



**Locus of Control & Subjective Well-Being – A Cross Cultural Study**

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I certify that, except as noted, above the thesis is my own work and all references used are accurately reported in footnotes.

Signed:

Alexandra Stocks

# **LOCUS OF CONTROL & SUBJECTIVE WELL-BEING – A CROSS CULTURAL STUDY**

## **ABSTRACT**

These analyses explore the differences in Locus of Control and Subjective Well-Being in China and Southern Africa, including how these variables relate to each other in each region and how demographic variables relate to both Subjective Well-Being and Locus of Control. The hypothesis that Southern Africa and China would yield different Locus of Control and Subjective Well-Being profiles was supported, with different demographic variables affecting each region differently. Furthermore, Locus of Control and Subjective Well-Being were differently correlated to one another. Findings indicate that gender has a significant relationship with Locus of Control in Southern Africa but not in China; whereas China has a strong link between Subjective Well-Being and gender.

**KEYWORDS:** Locus of Control, Subjective Well-Being, Collectivism,  
Individualism, Gender

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# 1 INTRODUCTION

## 1.1 Research Area and Problem

Many authors have noted that the days of “one size fits all” management theories are over (e.g. Spector et al., 2002; Theimann, April & Blass, 2006; Peng, Peterson, & Shyi, 1991; Trompenaars & Hampden-Turner, 1998). Given ever-increasing globalisation, the need for cross-cultural and cross-national management research is more important than ever, as we can no longer assume that American-developed concepts and theory are globally applicable (Spector et al., 2002; April & April, 2007).

Two main perspectives exist regarding how globalisation affects cultural values. The convergence perspective suggests that economic ideology will drive cultural values and thus a company exposed to Western thinking will start to behave in a Western manner (Ralston, Gustafson, Cheung & Terpstra 1993). This means that common values with regard to economic activity and work-related behaviour will develop amongst developed nations (Theimann, April & Blass, 2006).

The second perspective is known as divergence, which indicates that culture is the primary driver of values in any society and thus not economic ideology (Theimann, April & Blass, 2006).

There is also a third perspective: a hybrid of the above views has been proposed whereby a melding of values may occur when different cultures interact (Ward, Pearson, Entekin, & Winzar 1999; Ralston, Gustafson, Cheung & Terpstra 1993). This perspective is known as crossvergence and it recognises the importance of both economic tenets and cultural integrity (Theimann, April & Blass, 2006).

The researcher will be focusing on two areas with regards to this cross-cultural comparison: Locus of Control and Subjective Well-Being.

Locus of Control refers to the degree to which an individual believes him or herself to have control over the outcomes in his or her life (Lefcourt, 1976). It has been extensively studied in a Western context, and it has been noted to have a profound effect on people's abilities to deal with general stress (Kobasa, Maddi & Kahn, 1982), as well as stress in the workplace (Spector, 1982). However, comparatively little research has been completed in an Eastern context.

Subjective Well-Being is often used synonymously with happiness (Diener, 2000) and refers to how people evaluate their lives with respect to general satisfaction with life and marriage, to depression and anxiety or lack thereof, and to positive moods and emotions (Diener, Suh & Oishi, 1997). It is of increasing interest in a business context (Diener, Suh & Oishi, 1997), with researchers noting the profound relationship between happiness and economics (e.g., Oswald & Gardner, 2007; Frey & Stutzer, 2001).

This study is highly significant to business practitioners as Locus of Control has played an important role in the development of organisational behaviour theory (Ganster & Fusilier, 1989) but studies have occurred almost exclusively in a Western, First World context (Spector et al., 2002) and thus this study aims to determine whether these theories are valid in an Eastern and emerging market context.

The study is also of significance to academics in that it offers further evidence to the nature and contexts of Subjective Well-Being (Diener, Suh & Oishi, 1997). In recent years Subjective Well-Being has increased in significance in the academic arena as evidenced by the increasing number of publications arising from the study of positive psychology.

This research examines the differences between Southern Africa and East Asia, specifically China, in terms of Locus of Control and Subjective Well-Being.

## **1.2 Research Questions and Scope**

### **1.2.1 Primary Objective**

Positive psychology<sup>1</sup> research has been concentrated almost exclusively in the Western world (Snyder & Lopez, 2002). In White's (2007) map of global subjective happiness, the countries in which the most research had occurred also exhibited the highest levels of Subjective Well-Being (White, 2007). It also showed that China had higher levels of Subjective Well-Being than Southern Africa (White, 2007). The researcher aims to discover whether these findings are replicable for the sub-populations under study and to determine whether any demographic factors have a relationship with Subjective Well-Being.

China exhibits primarily external Locus of Control behaviour (Spector et al., 2002) whereas Southern Africa exhibits both internal and external Loci of Control (Jackson, 2002). As the researcher is concentrating on highly educated business professionals, the question arises whether that segment of Southern Africa or China will exhibit Loci of Control that differ from the norm. The researcher also aims to discover whether any demographic factors have a relationship with Locus of Control in either population.

Thus the researcher's primary objective is:

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<sup>1</sup> Positive psychology is the study of "positive subjective experience", "positive personal traits", "civic virtue" and "better citizenship" (Snyder & Lopez, 2002, p.3)

- To compare and contrast the levels of Locus of Control and Subjective Well-Being in each country for the specified population segment and to determine whether these levels differ in China as compared to Southern Africa; whether these levels differ compared to the expected national norms; and to discover what demographic factors relate to each variable in each population.

### 1.2.2 Secondary Objectives

Pervin (1999) noted that there is reason to expect that cultural and cross-national heterogeneity will result in differences in the way the Locus of Control relates to Well-Being. It has been found that Western cultures that are more individualistic<sup>2</sup> tend to exhibit a more internal Locus of Control than collectivist<sup>3</sup>, Eastern cultures (Weisz, Rothbaum & Blackburn, 1984).

China is a collectivist nation (Hamid, 1994; Hui, 1982) and thus is expected to exhibit a more external Locus of Control. On the other hand, Southern Africa exhibits both internal and external Loci of Control (Jackson, 2002), as well as showing both individualist and collectivist behaviours (Theimann, April & Blass, 2006).

Given the differences between the two countries, the researcher's secondary objective for this study is to determine whether there is a difference in the relationship between Locus of Control and Subjective Well-Being in China compared to Southern Africa.

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<sup>2</sup> Individualism refers to the tendency for people to consider themselves as independent entities, motivated by personal goals and desires (Triandis, 1995).

<sup>3</sup> Collectivism refers to the tendency for individuals to consider themselves parts of a whole social entity, motivated by group goals and needs (Triandis, 1995).

### 1.2.3 Design, Scope & Limitations

This research takes a cross-sectional, comparative design. Cross-sectional research design involves the “collection of data on more than one case and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables which are then examined to detect patterns of association” (Bryman & Bell, 2007, p.55). Comparative design “entails the study using more or less identical methods of two or more contrasting cases. It embodies the logic of comparison in that it implies that we can understand social phenomena better when they are compared in relation to two or more meaningfully contrasting cases or situations” (Bryman & Bell, 2007, p.66). Furthermore, this comparative design is cross-cultural in nature, in other words data collection and analysis occurs from two or more nations, in this case China and Southern Africa.

The research strategy is quantitative and takes the form of a social survey in which China and Southern Africa will be directly compared on Locus of Control, Subjective Well-Being and demographic variables and analysed using statistical means.

The scope has been limited to include primarily educated, professional persons including but not limited to those with Master of Business Administration (MBA) degrees and those who are in the process of acquiring them. The implications are that the results of the study will not be generalisable to the entire populations of either China or Southern Africa, but only to this specific sub-population. As this is a business school thesis, the researcher feels that this is an acceptable limitation as it is primarily business people under study.

The researcher has also limited the study in terms of cultural and geographic spread in order to gain meaningful data; specifically, only nationals from China and Southern African countries have been analysed. This excludes the experiences of foreign nationals now living

in each region; however, the researcher believes that these results would skew local data and that the effects of immigration on Locus of Control and Subjective Well-Being is a separate research topic.

The researcher has approached this study primarily from a psychological and sociological perspective, but has also drawn several conclusions based on management studies.

### **1.3 Research Assumptions and Ethics**

#### **1.3.1 Assumptions**

For the purposes of this research, the following assumptions will be made:

- That a relationship exists between Locus of Control and Well-Being (Spector et al., 2002)
- That China will generally exhibit more of an external Locus of Control (Hamid, 1994; Hui, 1982).
- That China will exhibit collectivism (Yama, Nishioka, Horishita, Kawasaki & Taniguchi, 2007).
- That Southern Africa exhibits both internal and external Loci of Control (Jackson, 2002).
- That Southern Africa exhibits both individualist and collectivist tendencies (Theimann, April & Blass, 2006).

