciate your participation.

http://www.surveymonkey.com/s.aspx?sm=Ddzn63S9KJ82vDft_2bl_2bsqw_3d_3d

If you have any questions about the survey then please contact me directly

Kind Regards

Tania Williams

021 75 2233
09 424 8102
taniadub@hotmail.com

Tania Williams

From: Tania Williams [taniadub@hotmail.com]
Sent: Monday, 1 September 2008 10:11 a.m.
To: ionet@massey.ac.nz

Hi again

I forgot to mention the prize (which is of course the best part) two $50 westfield vouchers that you can go into the draw to win if you take part in the survey!

Thanks

Tania

Tania Williams

From: Tania Williams [taniadub@hotmail.com]
Sent: Monday, 8 September 2008 9:22 a.m.
To: ionet@massey.ac.nz
Subject: Research Reminder

Morning Everyone

I am currently conducting research in the area of cultural competence, to explore the ways in which professionals and students like you think about, and develop cultural competence in their careers.

The research is being conducted via an online survey which can be accessed by cutting and pasting the below link into your web browser. The survey takes up to 30 minutes to complete. I would very much appreciate your participation. There are two $50 Westfield vouchers that you can go into the draw to win if you take part in the survey! I will be collecting data up until the end of Friday the 26th of September.

http://www.surveymonkey.com/s.aspx?sm=Ddzn63S9KJ82vDft_2bl_2bsqw_3d_3d

If you have any questions about the survey then please contact me directly

For those of you who have already completed the survey thanks so much.

Kind Regards

Tania Williams

021 75 22 33
09 424 8102

Tania Williams

From: Tania Williams [taniadub@hotmail.com]
Sent: Monday, 15 September 2008 11:53 a.m.
To: ionet@massey.ac.nz
Subject: Research Reminder

Hi Everyone

Yes, me again. Just another reminder about my research project (details below). I am 29 responses away from my sample size, so if you have a chance (pretty please with a big red cherry, whipped cream and sprinkles on top) complete the survey via the below link.

I am currently conducting research in the area of cultural competence, to explore the ways in which professionals and students like you think about, and develop cultural competence in their careers.

The research is being conducted via an online survey which can be accessed by cutting and pasting the below link into your web browser. The survey takes up to 30 minutes to complete. I would very much appreciate your participation. There are two $50 Westfield vouchers that you can go into the draw to win if you take part in the survey! I will be collecting data up until the end of Friday the 26th of September.

http://www.surveymonkey.com/s.aspx?sm=Ddzn63S9KJ82vDft_2bl_2bsqw_3d_3d

If you have any questions about the survey then please contact me directly

For those of you who have already completed the survey thanks so much.

Kind Regards

Tania Williams

021 75 22 33
09 424 8102

Value your membership? - Forward this notice to a colleague

Dear Debbie
Thank you for subscribing to our research survey option.

You are invited to participate in the following survey by Tania Williams, Master Student at Massey University, who is conducting research into the area of cultural competence.

The survey aims to looks to explore the ways in which professionals and students like you think about, and develop cultural competence in their careers and asks questions about your knowledge, skills, abilities as we ask questions on your experience and personality. Anonymity is guaranteed for all participants.

The survey takes up to 30 minutes to complete. The survey will close on Friday the 26th of September.

To participate in this online research survey, click here
Please return all completed surveys by Friday 26th September 2008.

Full research results will be supplied to HRINZ by Tania Williams, Massey University upon completion.
Please note any queries should be directed to Tania Williams, on 021 75 2233 or by email: taniadub@hotmail.com
To be removed from the research stream, update your details in the Members Only Area.

This HRINZ member message was sent by:
Human Resources Institute of New Zealand Incorporated National Office
Level One, 11 Chews Lane, PO Box 11 450, Manners Street, Wellington 6142
P: 04 499 2966 F: 04 499 2965 E: hrinz@hrinz.org.nz WEB: www.hrinz.org.nz

To be removed from ALL HRINZ Member emails please send an email to membership@hrinz.org.nz with "UNSUBSCRIBE" as the subject.

Appendix J: Factor Solution for Common Method Variance Analysis

	Component													
	1	2	3	4	5	6	7	8	9	10	11	12	14	14
I don't talk a lot	.837													
I start conversations	.769													
I don't mind being the centre of attention	.756													
I am quiet around strangers	.717													
I have little to say	.677													
I feel comfortable around people	.671													
I keep in the background	.668													
I am the life of the party	.610													
I talk to a lot of different people at parties	.606													
I have sometimes taken unfair advantage of another person							.304							
I change my verbal behaviour (e.g. accent, tone) when a cross-cultural interaction requires it		.814												
I alter my facial expressions when a cross-cultural interaction requires it		.814												
I adjust my cultural knowledge as I interact with people from a cultural that is unfamiliar to me		.638												
I use pause and silence differently to suite different cross-cultural		.607												