Despite entering the study with the above assumptions, the researcher will still test each assumption to determine whether they are true for the populations under study. Any

assumption that is not true for the researcher's populations is listed as a significant finding for this study.

The researcher also assumes that the research will be generalisable to the population groups under study, namely an educated population of professionals in either Southern Africa or China. As the group under study is only a segment of the general population of each region, the results cannot be generalised to the nations as wholes.

### **1.3.2 Research Ethics**

- The researcher guarantees the highest possible level of confidentiality of the questionnaire results. Thus all data has been stored on password-protected devices (laptop, flash drive, or GSB server), which remained either at the GSB, or stored at the researcher's home, or on the researcher's person. No personal information has been or will be discussed in either the research itself, or externally with third parties, that could identify any participant.
- The researcher guarantees anonymity to all participants in the survey, and thus no personal information has been or will be discussed in either the research itself, or externally with third parties, that could identify any participant. Furthermore, no personal identifying information was requested in the online questionnaire.
- The researcher gained permission from all participants in the study via opt-in consent for the survey. A full explanation of the purpose of the study as well as disclosure of the details of the project was given to all participants.
- In addition, "Ethical Clearance" has been obtained from the Graduate School of Business.

## 2 LITERATURE REVIEW

### 2.1 LOCUS OF CONTROL

#### 2.1.1 Introduction

A person's perceived control can be defined as the capacity he or she has to influence and predict some aspect of the environment (Perry, 1991; Stupnisky, Renaud, Perry, Ruthig, Haynes & Clifton, 2007). Rotter (1966) was among the first to examine perceived control, wherein he applied the "empirical law of effect", which posits that an individual is inherently motivated to seek positive reinforcement and to avoid negative stimulation, to create the Locus of Control construct.

Thus any reinforcement a person experiences strengthens the expectancy that "a particular behaviour, or event, will be followed by that reinforcement in the future" (Rotter, 1966, p.2). This generalisation of expectancies establishes a person's Locus of Control (Rotter, Seeman & Liverant, 1962). Behavioural reinforcement is subjective with similar experiences yielding vastly variable levels of desirability depending on a person's life experience (Rotter, 1966).

Locus of Control is a generalised expectancy (Rotter, 1966) resulting from the generalisation of a lifetime of experiences (Bandura, 1977); the other type of expectancy noted is a situation-specific expectancy that has been determined by experience of an individual in a narrowly defined set of circumstances (Lefcourt, 1976).

Rotter (1990) further states that "internal versus external control refers to the degree to which persons expect that a reinforcement or an outcome of their behaviour is contingent on their own behaviour or personal characteristics versus the degree to which persons expect that the

reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable” (p.489).

In other words, Locus of Control refers to the extent to which individuals feel that they have control over their lives and their environments (Lefcourt, 1976).

### **2.1.2 Rotter’s Internal-External Scale**

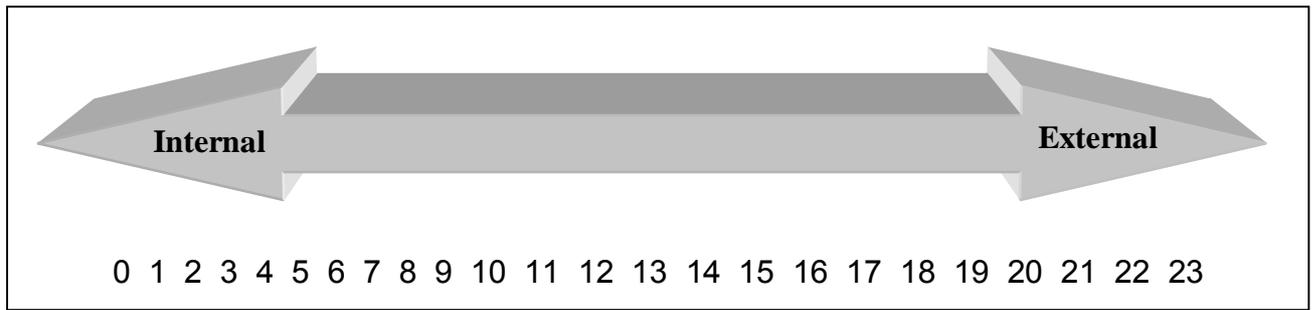
Rotter’s (1966) internal-external scale tests Locus of Control expectancy using 29 questions (Appendix 1). Of these, six are filler questions<sup>4</sup> that do not test Locus of Control, and that are designed to disguise the purpose of the test (Lefcourt, 1976).

Each question gives the participant two options from which to choose, one representing an attitude typical of internal Locus of Control, and the other representing an attitude typical of external Locus of Control. The choices are extremes of each other, and participants are required to choose the option most closely aligned with their preferences (Klein & Wasserstein-Warnet, 2000), or in which they more strongly believe (Lefcourt, 1976). Points are given for external answers only (one point per answer), thus a higher score indicates a more external Locus of Control and a lower score indicates a more internal Locus of Control (Rotter, 1966).

The scale classifies people on a continuum from very internal to very external (Rotter, 1966), represented by Figure 1 below.

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<sup>4</sup> Questions 1, 8, 14, 19, 24 and 27



**Figure 1: Rotter's (1966) Internal-External Locus of Control Scores (Rotter, 1966)**

The internal-external scale is not without criticism; Adeyemi-Bello (2001) claims that 23 items are too many to adequately measure a single construct and that a forced choice does not cater to participants who don't feel particular affinity to either option. Several variations of the test exist, including the 16-item Work Locus of Control test (Spector, 1988) concerned with the work domain, and the 11-item abbreviated Locus of Control Test (Andrisani & Nestel, 1976) which allows participants to rate their level of acceptance of a statement on a four-point scale.

Regardless, use of the original Rotter scale persists as a valid measure even as the study of Locus of Control persists (Rotter, 1990, Lee-Kelley, 2006).

### **2.1.3 Internality**

Individuals with a high internal Locus of Control believe that their own behaviour results in the outcomes of events (Rotter, 1966) and that their successes or failures are as a result of their own efforts (Rotter, 2004). Internals consider themselves active agents who are confident in their abilities to deal with their environments (Boone, Van Olffen & Van Witteloostuijn, 2005). They accept responsibility for the consequences of their actions, and see themselves as the masters of their destinies (Theimann, April & Blass, 2006).

Western researchers have tended to show positive bias towards internality, linking it with academic success (Gifford, Briceño-Perriott & Mianzo, 2006), higher self motivation and social maturity (Nelson & Mathias, 1995), lower incidence of stress and depression (Garber & Seligman, 1980), and even longer life span (Chipperfield, 1993).

Goldsmith (2008) further notes that successful people have an internal Locus of Control, believing themselves to have the ability and motivation to complete any task, and that ability and motivation are the determinants of success.

#### **2.1.4 Externality**

Individuals with a high external Locus of Control believe that factors beyond their control determine the outcomes of events (Rotter, 1996). Externals believe that luck, coincidence, powerful others or unpredictability are the drivers of events (Rotter, 1990) and attribute both their successes and their failures to these factors (Klein & Wasserstein-Warnet, 2000), believing that their efforts have little impact on the outcomes (Rotter, 2004).

External Locus of Control is generally considered to be undesirable in Western literature (Theimann, April & Blass, 2006), with Lefcourt (1982, p.182) noting that externality is often seen as being a “failure, dull, and inadequate”.

“As our experience becomes repetitive in a given situation, our expectancy becomes stabilized and a new occurrence has less effect in changing our behaviour” (Rotter, 1954, p.176). This has profound impacts for externals, especially those with beliefs in powerful others. Gurin, Gurin and Morrison (1978) argued that many minority groups with external loci of control were accurately interpreting the difficult and oppressive environments in which they lived, and in which they had little or no control.

### **2.1.5 Bi-Locality & Bi-Culturalism**

A third way of looking at Locus of Control is through bi-locality or biculturalism. Bi-locality is described as dual control or shared responsibility, wherein control is moderated by both internal and external factors (Theimann, April & Blass, 2006). By extension, bi-locals are individuals who find a balance between their beliefs in personal control and their acceptance of external factors (Theimann, April & Blass, 2006).

Research conducted by Wong and Sproule (1984) posited that people's existential reality defines their externality, and that their idealism explains their internality. Wong and Sproule (1984) further suggested that the balance between a bi-local's internal control and their dependence on certain external realities makes them more able to cope in a multicultural society. They suggest that an optimum mix of personal responsibility (internality) and faith in outside resources (externality) puts bi-locals in a better position to cope with life's vagaries (Wong & Sproule, 1984). This is an uncommon view in the literature, with the vast majority of studies citing internality as a predicator of success.

This balance is also referred to as bi-culturalism, which is the "impact of cultural acquisition and the creative tension between maintaining a balance between internal and external control" (Theimann, April & Blass, 2006, p.45; Valentine, 1971; LaFromboise, Coleman & Gerton, 1993).

### **2.1.6 Locus of Control & Gender**

Very little evidence is available in the literature to suggest a link between Locus of Control and gender, although women have historically played a role more consistent with secondary control (Reed, Kratchman & Strawser, 1994), which would suggest that women have a more

external Locus of Control. This historical role arose because men have traditionally had more control over resources and thus more power through the use of religion (Ruether, 1981), law (Kessler-Harris, 1982) and social convention (Keohane, 1981).

Brown (1983) discovered that women with more traditional feminine roles tended to be more externally orientated than women in non-traditional roles; however, there has been little evidence since to suggest any clear linkages between gender and Locus of Control.

## **2.2 WELL-BEING**

### **2.2.1 Introduction**

The online Collins Dictionary defines Well-Being as “the condition of being contented, healthy or successful” (Well-Being Definition, 2009, p.1). This covers a wide range of potential avenues for exploration; thus for the purposes of this research paper, the researcher will focus on Subjective Well-Being.

Subjective Well-Being is often used synonymously with happiness (Diener, Suh, Lucas & Smith, 2000) and refers to how people evaluate their lives with respect to general satisfaction with life and marriage, to depression and anxiety or lack thereof, and to positive moods and emotions (Diener, Suh & Oishi, 1997). Subjective Well-Being is distinct from short-lived joyous emotional episodes and refers instead to long-term underlying happiness (White, 2007). Subjective Well-Being falls within the province of Positive Psychology, which is defined as the study of “positive subjective experience”, “positive personal traits”, “civic virtue” and “better citizenship” (Snyder & Lopez, 2002, p.3).

A person with a high level of Subjective Well-Being “experiences life satisfaction and frequent joy, and only infrequently experiences unpleasant emotions such as sadness and anger” (Diener, Suh & Oishi, 1997, p.25); on the other hand, a person with low Subjective Well-Being is generally “dissatisfied with life, experiences little joy and affection, and frequently feels negative emotions such as anger or anxiety” (Diener, Suh & Oishi, 1997, p.25). Thus Subjective Well-Being can be seen as “the product of an overall appraisal of life that balances the good and the bad” (Eid & Larson, 2008, p.46).

### 2.2.2 Components & Characteristics of Subjective Well-Being

Diener (1984) proposed three components of Subjective Well-Being:

- Life satisfaction – including satisfaction with recreation, love, marriage, and friendship.
- Positive Affect – encompassing emotions such as joy, affection and pride.
- Negative Affect – encompassing emotions such as guilt, shame, anxiety, depression and anger.

These components, along with domain satisfactions<sup>5</sup> (Diener & Suh, 1999), are structured such that “the components form a global factor of interrelated variables” (Diener, Suh & Oishi, 1997, p.26). The result of this structuring is that Subjective Well-Being can be studied on a global level, or at narrower levels depending on one’s purpose (Diener, Suh & Oishi, 1997). The researcher will be examining Subjective Well-Being at the global level.

Diener (1984) identified three fundamental characteristics involved in the study of Subjective Well-Being. First, Subjective Well-Being is a function of both positive and negative experiences, focusing both on undesirable states such as depression, and on the positive

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<sup>5</sup> Includes satisfactions with such domains as health and finance (Eid & Larson, 2008)

factors that differentiate marginally happy people from moderately or exceedingly happy people (Diener, 1984).

Secondly, Subjective Well-Being is framed in the context of the respondent, with no external framework being imposed (Diener, 1984). Thus it is the individual's perspective that determines his or her level of Subjective Well-Being. This ultimate authority of the respondent is not without problems, as a person may be subjectively happy while still suffering from a mental disorder (Diener, Suh & Oishi, 1997).

The third and final characteristic of the study of Subjective Well-Being is that it is focused on a long-term assessment of happiness, rather than on a mood of the moment (Diener, 1984). This is because what causes happiness at any given time might be different to factors that cause long-term satisfaction (Diener, Suh & Oishi, 1997). Thus the study of Subjective Well-Being attempts to separate momentary emotions from enduring Well-Being (Diener, Suh & Oishi, 1997).

### **2.2.3 Subjective Well-Being & Locus of Control**

As previously noted, internal Locus of Control has been linked with academic success (Gifford, Briceño-Perriott & Mianzo, 2006), higher self-motivation and social maturity (Nelson & Mathias, 1995), lower incidence of stress and depression (Garber & Seligman, 1980), and longer life span (Chipperfield, 1993). Psychological and physical well-being has also been shown to be moderated by perceived control (Brandstadter & Renner, 1990).

One of the main effects of Locus of Control on Subjective Well-Being lies in how it affects coping strategies (Brandstadter & Baltes-Gotz, 1990). External Locus of Control is correlated with higher levels of stress (Garber & Seligman, 1980), and Grob (2000) notes that stress is often caused because an individual perceives the situation as beyond his or her

coping abilities; with ongoing stress having a negative effect on Subjective Well-Being. An internal who believes that the situation is within his or her control may find the same situation stimulating (Owusu-Ansah, 2008).

Kulshrestha and Sen (2006) have noted significant negative correlation between Locus of Control and Subjective Well-Being, which is to say that individuals with an external Locus of Control are significantly less happy than their internal counterparts. It is noted that internals actively manipulate their environments (Fradford & Govier, 1991), thus acting to take control of events and to change dissatisfactory conditions (Kulshrestha & Sen, 2006). In contrast externals feel powerless to control their successes or failures (Nielsen, 1987) and thus are unable to remove themselves from dissatisfactory situations (Kulshrestha & Sen, 2006).

#### **2.2.4 Subjective Well-Being & Gender**

Gender research has determined that men and women have different levels of Subjective Well-Being and the literature generally supports the view that men will show higher levels of Subjective Well-Being than women (Tesch-Romer, Motel-Klingebiel, Tomasik, 2008). However, results are often ambiguous with similar studies producing different results (Tesch-Romer, Motel-Klingebiel, Tomasik, 2008).

Women typically present higher levels of negative emotion than men (Costa, Terracciano & McCrae, 2001, Hansson, Hillerås & Forsell, 2005); however studies on positive affect have widely different results in which women's general life satisfaction is higher than men's (Fujita, Diener & Sandvik, 1991), no different to men's (Okun & George, 1994), or showing varying differences at different life stages (Shmotkin, 1990). Women also report lower levels of well-being related to health (Baltes, Freund & Horgas, 1999) and higher incidences of mental illness (Russo & Green, 1993).

Factors accounting for these gender differences tend to try to explain why women are less happy than men (Tesch-Romer, Motel-Klingebiel, Tomasik, 2008). Biological factors have been presented as a possible factor, specifically oestrogen and progesterone production which has been linked to women's greater vulnerability to depression and anxiety (Lippa, 2005), but there is little empirical evidence to suggest that this is a major cause of lowered Subjective Well-Being in women (Nydegger, 2004).

Factors arising from differing living conditions between genders have also been suggested (Tesch-Romer, Motel-Klingebiel, Tomasik, 2008). In this case, gender inequality, including access to resources, power structures, and available opportunities, could account for gender differences, with women being less happy when faced with limited access to these facets (Tesch-Romer, Motel-Klingebiel, Tomasik, 2008).

### **2.2.5 Satisfaction with Life Scale**

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) is a widely-used tool "designed to assess an individual's overall level of life satisfaction" (Eid & Larsen, 2008, p.128). The SWLS measures global subjective well-being (Park, Peterson & Ruch, 2009), which means that it looks at individuals' opinions of their happiness over long time periods based on their memories of those periods (Diener, Suh & Oishi, 1997). This is in contrast to an online Subjective Well-Being measure, which determines how happy an individual feels at the moment of testing (Diener, Suh & Oishi, 1997).

The SWLS is a self-report survey<sup>6</sup> consisting of five statements that a respondent must rate on a seven-point Likert scale, wherein 1 corresponds to "Strongly Disagree" and 7 to

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<sup>6</sup> A self report survey is a psychological test one where a participant completes a survey or questionnaire without assistance or prompting from a mental health professional (Aiken, 2002).

“Strongly Agree.” Results are then summed to give a total satisfaction score. The SWLS can be found in Appendix 2.

The measure is moderately to highly reliable over time (Magnus, Diener, Fujita & Pavot, 1993) and has “a large network of sensible correlates” (Park, Peterson & Ruch, 2009). Sandvik, Diener and Seidlitz (1993) also note that Subjective Well-Being self-reports usually correlate with one another, and show convergence with Subjective Well-Being scores measured by other methods. Diener, Suh and Oishi (1997) note that the self-report design is appropriate for measuring Subjective Well-Being as only the respondent can gauge how satisfied he or she is with his or her life, based on internal experiences.

One problem reported with measuring happiness is that momentary moods can affect a participant’s response to a Subjective Well-Being measure (Schwartz & Stack, 1999), but researchers such as Eid and Diener (1999) have shown that this effect is minimal compared to long-term affects.