situations														
I am conscious of the cultural knowledge I use when interacting with people from different cultural backgrounds		.593												
I vary the rate of my speaking when a cross-cultural situations requires it		.589												
I change my non verbal behaviour when a cross-cultural situations requires it		.562												
I check the accuracy of my cultural knowledge as I interact with people from different cultures		.551												
I know the rules for expressing non verbal behaviours in other cultures		.452												
I am sure that I can deal with the stress of adjusting to a culture that is unfamiliar to me		.436												
I enjoy living in cultures that are unfamiliar to me		.430												
I am conscious of the cultural knowledge that I apply to cross cultural interactions		.412												
I feel confident in my ability to work effectively with people from different organisational cultural			.886											

groups														
I feel at ease with different Socio-cultural groups			.875											
I feel at ease with different organisational cultural groups			.862											
I feel confident in my ability to work effectively with people from different socio-cultural groups			.838											
I feel confident in my ability to work effectively with people from different professional cultural groups			.740											
I feel at ease with different professional groups			.718											
When I am in my everyday work interacting with representatives from organisations, I am aware of my own professional cultural *assumptions*				.914										
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own professional* cultural *values*				.914										
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own professional* cultural *behaviours*				.895										
When I am in my everyday work interacting with representatives from organisations, I am aware				.628										

of *my own organisation's* cultural *behaviours*														
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own organisation's* cultural *assumptions*				.584										
When I am in my everyday work interacting with representatives from organisations, I am aware of *my own organisation's* cultural *values*				.514										
I feel others' emotions					.677									
I make people feel at ease					.653									
I can be rude to people on occasion					.628									
am interested in people					.582									
I am not really interested in others					.534									
I sympathise with others' feelings					.531									
I am not interested in other people's problems					.530									
I have a soft heart					.527									
I have excellent ideas						.771								
I am full of ideas						.763								
I have a rich vocabulary						.646								
I am quick to understand things						.624								
I use difficult words						.580								
I have difficulty understanding abstract ideas						.551								
I am not interested in abstract ideas						.417								

I am relaxed most of the time							.752							
I have frequent mood swings							.714							
I sometimes try to get even rather than forgive and forget							.691							
I often feel blue							.503							
I am always a good listener, no matter who I am talking to							.444							
There have been occasions when I took advantage of someone							.392							
I know the marriage systems of other cultures								.710						
I know the rules (e.g. vocabulary, grammar) of other languages								.668						
I know the arts and crafts of other cultures								.647						
I know the cultural values and religious beliefs of other cultures								.616						
I have to think hard when I am communicating with different socio-cultural groups								.458						
I have to think hard when I am communicating with different organisational cultural groups								.420						
I often forget to put things back in their roper place									.751					
I leave my belongings									.710					

around														
I am exacting in my work									.623					
I am always willing to admit when I make a mistake									.529					
I pay attention to details									.514					
I am always prepared									.490					
I get chores done right away									.451					
I am quick to admit making a mistake									.442					
I have to think hard when I am communicating with different socio-cultural groups										.875				
I have to think hard when I am communicating with different organisational cultural groups										.871				
I have to think hard when I am communicating with different professional groups										.800				
I am confident that I can socialise with locals in a culture that is unfamiliar to me											.623			
I am confident that I can get accustomed to the shopping conditions in a different culture											.603			
I enjoy interacting with people from different cultures											.572			
I get stressed out easily												.614		
I worry about things												.505		

I change my mood a lot												.497		
I get irritated easily												.451		
I am an effective cross cultural communicator across different professional cultural groups												.439		
I like order													.732	
I follow a schedule													.610	
I get upset easily													.456	
I know the legal and economic systems of other cultures													.434	
When I am in my everyday work interacting with representatives from organisations, I am aware of *their organisation's* cultural *values*														.792
When I am in my everyday work interacting with representatives from organisations, I am aware of *their organisation's* cultural behaviours														.763

Appendix K: Correlation Matrix – "Awareness"