## **2.3 EASTERN VS. WESTERN THINKING**

### **2.3.1 Introduction**

Hofstede (2007, p.413) defines culture as “the collective programming of the mind, which distinguishes the member of one human group from another.” Thus is it not surprising that significant differences exist between Eastern thinking and Western thinking.

Chinese people tend to use holistic thought when problem-solving, whereas Westerners tend towards analytic thought (Nisbett, Peng, Choi & Norenzayan, 2001). It has been shown that Westerners tend to pay attention to an object whereas Chinese pay more attention to the whole or field (Masuda and Nisbett 2001; Park, Nisbett & Hedden, 1999). In other words,

Westerners focus on items separate from the contexts in which they occur, whereas Chinese focus on the situation meaning of the object (Yama, Nishioka, Horishita, Kawasaki & Taniguchi, 2007). The result of this thinking is that Westerners attribute causality to an object, and Chinese attribute causality to a situation (Yama, Nishioka, Horishita, Kawasaki & Taniguchi, 2007).

### **2.3.2 Individualism & Collectivism**

The difference between individualist and collectivist cultures is a hypothetical concept proposed to explain the observation that people from the Eastern hemisphere (notable Confucian Asians<sup>7</sup>) are more likely to prefer sociability and interdependence, require stronger discrimination between in-group and out-group, and have stronger encouragement to infer another's needs than their Western counterparts (Yama, Nishioka, Horishita, Kawasaki & Taniguchi, 2007).

Markus and Kitayama (1991) also connected this distinction, postulating that Westerners have an independent self, whereas Easterners have an interdependent self – the fundamental difference being in how people view themselves. They further state that Westerners are more likely to view themselves as individuals – egocentric and separate from society in general, whereas Easterners tend to view themselves as part of a collective, as sociocentric, and as related to others or society (Markus & Kitayama, 1991).

Triandis (1995) defines individualism as a social pattern that consists of loosely linked individuals that consider themselves independent of collectives. They are motivated by their own preferences, needs, rights, and the contracts they have established with others, giving

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<sup>7</sup> Such as those living in China, Japan, Korea and Taiwan

priority to their own goals over the goals of others, and they emphasise rational analysis of the advantages and disadvantages of associating with others.

By contrast, collectivism is a social pattern that consists of closely linked individuals that consider themselves part of one or more collectives, and who are motivated by the norms and duties of those collectives (Triandis, 1995). Collectivists often give priority to the goals of these collectives over their own personal goals, and they emphasise their connectedness to other members of these groups (Yama, Nishioka, Horishita, Kawasaki & Taniguchi, 2007).

Kagitcibasi (1994) notes that collectivism expresses the need for relatedness, whereas individualism expresses the need for self-sufficiency. Relatedness is defined as being “associated or connected” and also as being “allied by nature, origin, kinship, or marriage” (Relatedness Definition, 2009, p.1); and self-sufficiency is the ability to “to supply one’s own or its own needs without external assistance” (Self-Sufficiency Definition, 2009, p.1).

### 2.3.3 Individualism, Collectivism & Locus of Control

Perceived control<sup>8</sup> is expressed differently in collectivist cultures compared to individualist cultures, showing either primary or secondary control. Primary control refers to when an individual attempts to control his or her environment through direct intervention, whereas secondary control occurs when an individual experiences feelings of control through alignment with a more powerful individual or party, or through mediation of his or her emotional response (Weisz, Rothbaum & Blackburn 1984). Primary control is likened to internal Locus of Control and secondary control is likened to external Locus of Control (Spector et al., 2002)

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<sup>8</sup> The capacity an individual has to influence and predict some aspect of the environment (Perry, 1991; Perry *et al.*, 2005, as cited in Stupnisky, Renaud, Perry, Ruthig, Haynes & Clifton, 2007).

Spector et al (2002) note that collectivists develop secondary control because they have been socialised to subordinate personal control, rather than the primary control exhibited by individualist cultures. Moreover, collectivists do not find this secondary control distressing, given their expectation that their direct personal control will be limited.

It is further observed that behaviour driven by stable dispositions has its roots in individualism, whereas collectivist societal behaviour tends to be more context-specific and driven by the environment (Markus and Kitayama, 1998).

### **2.3.4 Individualism, Collectivism & Subjective Well-Being**

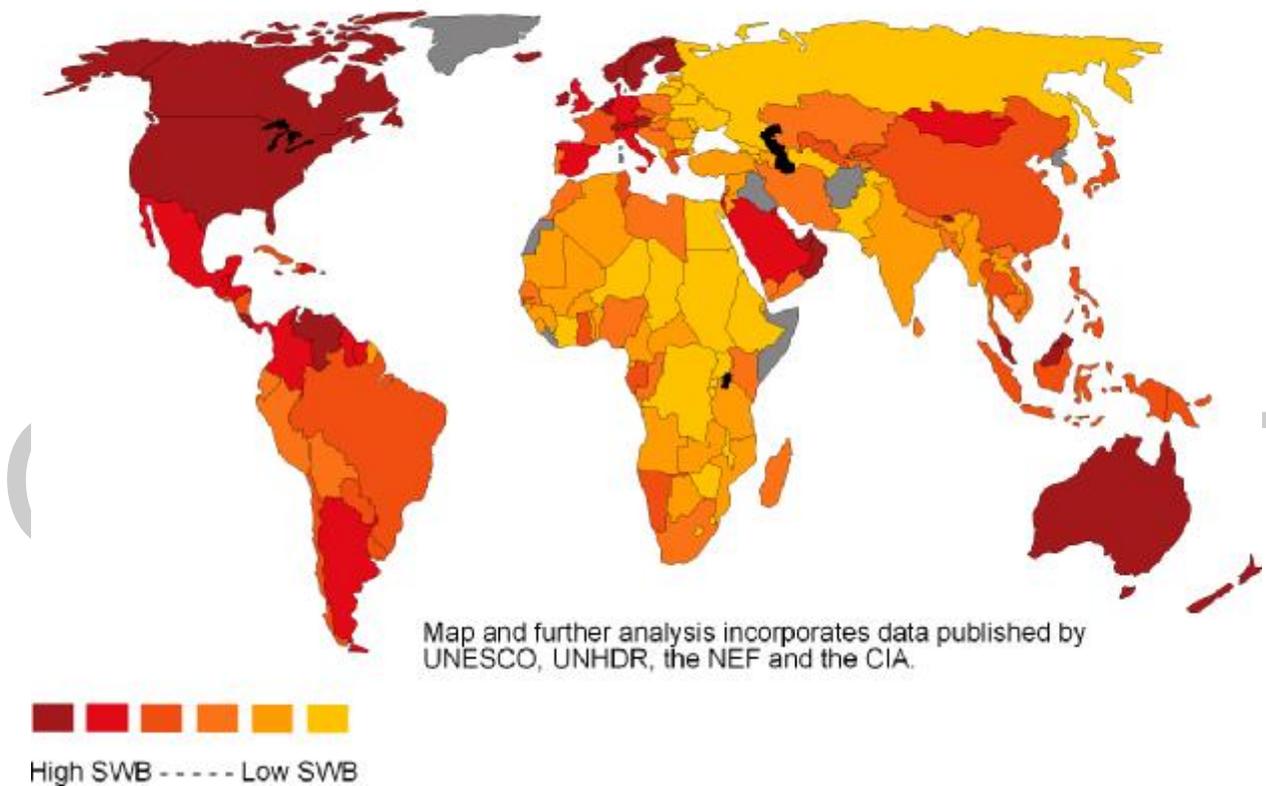
Diener, Diener and Diener (1995) have found that wealthier countries that emphasise individualism and have a greater focus on freedoms and human rights tend to have citizens with higher Subjective Well-Being. However, Diener and Suh (1999) note that these countries also have very high rates of divorce and suicide.

Diener, Suh and Oishi (1997) suggest that individualist cultures are able to pursue their desires and thus gaining self-fulfilment, but that they may also lack the cohesive social support structures present in collectivist cultures, thus amplifying the effects of troubled times. They suggest that the safety of the social structure in collectivist cultures may mean that the extremes of Subjective Well-Being and happiness (or unhappiness) that is seen in individualist cultures are mitigated.

An interesting difference between individualist and collectivist cultures is the way in which each determines their life satisfaction. In a study conducted on college students, individualists made judgements on their happiness based on recent emotions, whereas collectivists based their decisions on both their emotions and the perceived cultural values of satisfaction (Suh, Diener, Oishi, & Triandis, 1997).

White (2007) produced a global map of relative levels of subjective happiness (see Figure 2). It is immediately obvious that levels of poverty affect Subjective Well-Being, with strong correlations found between health, wealth and access to education (White, 2007). For the purposes of this research, the researcher notes that China has higher levels of Subjective Well-Being than South Africa.