		AO	AS	CA	G	NZ	S/P	IO/HR	YE	CE	TA	DA	AD	E	O	A	ES	C	SD
AO	Pearson Correlation	1	.277(**)	.074	-.109	.076	.065	.081	.052	.012	.043	-.050	-.022	.014	.142	-.064	.062	-.102	-.106
	Sig. (2-tailed)		.004	.440	.257	.435	.497	.432	.588	.905	.694	.620	.845	.887	.176	.518	.532	.294	.285
	N	110	109	110	109	109	110	97	110	110	86	101	80	103	106	104	105	107	104
AS	Pearson Correlation	.277(**)	1	.310(**)	-.012	-.030	.008	-.030	-.024	.103	.106	-.071	.031	.210(*)	.226(*)	.148	.109	-.043	.057
	Sig. (2-tailed)	.004		.001	.903	.755	.934	.770	.805	.285	.332	.479	.784	.033	.020	.144	.270	.659	.562
	N	109	110	110	109	109	110	97	110	110	86	101	80	103	106	104	105	107	104
CA	Pearson Correlation	.074	.310(**)	1	-.060	.093	-.096	.010	.063	.166	.140	.116	.237(*)	.148	.239(*)	.357(**)	.007	.027	.174
	Sig. (2-tailed)	.440	.001		.528	.329	.311	.919	.505	.079	.226	.242	.032	.141	.012	.000	.943	.777	.073
	N	110	110	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
G	Pearson Correlation	-.109	-.012	-.060	1	.242(*)	-.079	-.105	-.233(*)	-.100	-.106	-.049	-.065	-.056	-.118	.088	-.187	.125	.072
	Sig. (2-tailed)	.257	.903	.528		.011	.407	.299	.014	.293	.324	.624	.560	.569	.220	.370	.053	.192	.460
	N	109	109	112	112	111	112	100	112	112	89	103	82	106	109	107	108	110	107
NZ	Pearson Correlation	.076	-.030	.093	.242(*)	1	-.158	-.092	-.034	-.036	.189	.207(*)	.109	-.033	-.108	-.055	-.149	.066	.009
	Sig. (2-tailed)	.435	.755	.329	.011		.097	.366	.726	.708	.076	.037	.328	.741	.265	.576	.125	.495	.923
	N	109	109	112	111	112	112	99	112	112	89	102	82	105	108	106	107	109	106
S/P	Pearson Correlation	.065	.008	-.096	-.079	-.158	1	-.287(**)	.281(**)	.196(*)	.298(**)	-.077	-.304(**)	-.121	-.033	-.114	.146	.006	.193(*)

	Sig. (2-tailed)	.497	.934	.311	.407	.097		.004	.003	.038	.005	.438	.005	.216	.735	.243	.141	.948	.047
	N	110	110	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
IO/HR	Pearson Correlation	.081	-.030	.010	-.105	-.092	-.287(**)	1	-.164	-.142	-.111	-.017	.180	-.035	.095	.176	-.062	-.028	-.221(*)
	Sig. (2-tailed)	.432	.770	.919	.299	.366	.004		.103	.160	.332	.871	.127	.738	.351	.087	.542	.787	.030
	N	97	97	100	100	99	100	100	100	100	79	92	73	94	99	96	98	98	96
YE	Pearson Correlation	.052	-.024	.063	-.233(*)	-.034	.281(**)	-.164	1	.254(**)	.231(*)	.066	-.142	-.020	.023	-.044	.199(*)	.006	.095
	Sig. (2-tailed)	.588	.805	.505	.014	.726	.003	.103		.007	.030	.507	.239	.842	.814	.650	.039	.953	.330
	N	110	110	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
CE	Pearson Correlation	.012	.103	.166	-.100	-.036	.196(*)	-.142	.254(**)	1	.320(**)	.182	.053	.092	.142	.069	.224(*)	-.070	.155
	Sig. (2-tailed)	.905	.285	.079	.293	.708	.038	.160	.007		.002	.066	.636	.348	.140	.479	.020	.466	.112
	N	110	110	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
TA	Pearson Correlation	.043	.106	.140	-.106	.189	.298(**)	-.111	.231(*)	.320(**)	1	.467(**)	-.112	.195	.004	.007	.141	-.033	.043
	Sig. (2-tailed)	.694	.332	.226	.324	.076	.005	.332	.030	.002		.000	.317	.075	.967	.952	.230	.764	.695
	N	86	86	89	89	89	89	79	89	89	89	81	82	84	87	84	86	87	85
DA	Pearson Correlation	-.050	-.071	.116	-.049	.207(*)	-.077	-.017	.066	.182	.467(**)	1	.661(**)	.074	.038	.080	-.077	-.094	-.031
	Sig. (2-tailed)	.620	.479	.242	.624	.037	.438	.871	.507	.066	.000		.000	.468	.706	.431	.447	.349	.760
	N	101	101	103	103	102	103	92	103	103	81	103	81	98	101	99	100	102	99
AD	Pearson Correlation	-.022	.031	.237(*)	-.065	.109	-.304(**)	.180	-.142	.053	-.112	.661(**)	1	.114	.197	.150	-.177	.045	.019

	Sig. (2-tailed)	.845	.784	.032	.560	.328	.005	.127	.239	.636	.317	.000		.321	.077	.189	.115	.693	.871
	N	80	80	82	82	82	82	73	82	82	82	81	82	78	81	78	80	81	79
E	Pearson Correlation	.014	.210(*)	.148	-.056	-.033	-.121	-.035	-.020	.092	.195	.074	.114	1	.233(*)	.359(**)	.093	-.141	.079
	Sig. (2-tailed)	.887	.033	.141	.569	.741	.216	.738	.842	.348	.075	.468	.321		.017	.000	.351	.184	.429
	N	103	103	106	106	105	106	94	106	106	84	98	78	106	104	102	102	104	103
O	Pearson Correlation	.142	.226(*)	.239(*)	-.118	-.108	-.033	.095	.023	.142	.004	.038	.197	.233(*)	1	.237(*)	.182	-.103	.078
	Sig. (2-tailed)	.176	.020	.012	.220	.265	.735	.351	.814	.140	.967	.706	.077	.017		.015	.062	.291	.428
	N	106	106	109	109	108	109	99	109	109	87	101	81	104	109	105	106	107	106
A	Pearson Correlation	-.064	.148	.357(**)	.088	-.055	-.114	.176	-.044	.069	.007	.080	.150	.359(**)	.237(*)	1	-.019	-.097	.097
	Sig. (2-tailed)	.518	.144	.000	.370	.576	.243	.087	.650	.479	.952	.431	.189	.000	.015		.852	.324	.331
	N	104	104	107	107	106	107	96	107	107	84	99	78	102	105	107	104	105	103
ES	Pearson Correlation	.062	.109	.007	-.187	-.149	.146	-.062	.199(*)	.224(*)	.141	-.077	-.177	.093	.182	-.019	1	.110	.308(**)
	Sig. (2-tailed)	.532	.270	.943	.053	.125	.141	.542	.039	.020	.230	.447	.115	.351	.062	.852		.261	.001
	N	105	105	108	108	107	108	98	108	108	86	100	80	102	106	104	108	106	104
C	Pearson Correlation	-.102	-.043	.027	.125	.066	.006	-.028	.006	-.070	-.033	-.094	.045	-.141	-.103	-.097	.110	1	.349(**)
	Sig. (2-tailed)	.294	.659	.777	.192	.495	.948	.787	.953	.466	.764	.349	.693	.184	.291	.324	.261		.000
	N	107	107	110	110	109	110	98	110	110	87	102	81	104	107	105	106	110	105
SD	Pearson Correlation	-.106	.057	.174	.072	.009	.193(*)	-.221(*)	.095	.155	.043	-.031	.019	.079	.078	.097	.308(**)	.349(**)	1

Sig. (2-tailed)	.285	.562	.073	.460	.923	.047	.030	.330	.112	.695	.760	.871	.429	.428	.331	.001	.000	
N	104	104	107	107	106	107	96	107	107	85	99	79	103	106	103	104	105	107

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

Appendix L: Correlation Matrix- “Knowledge”

		BK	CK	G	NZ	S/P	IO/HR	YE	CE	TA	DA	AD	E	O	A	ES	C	SD
BK	Pearson Correlation	1	.002	-.091	-.149	-.121	.025	-.023	.149	.042	.062	.090	.197(*)	.221(*)	.156	.030	-.175	-.059
	Sig. (2-tailed)		.980	.339	.145	.201	.807	.808	.115	.693	.533	.422	.043	.021	.108	.760	.068	.549
	N	114	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
CK	Pearson Correlation	.002	1	-.053	.176	-.173	.021	.009	.175	.149	.320(**)	.201	.275(**)	.278(**)	.325(**)	-.143	-.255(**)	.032
	Sig. (2-tailed)	.980		.582	.063	.067	.834	.922	.065	.162	.001	.070	.004	.003	.001	.170	.007	.744
	N	114	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
G	Pearson Correlation	-.091	-.053	1	.242(*)	-.079	-.105	-.233(*)	-.100	-.106	-.049	-.065	-.056	-.118	.088	-.187	.125	.072
	Sig. (2-tailed)	.339	.582		.011	.407	.299	.014	.293	.324	.624	.560	.569	.220	.370	.053	.192	.460
	N	112	112	112	111	112	100	112	112	89	103	82	106	109	107	108	110	107
NZ	Pearson Correlation	-.149	.176	.242(*)	1	-.158	-.092	-.034	-.036	.189	.207(*)	.109	-.033	-.108	-.055	-.149	.066	.009
	Sig. (2-tailed)	.145	.063	.011		.097	.366	.726	.708	.076	.037	.328	.741	.265	.576	.125	.495	.923
	N	112	112	111	112	112	99	112	112	89	102	82	105	108	106	107	109	106
S/P	Pearson Correlation	-.121	-.173	-.079	-.158	1	-.287(**)	.281(**)	.196(*)	.298(**)	-.077	-.304(**)	-.121	-.033	-.114	.146	.006	.193(*)
	Sig. (2-tailed)	.201	.067	.407	.097		.004	.003	.038	.005	.438	.005	.216	.735	.243	.141	.948	.047
	N	114	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
IO/HR	Pearson Correlation	.025	.021	-.105	-.092	-.287(**)	1	-.164	-.142	-.111	-.017	.180	-.035	.095	.176	-.062	-.028	-.221(*)
	Sig. (2-tailed)	.807	.834	.299	.366	.004		.103	.160	.332	.871	.127	.738	.351	.087	.542	.787	.030
	N	100	100	100	99	100	100	100	100	79	92	73	94	99	96	98	98	96