**A Global Projection of Subjective Well-being**



**Figure 2: A Global Projection of Subjective Well-Being (White, 2007)**

## 2.4 Conclusion

Both Locus of Control and Subjective Well-Being have been well-studied in Western contexts but not in Eastern contexts (Spector et al, 2002; White, 2007); nevertheless, there is evidence to suggest that the differing natures of China and Southern Africa should produce

different profiles and relationships between these variables. Notably, the differences between individualism and collectivism have been shown to have an effect on both Locus of Control (Spector et al, 2002) and Subjective Well-Being (Diener, Diener & Diener, 1995).

The table below summarises the main elements taken into account when designing this study.

**Table 1: Linkages between literature and research design**

Research Elements	Supporting Literature
<b>Individualism vs. Collectivism</b>	<ul style="list-style-type: none"> <li>· Collectivist China (Spector et al, 2002)</li> <li>· Individualist and collectivist Southern Africa (Jackson, 2002)</li> </ul>
<b>Locus of Control</b>	<ul style="list-style-type: none"> <li>· External Locus of Control in China (Jackson, 2002)</li> <li>· Internal and external Loci of Control in Southern Africa (Jackson, 2002)</li> </ul>
<b>Subjective Well-Being</b>	<ul style="list-style-type: none"> <li>· Higher Subjective Well-Being in China as in Southern Africa (White, 2007)</li> </ul>
<b>Questionnaire Contents</b>	<ul style="list-style-type: none"> <li>· Rotter's Internal-External Locus of Control Scale (1966)</li> <li>· Satisfaction with Life Scale (Diener, Emmons, Larsen, &amp; Griffin, 1985)</li> </ul>

## **3 RESEARCH METHODOLOGY**

### **3.1 Research approach and strategy**

#### **3.1.1 Approach & Strategy**

Research is defined as “diligent and systematic inquiry or investigation into a subject in order to discover or revise facts, theories, and applications” (Research Definition, 2009). This is expanded by Leedy & Ormrod (2005, p.2) who state that formal research is where one deliberately sets out to “enhance our understanding of a phenomenon and expect to communicate what we discover to the larger scientific community”.

Research is conducted in five general stages: literature review, data collection, data analysis, interpretation, and recommendation of further study; however, it has been noted that research is often more circular than linear, and that a researcher will probably visit each stage multiple times and thus refine his or her ideas as the research progresses (Saunders, Lewis & Thorhill, 2003).

The approach for this research will be deductive, whereby a hypothesis (or hypotheses) is deduced from existing knowledge and theoretical considerations, and is then subjected to empirical scrutiny (Bryman & Bell, 2007). Deductive research is appropriate in this case as there are logical suppositions that can be made relative to the existing data (Leedy & Ormrod, 2005). It is also appropriate as it directs the researcher to appropriate sources of information to attempt to solve the research problem (Leedy & Ormrod, 2005). This is in contrast to inductive research whereby a theory is built up from collected data (Bryman & Bell, 2007).

The main problem with deductive research is that for a conclusion to be valid, its premises must be true (Bryman & Bell, 2007). Thus the researcher has taken care to ensure that the premises for hypotheses are both appropriate and supported by existing literature to ensure that the study's findings are valid.

As is appropriate for deductive research, the researcher's strategy will be quantitative (Bryman & Bell, 2007). This research strategy is also appropriate as both Locus of Control and Subjective Well-Being are measured quantitative variables (Rotter, 1966, Diener, Emmons, Larsen & Griffin, 1985), and measurement is a fundamental attribute of a quantitative approach (Bryman & Bell, 2007). The limitation with using a quantitative strategy in this case is that the subtle, personal views of individual subjects are ignored and populations are looked at as wholes (Bryman & Bell, 2007), thus insights into potential causality are lost.

Finally, this research will be of a comparative cross-cultural nature (Bryman & Bell, 2007), in which the researcher will compare and analyse the differences and relationship between Locus of Control and Well-Being in Southern Africa and China.

Given the strategies and approaches above, the researcher takes an objectivist ontological standpoint and a positivist epistemological position (Bryman & Bell, 2007). Objectivism asserts that "social phenomena and their meanings have an existence that is separate of social actors" (Bryman & Bell, 2007, p.22), which is appropriate in this case as the researcher is taking a fully quantitative strategy. A positivist position advocates the "application of methods of the natural sciences to the study of social reality and beyond" (Bryman & Bell, 2007, p.16). Positivism is associated with the testing of hypotheses and principles of deduction, as well as belief in objectivism (Bryman & Bell, 2007), thus making this position appropriate for the study given the methods undertaken.

### 3.1.2 Hypotheses

For this study, the following hypotheses based on existing data will be tested:

**Hypothesis 1:** Southern Africa & China will yield different Locus of Control & Subjective Well-Being profiles to each other and will be differently affected by demographic variables

Premises for Hypothesis 1:

- Individualism and Collectivism affect both Locus of Control (Spector et al, 2002) and Subjective Well-Being (Diener, Diener & Diener, 1995).
- China is a typically collectivist country (Spector et al, 2002).
- Southern Africa exhibits both individualist and collectivist behaviours (Theimann, April & Blass, 2006).
- China exhibits more external Locus of Control (Jackson, 2002).
- Southern Africa (within the paradigm of African Renaissance) exhibits both internal and external Locus of Control.
- Managers tend to be more internal (Mamlin, Harris, & Case, 2001).
- China has slightly higher levels of Subjective Well-Being than Southern Africa (White, 2007).

**Conclusion:** Existing literature tells us that China will have a different Locus of Control and Subjective Well-Being profile to Southern Africa; furthermore, the differences within the cultures suggests that they will be differently affected by demographic variables.

**Hypothesis 2:** Locus of Control and Subjective Well-Being will be correlated differently in Southern Africa than in China

Premises for Hypothesis 2:

- Individualism and Collectivism affect both Locus of Control (Spector et al, 2002) and Subjective Well-Being (Diener, Diener & Diener, 1995)
- China is a typically collectivist country (Spector et al, 2002)
- Southern Africa exhibits both individualist and collectivist behaviours (Theimann, April & Blass, 2006)
- China exhibits more external Locus of Control (Jackson, 2002)
- Southern Africa (within the paradigm of African Renaissance) exhibits both internal and external Locus of Control (Jackson, 2002)
- China shows higher levels of Subjective Well-Being than Southern Africa (White, 2007)

**Conclusion:** These differences suggest that the correlation between Locus of Control and Subjective Well-Being will be different for each country.

### **3.2 Research design, data collection methods and research instruments**

This research takes a cross-sectional, comparative design. Cross-sectional research design involves the “collection of data on more than one case and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables which are then examined to detect patterns of association” (Bryman & Bell, 2007, p.55). Comparative design “entails the study using more or less identical methods of two or more contrasting cases. It embodies the logic of comparison in that it implies that we can understand social phenomena better when they are compared in relation to two or more meaningfully contrasting cases or situations” (Bryman & Bell, 2007, p.66). Furthermore, this

comparative design is cross-cultural in nature, in other words, data collection and analysis occur from two or more nations, in this case China and Southern Africa.

The main problem found with cross-sectional design is that internal validity tends to be weak (Bryman & Bell, 2007). It is difficult to establish causality as the design is more suited to finding associations between variables (Bryman & Bell, 2007). To mitigate this, the researcher has used established instruments (discussed below) with proven validity and will apply high levels of statistical significance (95%) before drawing any conclusions (Bryman & Bell, 2007).

The strategy employed for data collection was the survey method through the form of a self-completion questionnaire (Bryman & Bell, 2007). The self-completion questionnaire is the typical format for quantitative cross-sectional research (Bryman & Bell, 2007), and given that half of the respondents were located in China, the survey method proved quicker and cheaper to administer (Bryman & Bell, 2007). Advantages and disadvantages of the questionnaire are given in table 2 below:

**Table 2: Advantages and disadvantages of the Self Completion Questionnaire (Bryman & Bell, 2007)**

<i>Advantages of SCQ</i>	<i>Disadvantages of SCQ</i>
<ul style="list-style-type: none"> <li>Cheaper to administer</li> </ul>	<ul style="list-style-type: none"> <li>Cannot prompt, no clarification on questions</li> </ul>
<ul style="list-style-type: none"> <li>Quicker to administer (batch type)</li> </ul>	<ul style="list-style-type: none"> <li>Cannot probe to elaborate an answer</li> </ul>
<ul style="list-style-type: none"> <li>Absence of interviewer effects</li> </ul>	<ul style="list-style-type: none"> <li>Cannot ask many questions that are not salient to respondents</li> </ul>
<ul style="list-style-type: none"> <li>No interviewer variability</li> </ul>	<ul style="list-style-type: none"> <li>Difficulty of asking other kinds of questions</li> </ul>
<ul style="list-style-type: none"> <li>Convenience for respondents</li> </ul>	<ul style="list-style-type: none"> <li>Questions are not independent of the others, as questionnaire can be read as a whole</li> </ul>
	<ul style="list-style-type: none"> <li>Do not know for sure who has answered it</li> </ul>
	<ul style="list-style-type: none"> <li>Cannot collect additional data</li> </ul>
	<ul style="list-style-type: none"> <li>Difficult to ask a lot of questions</li> </ul>
	<ul style="list-style-type: none"> <li>Not appropriate for some, e.g., low levels of literacy, and greater risk of missing data</li> </ul>

Participants were asked to complete an online questionnaire that yielded demographic details and tested Locus of Control, Subjective Well-Being. The questionnaire included Rotter's (1966) 29-item Locus of Control Test (Appendix 1), the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985) (Appendix 2), and demographic questions from Hofstede's (1984) Value Survey Model (Appendix 3). The entire questionnaire in the format seen by the participants is found in Appendix 4.