YE	Pearson Correlation	-.023	.009	-.233(*)	-.034	.281(**)	-.164	1	.254(**)	.231(*)	.066	-.142	-.020	.023	-.044	.199(*)	.006	.095
	Sig. (2-tailed)	.808	.922	.014	.726	.003	.103		.007	.030	.507	.239	.842	.814	.650	.039	.953	.330
	N	114	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
CE	Pearson Correlation	.149	.175	-.100	-.036	.196(*)	-.142	.254(**)	1	.320(**)	.182	.053	.092	.142	.069	.224(*)	-.070	.155
	Sig. (2-tailed)	.115	.065	.293	.708	.038	.160	.007		.002	.066	.636	.348	.140	.479	.020	.466	.112
	N	114	114	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
TA	Pearson Correlation	.042	.149	-.106	.189	.298(**)	-.111	.231(*)	.320(**)	1	.467(**)	-.112	.195	.004	.007	.141	-.033	.043
	Sig. (2-tailed)	.693	.162	.324	.076	.005	.332	.030	.002		.000	.317	.075	.967	.952	.230	.764	.695
	N	89	89	89	89	89	79	89	89	89	81	82	84	87	84	86	87	85
DA	Pearson Correlation	.062	.320(**)	-.049	.207(*)	-.077	-.017	.066	.182	.467(**)	1	.661(**)	.074	.038	.080	-.077	-.094	-.031
	Sig. (2-tailed)	.533	.001	.624	.037	.438	.871	.507	.066	.000		.000	.468	.706	.431	.447	.349	.760
	N	103	103	103	102	103	92	103	103	81	103	81	98	101	99	100	102	99
AD	Pearson Correlation	.090	.201	-.065	.109	-.304(**)	.180	-.142	.053	-.112	.661(**)	1	.114	.197	.150	-.177	.045	.019
	Sig. (2-tailed)	.422	.070	.560	.328	.005	.127	.239	.636	.317	.000		.321	.077	.189	.115	.693	.871
	N	82	82	82	82	82	73	82	82	82	81	82	78	81	78	80	81	79
E	Pearson Correlation	.197(*)	.275(**)	-.056	-.033	-.121	-.035	-.020	.092	.195	.074	.114	1	.233(*)	.359(**)	.093	-.141	.079
	Sig. (2-tailed)	.043	.004	.569	.741	.216	.738	.842	.348	.075	.468	.321		.017	.000	.351	.184	.429
	N	106	106	106	105	106	94	106	106	84	98	78	106	104	102	102	104	103
O	Pearson Correlation	.221(*)	.278(**)	-.118	-.108	-.033	.095	.023	.142	.004	.038	.197	.233(*)	1	.237(*)	.182	-.103	.078
	Sig. (2-tailed)	.021	.003	.220	.265	.735	.351	.814	.140	.967	.706	.077	.017		.015	.062	.291	.428
	N	109	109	109	108	109	99	109	109	87	101	81	104	109	105	106	107	106

A	Pearson Correlation	.156	.325(**)	.088	-.055	-.114	.176	-.044	.069	.007	.080	.150	.359(**)	.237(*)	1	-.019	-.097	.097
	Sig. (2-tailed)	.108	.001	.370	.576	.243	.087	.650	.479	.952	.431	.189	.000	.015		.852	.324	.331
	N	107	107	107	106	107	96	107	107	84	99	78	102	105	107	104	105	103
ES	Pearson Correlation	.030	-.143	-.187	-.149	.146	-.062	.199(*)	.224(*)	.141	-.077	-.177	.093	.182	-.019	1	.110	.308(**)
	Sig. (2-tailed)	.760	.170	.053	.125	.141	.542	.039	.020	.230	.447	.115	.351	.062	.852		.261	.001
	N	108	108	108	107	108	98	108	108	86	100	80	102	106	104	108	106	104
C	Pearson Correlation	-.175	-.255(**)	.125	.066	.006	-.028	.006	-.070	-.033	-.094	.045	-.141	-.103	-.097	.110	1	.349(**)
	Sig. (2-tailed)	.068	.007	.192	.495	.948	.787	.953	.466	.764	.349	.693	.184	.291	.324	.261		.000
	N	110	110	110	109	110	98	110	110	87	102	81	104	107	105	106	110	105
SD	Pearson Correlation	-.059	.032	.072	.009	.193(*)	-.221(*)	.095	.155	.043	-.031	.019	.079	.078	.097	.308(**)	.349(**)	1
	Sig. (2-tailed)	.549	.744	.460	.923	.047	.030	.330	.112	.695	.760	.871	.429	.428	.331	.001	.000	
	N	107	107	107	106	107	96	107	107	85	99	79	103	106	103	104	105	107

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

Appendix M: Correlation Matrix – ‘’Skills”

		SA	ER	SE	MS	BS	G	NZ	S/P	IO/HR	YE	CE	TA	DA	AD	E	O	A	ES	C	SD
SA	Pearson Correlation	1	.218(*)	.243(*)	.081	-.098	.034	-.070	.045	-.103	-.078	.107	-.235(*)	-.153	-.035	.148	.153	.102	.011	-.063	.004
	Sig. (2-tailed)		.033	.018	.438	.343	.740	.497	.666	.341	.450	.300	.042	.155	.780	.196	.143	.336	.914	.550	.969
	N	96	96	95	95	95	95	95	96	87	96	96	75	88	68	89	93	91	92	93	90
ER	Pearson Correlation	.218(*)	1	.193	.052	-.074	-.074	-.081	.199	-.114	.098	.191	-.146	-.100	-.191	-.094	.027	.071	.057	.105	.242(*)
	Sig. (2-tailed)	.033		.062	.619	.476	.476	.432	.052	.295	.343	.062	.244	.356	.119	.381	.799	.504	.593	.319	.022
	N	96	96	95	95	95	95	95	96	87	96	96	75	88	68	89	93	91	92	93	90
SE	Pearson Correlation	.243(*)	.193	1	.295(**)	.263(**)	-.154	.007	-.014	-.029	-.016	.243(*)	-.126	.129	.243(*)	.296(**)	.278(**)	.374(**)	.088	-.259(**)	.030
	Sig. (2-tailed)	.018	.062		.002	.005	.106	.940	.884	.776	.868	.010	.241	.193	.029	.002	.004	.000	.366	.006	.762
	N	95	95	111	111	111	111	110	111	99	111	111	88	103	81	105	108	106	107	109	106
MS	Pearson Correlation	.081	.052	.295(**)	1	.460(**)	.037	-.011	-.108	.066	-.064	.036	.059	.199(*)	.229(*)	.423(**)	.181	.325(**)	.043	-.222(*)	.053
	Sig. (2-tailed)	.438	.619	.002		.000	.701	.908	.256	.512	.501	.710	.581	.044	.038	.000	.059	.001	.658	.020	.584
	N	95	95	111	112	112	112	111	112	100	112	112	89	103	82	106	109	107	108	110	107
BS	Pearson Correlation	-.098	-.074	.263(**)	.460(**)	1	-.045	-.043	-.022	.050	.068	.150	.118	.222(*)	.252(*)	.259(**)	.078	.342(**)	.061	-.002	.114
	Sig. (2-tailed)	.343	.476	.005	.000		.639	.656	.821	.622	.476	.115	.270	.024	.023	.007	.422	.000	.532	.988	.241
	N	95	95	111	112	112	112	111	112	100	112	112	89	103	82	106	109	107	108	110	107

G	Pearson Correlation	.034	-.074	-.154	.037	-.045	1	.242(*)	-.079	-.105	-.233(*)	-.100	-.106	-.049	-.065	-.056	-.118	.088	-.187	.125	.072
	Sig. (2-tailed)	.740	.476	.106	.701	.639		.011	.407	.299	.014	.293	.324	.624	.560	.569	.220	.370	.053	.192	.460
	N	95	95	111	112	112	112	111	112	100	112	112	89	103	82	106	109	107	108	110	107
NZ	Pearson Correlation	-.070	-.081	.007	-.011	-.043	.242(*)	1	-.158	-.092	-.034	-.036	.189	.207(*)	.109	-.033	-.108	-.055	-.149	.066	.009
	Sig. (2-tailed)	.497	.432	.940	.908	.656	.011		.097	.366	.726	.708	.076	.037	.328	.741	.265	.576	.125	.495	.923
	N	95	95	110	111	111	111	112	112	99	112	112	89	102	82	105	108	106	107	109	106
S/P	Pearson Correlation	.045	.199	-.014	-.108	-.022	-.079	-.158	1	-.287(**)	.281(**)	.196(*)	.298(**)	-.077	-.304(**)	-.121	-.033	-.114	.146	.006	.193(*)
	Sig. (2-tailed)	.666	.052	.884	.256	.821	.407	.097		.004	.003	.038	.005	.438	.005	.216	.735	.243	.141	.948	.047
	N	96	96	111	112	112	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
IO/HR	Pearson Correlation	-.103	-.114	-.029	.066	.050	-.105	-.092	-.287(**)	1	-.164	-.142	-.111	-.017	.180	-.035	.095	.176	-.062	-.028	-.221(*)
	Sig. (2-tailed)	.341	.295	.776	.512	.622	.299	.366	.004		.103	.160	.332	.871	.127	.738	.351	.087	.542	.787	.030
	N	87	87	99	100	100	100	99	100	100	100	100	79	92	73	94	99	96	98	98	96
YE	Pearson Correlation	-.078	.098	-.016	-.064	.068	-.233(*)	-.034	.281(**)	-.164	1	.254(**)	.231(*)	.066	-.142	-.020	.023	-.044	.199(*)	.006	.095
	Sig. (2-tailed)	.450	.343	.868	.501	.476	.014	.726	.003	.103		.007	.030	.507	.239	.842	.814	.650	.039	.953	.330
	N	96	96	111	112	112	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
CE	Pearson Correlation	.107	.191	.243(*)	.036	.150	-.100	-.036	.196(*)	-.142	.254(**)	1	.320(**)	.182	.053	.092	.142	.069	.224(*)	-.070	.155
	Sig. (2-tailed)	.300	.062	.010	.710	.115	.293	.708	.038	.160	.007		.002	.066	.636	.348	.140	.479	.020	.466	.112
	N	96	96	111	112	112	112	112	114	100	114	114	89	103	82	106	109	107	108	110	107
TA	Pearson Correlation	-.235(*)	-.146	-.126	.059	.118	-.106	.189	.298(**)	-.111	.231(*)	.320(**)	1	.467(**)	-.112	.195	.004	.007	.141	-.033	.043