### 3.3 Sampling

Individuals selected for research must be able to provide appropriate, relevant information (Leedy & Ormrod, 2005), or, as Bryman and Bell (2007) note, the population must be appropriate to the variable being tested.

As previously stated, the desired population for this study was one consisting of educated professionals in China or Southern Africa. The type of sampling in both Southern Africa and China was multi-stage cluster sampling in which a larger population is represented by a smaller population aggregation known as a cluster (Bryman & Bell, 2007). The Graduate School of Business, University of Cape Town, South Africa and China European International Business School, Shanghai, China were selected as representational clusters for the population under study as noted above.

For the Chinese sample, the researcher was reliant on Dr Nandani Lynton and Kate Yan of the China Europe International Business School for appropriate distribution of the questionnaire to staff, students or alumni. The survey described in section 3.2 took form of an online self-completion questionnaire (Bryman & Bell, 2007), and was completed in English.

In order to obtain an equivalent Southern African population, the researcher distributed the survey to current students at the Graduate School of Business, University of Cape Town. The students comprise current full-time MBA students with work experience, current modular MBA students who complete their studies while working, as well as other postgraduate students at the school who complete their studies while working.

The researcher believes that this sample group is suitable for the following reasons:

- Students are required to have completed previous higher education in order to be admitted to the degrees or diplomas on offer (GSB, 2009).
- Students must have worked or currently be working (GSB, 2009).
- MBA students typically have either had management experience or are expected to enter management (MBA.com, 2009).
- There is a large pool of potential respondents.

The Southern African sample completed an identical self-completion questionnaire to the Chinese sample, also in English.

For statistical significance, the research needed to receive at least 30 responses from each cluster (Bryman & Bell, 2007) but hoped to receive at least 50 responses from each in order to improve that significance. The researcher received 97 responses from China and 72 responses from Southern Africa, of which 62 and 49 responses respectively were eventually used in the analysis. Thus the researcher met the requirements necessary for valid quantitative research in terms of sample size (Bryman & Bell, 2007).

### **3.4 Data analysis methods**

Data is the plural of “Datum”, from the Latin meaning “something given” (Data Definition, 2009, p.1), and it refers to “individual facts, statistics or items of information” (Data Definition, 2009, p.1). The primary task of data analysis is to identify common themes (Leedy & Ormrod, 1997).

As this is a quantitative study, statistical analysis has been used to determine relationships between variables (Lind, Marchal & Wathen, 2008) and to test the aforementioned

hypotheses. Variables may be quantitative or qualitative, with the former able to be reported numerically and the latter describing a non-numeric characteristic or attribute (Lind, Marchal & Wathen, 2008). Variables may be measured in a variety of ways, described in table 3 below.

**Table 3: Measurement of Variables (Lind, Marchal & Wathen, 2008, p. 13)**

Nominal	Ordinal	Interval	Ratio
Data may only be classified	Data are ranked	Meaningful difference between values	Meaningful 0 point and ratio between values

Table 4 below shows the types of variables obtained in the study.

**Table 4: Variables arising from current study**

Variable Description	Variable Type	Measurement Type
<b>Gender</b>	Qualitative	Nominal
<b>Age (range)</b>	Quantitative, Continuous	Interval
<b>Level of Education (years)</b>	Quantitative, Discrete	Ratio
<b>Type of Career</b>	Qualitative	Nominal
<b>Locus of Control</b>	Quantitative, Discrete	Ratio
<b>Subjective Well-Being</b>	Quantitative, Discrete	Ratio

To determine the relationships between demographic variables and Locus of Control and Subjective Well-Being and thus meet the primary objective of this study, the researcher employed tests of location, in most cases two-sample t-tests, in order to determine whether the means for different demographic populations were the same (Lind, Marchal & Wathen, 2008). A relationship is implied between variables when the mean is different in each population (Lind, Marchal & Wathen, 2008). Student's t-tests assume that the populations are normally distributed.

When multiple variables were assessed against Locus of Control and Subjective Well-Being, such as different levels of education, a single factor ANOVA test was used. ANOVA tests assume that populations are normal with similar variance and that cases are independent (Lind, Marchal & Wathen, 2008). A relationship between the variables is implied if the means for each population are different (Lind, Marchal & Wathen, 2008).

As both Locus of Control and SWLS scores are quantitative ratio variables (Lind, Marchal & Wathen, 2008) and as the researcher wishes to determine the relationship between these variables as her secondary objective, regression analysis is an appropriate statistical analysis method (Lind, Marchal & Wathen, 2008). Locus of Control is the independent variable and Subjective Well-Being the dependent variable.

In all cases, a 95% confidence level was used to assess the significance of the results, whereby a correlation factor falling within the 95<sup>th</sup> percentile or higher will be regarded as significant (Lind, Marchal & Wathen, 2008).

## 4 RESEARCH FINDINGS, ANALYSIS AND DISCUSSION

### 4.1 Research Findings

#### 4.1.1 Demographics

A total of 169 responses were received for the questionnaire, 97 from China and 72 from Southern Africa. Fourteen responses were eliminated from the Southern African results because not all questions were completed by the respondents, resulting in incomplete data. A further nine responses were eliminated from the Southern African set because the respondents fell outside the geographical and cultural area being tested. This resulted in a total of 49 responses (n=49) for the Southern African set.

Twenty-nine responses were eliminated from the Chinese set because of incomplete data resulting from non-completion of all questions. A further six responses were eliminated because the respondents fell outside the geographical and cultural area being tested. This resulted in a total of 62 responses (n=62) for the Chinese set.

The Chinese set consisted of staff and students at the China European Business School, Shanghai, China. The Southern African set consisted of varying types of full-time and part-time students at the Graduate School of Business, University of Cape Town, South Africa. These samples are thus not representative of the populations as wholes, but rather represent a well-educated, professional sub-population.

The questionnaire was completed by both population groups from the 1<sup>st</sup> to the 25<sup>th</sup> October 2009. 37% of the Southern African sample was female and 63% was male; 59% of respondents were aged between 30 and 39, 35% were aged under 30, and 6% were aged over

50. 70% of all respondents reported at least 16 years of formal schooling – the equivalent of an honours degree in the South African context (Burger, 2009). A further 10% indicated some level of tertiary education with 13 – 15 years of formal schooling, and 20% indicated only 12 years of schooling, the equivalent of a South African matric (Burger, 2009).

Vocationally, 24% of the Southern African sample was in senior management, 31% was in middle management, 37% was academically trained professionals, 4% was full time students who had never worked, and 4% was generally trained office people or artisans. Thus the Southern African sample represents a well-educated, professional segment of the general population.

The Chinese population was markedly different to the Southern African set. Gender-wise, 61% of the Chinese sample was female and 31% was male, and 87% of the sample was aged 29 and younger. 11% of the population was aged between 30 and 40, and 2% of the population was aged over 60. Educational levels of this sample were similar to Southern Africa, with 85% of the population having at least 16 years of formal schooling – the equivalent of at least a tertiary degree (Ministry of Education, 2009). 10% had undergone 13 – 15 years of formal education, and 5% indicated formal education of 12 years or less.

Vocationally the Chinese showed a very different trend to the Southern Africans. Only 6% of the sample was in senior management and 15% in junior management. 44% of the sample was academically trained professionals, 6% was full-time students with no work experience, and 29% was generally trained office people or artisans. The lack of managers in this sample is unsurprising given the relatively young age of the sample.

In order to have parity between samples, the researcher did not request that race be disclosed on the questionnaire and rather requested nationality and nationality of origin (if different from current nationality) as per Hofstede's (1994) Value Survey Model. Thus racial demographics for the South African set are not taken into account in this study.