	Sig. (2-tailed)	.042	.244	.241	.581	.270	.324	.076	.005	.332	.030	.002		.000	.317	.075	.967	.952	.230	.764	.695
	N	75	75	88	89	89	89	89	89	79	89	89	89	81	82	84	87	84	86	87	85
DA	Pearson Correlation	-.153	-.100	.129	.199(*)	.222(*)	-.049	.207(*)	-.077	-.017	.066	.182	.467(**)	1	.661(**)	.074	.038	.080	-.077	-.094	-.031
	Sig. (2-tailed)	.155	.356	.193	.044	.024	.624	.037	.438	.871	.507	.066	.000		.000	.468	.706	.431	.447	.349	.760
	N	88	88	103	103	103	103	102	103	92	103	103	81	103	81	98	101	99	100	102	99
AD	Pearson Correlation	-.035	-.191	.243(*)	.229(*)	.252(*)	-.065	.109	-.304(**)	.180	-.142	.053	-.112	.661(**)	1	.114	.197	.150	-.177	.045	.019
	Sig. (2-tailed)	.780	.119	.029	.038	.023	.560	.328	.005	.127	.239	.636	.317	.000		.321	.077	.189	.115	.693	.871
	N	68	68	81	82	82	82	82	82	73	82	82	82	81	82	78	81	78	80	81	79
E	Pearson Correlation	.148	-.094	.296(**)	.423(**)	.259(**)	-.056	-.033	-.121	-.035	-.020	.092	.195	.074	.114	1	.233(*)	.359(**)	.093	-.141	.079
	Sig. (2-tailed)	.196	.381	.002	.000	.007	.569	.741	.216	.738	.842	.348	.075	.468	.321		.017	.000	.351	.184	.429
	N	89	89	105	106	106	106	105	106	94	106	106	84	98	78	106	104	102	102	104	103
O	Pearson Correlation	.153	.027	.278(**)	.181	.078	-.118	-.108	-.033	.095	.023	.142	.004	.038	.197	.233(*)	1	.237(*)	.182	-.103	.078
	Sig. (2-tailed)	.143	.799	.004	.059	.422	.220	.265	.735	.351	.814	.140	.967	.706	.077	.017		.015	.062	.291	.428
	N	93	93	108	109	109	109	108	109	99	109	109	87	101	81	104	109	105	106	107	106
A	Pearson Correlation	.102	.071	.374(**)	.325(**)	.342(**)	.088	-.055	-.114	.176	-.044	.069	.007	.080	.150	.359(**)	.237(*)	1	-.019	-.097	.097
	Sig. (2-tailed)	.336	.504	.000	.001	.000	.370	.576	.243	.087	.650	.479	.952	.431	.189	.000	.015		.852	.324	.331
	N	91	91	106	107	107	107	106	107	96	107	107	84	99	78	102	105	107	104	105	103
ES	Pearson Correlation	.011	.057	.088	.043	.061	-.187	-.149	.146	-.062	.199(*)	.224(*)	.141	-.077	-.177	.093	.182	-.019	1	.110	.308(**)
	Sig. (2-tailed)	.914	.593	.366	.658	.532	.053	.125	.141	.542	.039	.020	.230	.447	.115	.351	.062	.852		.261	.001
	N	92	92	107	108	108	108	107	108	98	108	108	86	100	80	102	106	104	108	106	104