## 4.1.2 Locus of Control

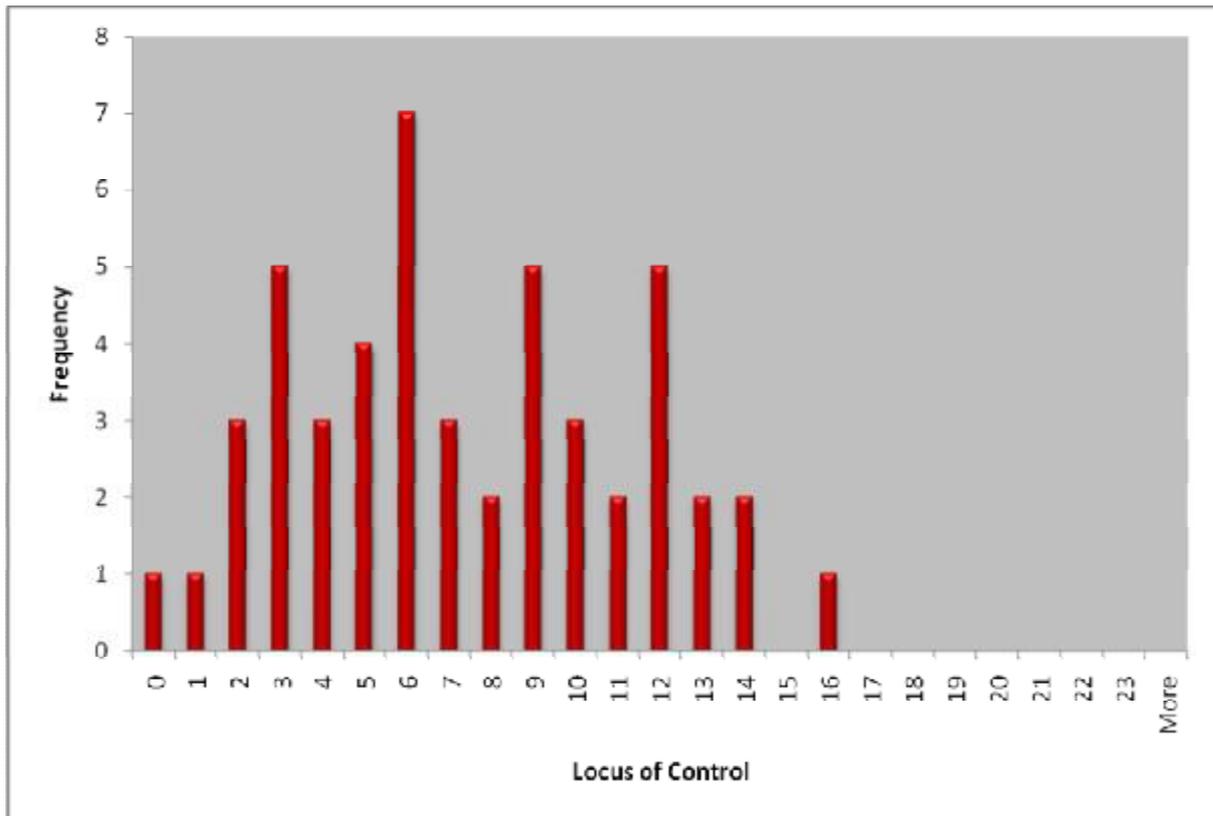
### 4.1.2.1 Locus of Control & Culture

#### i. Southern Africa

On the full Rotter Scale (Rotter, 1966), the mean Locus of Control score for the Southern African sample was 7.3 with a standard deviation of 3.9. This indicates a fairly internal Locus of Control for the sample as a whole. The minimum score for this group was 0, showing total internal control (Rotter, 1966), and maximum score was 16, indicating fairly external control (Rotter, 1966).

At a 95% confidence level, the mean Locus of Control for the Southern African population falls between 6.2 and 8.5.

The sample was slightly positively skewed with a skewness coefficient of 0.2. The Histogram in figure 2 below shows the distribution of Loci of Control within the sample.



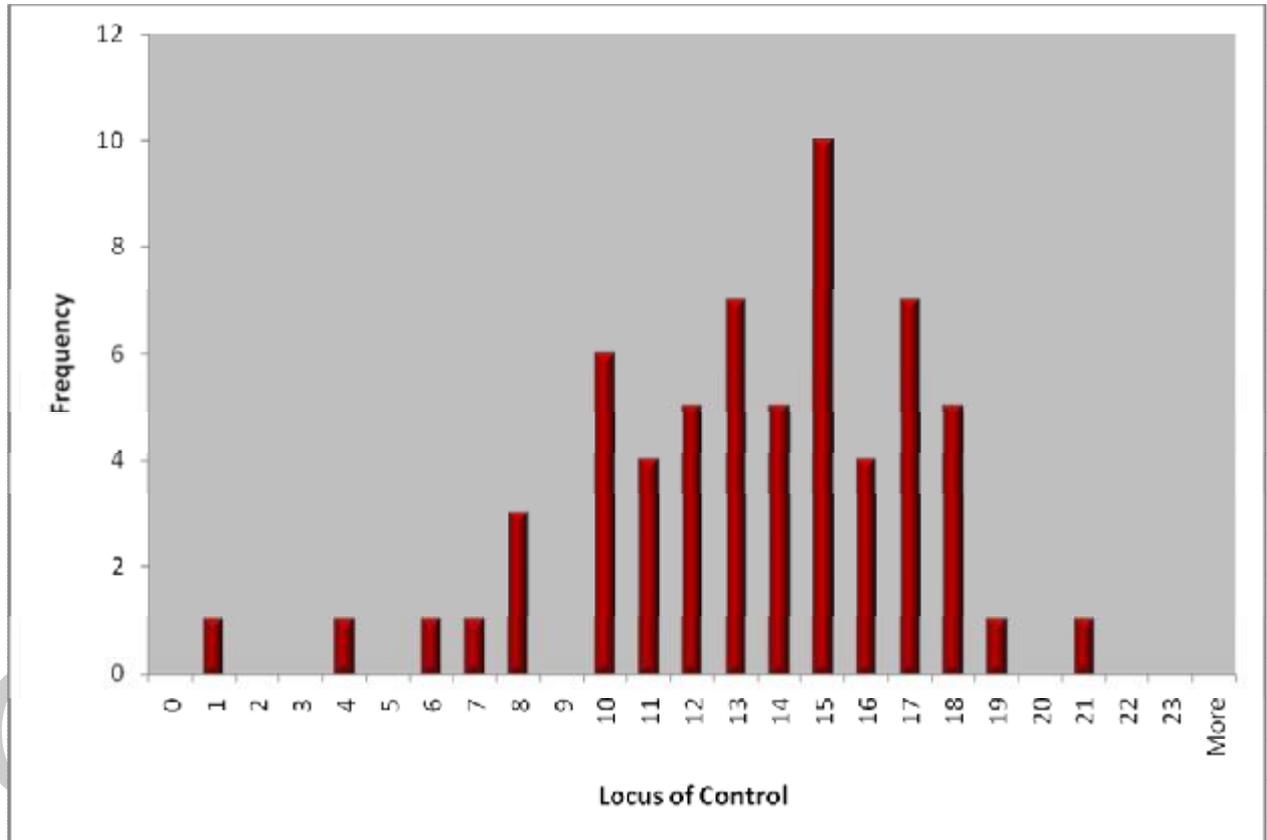
**Figure 2: Histogram showing Distribution of Locus of Control for Southern African Sample**

ii. China

For the Chinese sample, the mean Locus of Control score was 13.4 with a standard deviation of 3.8. This shows a far more external locus of control than the Southern African sample. The most internal Locus of Control score for this sample was 1, indicating almost complete internal control (Rotter, 1966). The most external score for this sample was 21, indicating almost complete external Locus of Control (Rotter, 1966).

At a 95% confidence level, the mean Locus of Control for the Chinese population falls between 12.4 and 14.3.

The Histogram in figure 3 below shows the distribution of Loci of Control for the sample. The sample was slightly negatively skewed with a skewness coefficient of -0.8.



**Figure 3: Histogram showing Distribution of Locus of Control for Chinese Sample**

#### 4.1.2.2 Testing the Significance of Locus of Control & Culture

**Null Hypothesis (H<sub>0</sub>):**  $m$  Locus of Control<sub>(Southern Africa)</sub> =  $m$  Locus of Control<sub>(China)</sub>

**Alternative Hypothesis (H<sub>1</sub>):**  $m$  Locus of Control<sub>(Southern Africa)</sub> <  $m$  Locus of Control<sub>(China)</sub>

**Significance:** 95%

In a one-tailed t-test assuming unequal variances, the test statistic was -8.18 against a critical value of 1.66. Thus the null hypothesis is rejected and the alternative hypothesis is accepted. The probability of Type I error (P value) is  $4.3 \times 10^{-13}$  and is thus so small as to be negligible. This result can be considered highly significant.

**Conclusion:** There is a significant relationship between Locus of Control and culture.

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#### 4.1.2.3 Locus of Control & Gender

##### i. Southern Africa

Sample mean for women was 9.1 with a variance of 13.2; sample mean for men was 6.4 with a variance of 14.4.