C	Pearson Correlation	-.063	.105	-.259(**)	-.222(*)	-.002	.125	.066	.006	-.028	.006	-.070	-.033	-.094	.045	-.141	-.103	-.097	.110	1	.349(**)
	Sig. (2-tailed)	.550	.319	.006	.020	.988	.192	.495	.948	.787	.953	.466	.764	.349	.693	.184	.291	.324	.261		.000
	N	93	93	109	110	110	110	109	110	98	110	110	87	102	81	104	107	105	106	110	105
SD	Pearson Correlation	.004	.242(*)	.030	.053	.114	.072	.009	.193(*)	-.221(*)	.095	.155	.043	-.031	.019	.079	.078	.097	.308(**)	.349(**)	1
	Sig. (2-tailed)	.969	.022	.762	.584	.241	.460	.923	.047	.030	.330	.112	.695	.760	.871	.429	.428	.331	.001	.000	
	N	90	90	106	107	107	107	106	107	96	107	107	85	99	79	103	106	103	104	105	107

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

Key for Correlation Matrix Abbreviations

Criterion variables		**Predictor variables-"Bio Data"**		**Predictor variables-Personality**	
AO	Awareness of others	G	Gender	E	Extraversion
AS	Awareness of Self	NZ	From inside or outside NZ	O	Openness to Experience
CA	Meta Cognition	S/P	Student or professional	A	Agreeableness
BK	Bi-Cultural Knowledge	YE	Years experience	ES	Emotional Stability
CK	Cognition	CE	Cultural Experience	C	Conscientiousness
SA	Automaticity	TA	Number of Times abroad		
ER	Effort required	DA	Total Duration of time abroad		
SE	Effectiveness	AD	Average duration		
MS	Motivational CQ				
BS	Behavioural CQ				

Appendix N: Model Summary for "Cultural Awareness"

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.378(a)	.143	.093	2.49401	.143	2.871	5	86	.019

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	7.669	2.888		2.656	.009		
	Total of Duration Abroad in Months	.023	.014	.170	1.690	.095	.984	1.016
	Extraversion	.006	.044	.016	.147	.883	.861	1.161
	Agreeableness	.181	.069	.277	2.616	.011	.890	1.123
	Conscientiousness	-.007	.055	-.014	-.141	.896	.839	1.191
	Social Desirability	.082	.066	.144	1.253	.214	.872	1.146

Appendix O: Model Summary "Cultural Knowledge"

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.494(a)	.244	.200	4.22425	.244	5.559	5	86	.000

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	9.362	4.891		1.914	.059		
	Duration of Time Abroad	.064	.023	.267	2.820	.006	.984	1.016
	Extraversion	.066	.074	.091	.897	.372	.861	1.161
	Agreeableness	.275	.117	.233	2.346	.021	.890	1.123
	Conscientiousness	-.205	.093	-.225	-2.203	.030	.839	1.191
	Social Desirability	.119	.111	.107	1.068	.288	.872	1.146

Appendix P: Model Summary for "Behavioural Skill"

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.377(a)	.142	.092	3.44405	.142	2.852	5	86	.020

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	6.414	3.988		1.608	.111		
	Duration of Time Abroad	.028	.018	.150	1.493	.149	.984	1.016
	Extraversion	.097	.060	.172	1.600	.114	.861	1.161
	Agreeableness	.195	.096	.216	2.041	.044	.890	1.123
	Conscientiousness	.047	.076	.068	.626	.533	.839	1.191
	Social Desirability	.066	.091	.078	.731	.467	.872	1.146

Appendix Q: Model Summary for "Motivational Skill"

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.474(a)	.225	.180	2.64973	.225	4.997	5	86	.000

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	14.157	3.068		4.288	.000		
	Duration of Time Abroad	.018	.014	.123	1.288	.201	.984	1.016
	Extraversion	.145	.046	.298	2.917	.005	.861	1.161
	Agreeableness	.124	.074	.169	1.682	.096	.890	1.123
	Conscientiousness	-.084	.058	-.150	-1.443	.153	.839	1.191
	Social Desirability	.030	.070	.044	.433	.666	.872	1.146

Appendix R: Model Summary "Skill Effectiveness"

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
	R Square Change	F Change	df1	df2	Sig. F Change	R Square Change	F Change	df1	df2
1	.428(a)	.183	.145	1.76521	.183	3.847	5	86	.003

Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	7.241	2.044		3.543	.001		
	Duration of Time Abroad	.007	.009	.072	.729	.468	.984	1.016
	Extraversion	.054	.031	.183	1.738	.086	.861	1.161
	Agreeableness	.086	.049	.182	1.757	.083	.890	1.123
	Conscientiousness	-.083	.039	-.227	-2.140	.036	.839	1.191
	Social Desirability	.057	.047	.128	1.228	.223	.872	1.146