**Null Hypothesis (H<sub>0</sub>):**  $m$  Locus of Control<sub>(Women)</sub> =  $m$  Locus of Control<sub>(Men)</sub>

**Alternative Hypothesis (H<sub>1</sub>):**  $m$  Locus of Control<sub>(Women)</sub>  $\geq$   $m$  Locus of Control<sub>(Men)</sub>

**Significance:** 95%

In a one-tailed t-test assuming equal variances, the test statistic was 2.44 against a critical value of 1.68. Thus the null hypothesis is rejected and the alternative hypothesis is accepted. The probability of Type I error (P value) is 0.009, indicating 99% confidence and thus can be regarded as extremely significant.

**Conclusion:** There is a significant relationship between Gender and Locus of Control in the Southern African population.

ii. China

Sample mean for women was 9.1 with a variance of 10.5; sample mean for men was 12.9 with a variance of 20.4.

**Null Hypothesis ( $H_0$ ):**  $m \text{ Locus of Control}_{(\text{Women})} = m \text{ Locus of Control}_{(\text{Men})}$

**Alternative Hypothesis ( $H_1$ ):**  $m \text{ Locus of Control}_{(\text{Women})} > m \text{ Locus of Control}_{(\text{Men})}$

In a one-tailed t-test assuming unequal variances, the test statistic was 0.72 against a critical value of 1.68. Thus we cannot reject the null hypothesis.

**Conclusion:** There is no significant relationship between Gender and Locus of Control in the Chinese population.

#### 4.1.2.4 Age and Locus of Control

##### i. Southern Africa

Given the low number of respondents over the age of 40 in this sample, responses were divided into respondents under 30 years of age and respondents over 30 years of age.

**Null Hypothesis ( $H_0$ ):**  $m$  Locus of Control<sub>(Under 30)</sub> =  $m$  Locus of Control<sub>(Over 30)</sub>

**Alternative Hypothesis ( $H_1$ ):**  $m$  Locus of Control<sub>(Under 30)</sub> >  $m$  Locus of Control<sub>(Over 30)</sub>

**Significance level:** 95%

Sample mean for respondents under 30 years of age was 9.2 with a variance of 18.7, whereas sample mean for respondents over 30 was 6.4 with a variance of 11.5.

In a one-tailed t-test assuming unequal variances, the test statistic of 2.32 is greater than the critical value of 1.7, thus the null hypothesis is rejected and the alternate hypothesis is accepted. Probability of Type I error (P value) is 0.014 and thus the result can be seen as highly significant.

**Conclusion:** There is a significant relationship between age and Locus of Control in the Southern African population, with individuals under 30 more likely to have more external control than individuals over 30.

ii. China

Given the low number of respondents over the age of 40 in this sample, responses were divided into respondents under 30 years of age and respondents over 30 years of age.

**Null Hypothesis ( $H_0$ ):**  $m$  Locus of Control<sub>(Under 30)</sub> =  $m$  Locus of Control<sub>(Over 30)</sub>

**Alternative Hypothesis ( $H_1$ ):**  $m$  Locus of Control<sub>(Under 30)</sub> >  $m$  Locus of Control<sub>(Over 30)</sub>

**Significance level:** 95%

Sample mean for respondents under 30 years of age was 14.8 with a variance of 13.7, whereas sample mean for respondents over 30 was 13.7 with a variance of 12.3.

In a one-tailed t-test assuming unequal variances, the test statistic of -0.26 is less than the critical statistic of 0.4. Thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between age and Locus of Control in the Chinese population.

*4.1.2.5 Level of Education & Locus of Control*

i. Southern Africa

The data were divided into four educational stages: 12 years or secondary school education, 13 – 15 years or Undergraduate tertiary education, 16 – 17 years or Honours-level tertiary education, and 18 Years or more or at least Masters- level tertiary education.

**Null Hypothesis (H<sub>0</sub>):**  $\mu$  Locus of Control (12 Years) =  $\mu$  Locus of Control (13 – 15 Years) =  $\mu$  Locus of Control (16 – 17 Years) =  $\mu$  Locus of Control (18 Years)

**Alternative Hypothesis (H<sub>1</sub>):**  $\mu$  Locus of Control (12 Years) <sup>1</sup>  $\mu$  Locus of Control (13 – 15 Years) <sup>1</sup>  $\mu$  Locus of Control (16 – 17 Years) <sup>1</sup>  $\mu$  Locus of Control (18 Years)

**Significance level:** 95%

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	34.979	3	11.66	0.74	0.53	2.81
Within Groups	706.124	45	15.69			
Total	741.102	48				

The F value of 0.74 does not exceed the critical value of 2.81, thus we cannot reject the null hypothesis.

**Conclusion:** Education does not appear to be a significant determinant of Locus of Control in the South African population.

The data was also divided into Secondary and Undergraduate education vs. Postgraduate Tertiary education to determine whether postgraduate education has any effect on Locus of Control.

**Null Hypothesis (H<sub>0</sub>):**  $\mu$  Locus of Control (12 – 15 Years) =  $\mu$  Locus of Control (16 Years or more)

**Alternative Hypothesis (H<sub>1</sub>):**  $\mu$  Locus of Control (12 – 15 Years) <sup>1</sup>  $\mu$  Locus of Control (16 Years or more)

**Significance level:** 95%

Sample mean for respondents with 12 – 15 years of education was 8.6 with a variance of 10.4, whereas sample mean for respondents with at least 16 years of education was 6.8 with a variance of 17.0.

In a two-tailed t-test assuming unequal variances, the test statistic of 1.653 is less than the critical statistic of 2.032. Thus the null hypothesis cannot be rejected at this significance level.

**Conclusion:** There is no significant relationship between postgraduate education and Locus of Control in the Southern African population.

ii. China

The data were divided into three educational stages: 12 – 15 years comprising secondary school education or Undergraduate tertiary education, 16 – 17 years or at least Honours-level tertiary education, and 18 Years or more or at least Masters-level tertiary education. Secondary School education and undergraduate education were combined in order to achieve a statistically significant sample size.

**Null Hypothesis ( $H_0$ ):**  $\bar{m}$  Locus of Control <sub>(12 – 15 Years)</sub> =  $\bar{m}$  Locus of Control <sub>(16 – 17 Years)</sub> =  $\bar{m}$  Locus of Control <sub>(18 Years)</sub>

**Alternative Hypothesis ( $H_1$ ):**  $\bar{m}$  Locus of Control <sub>(12 – 15 Years)</sub>  $\neq$   $\bar{m}$  Locus of Control <sub>(16 – 17 Years)</sub>  $\neq$   $\bar{m}$  Locus of Control <sub>(18 Years)</sub>

**Significance level:** 95%

## ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	31.77	2	15.88	1.12	0.33	3.15
Within Groups	836.94	59	14.19			
Total	868.71	61				

The F stat of 1.12 is less than the critical statistic of 3.15, thus the null hypothesis cannot be rejected.

**Conclusion:** There does not appear to be a significant relationship between Level of Education and Locus of Control in the Chinese population.

The data was also divided into Secondary and Undergraduate education vs. Postgraduate Tertiary education to determine whether postgraduate education has any effect on Locus of Control.

**Null Hypothesis ( $H_0$ ):**  $m$  Locus of Control<sub>(12 – 15 Years)</sub> =  $m$  Locus of Control<sub>(16 Years or more)</sub>

**Alternative Hypothesis ( $H_1$ ):**  $m$  Locus of Control<sub>(12 – 15 Years)</sub>  $\neq$   $m$  Locus of Control<sub>(16 Years or more)</sub>

**Significance level:** 95%

Sample mean for respondents with 12 – 15 years of education was 11.8 with a variance of 25.1, whereas sample mean for respondents with at least 16 years of education was 13.7 with a variance of 12.0.

In a two-tailed t-test assuming unequal variances, the test statistic of -1.14 does not exceed the critical statistic 1.8 and thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between postgraduate education and Locus of Control in the Chinese population.

#### 4.1.2.6 Career Type and Locus of Control

##### i. Southern Africa

The data were first divided into the various career stages specified on the questionnaire, *viz.* Academically Trained Professionals, Managers of Other Managers, and Managers of Non-Managers, in order to determine whether career type has an effect on Locus of Control. Generally Trained Office Workers and Vocationally Trained artisans as well as Never-Employed individuals including full time students were excluded as the sample sizes were too small for statistical relevance.

**Null Hypothesis ( $H_0$ ):**  $m$  Locus of Control<sub>(Academically Trained)</sub> =  $m$  Locus of Control<sub>(Manager (Managers))</sub> =  $m$  Locus of Control<sub>(Manager (Non managers))</sub>

**Alternative Hypothesis ( $H_1$ ):**  $m$  Locus of Control<sub>(Academically Trained)</sub>  $\neq$   $m$  Locus of Control<sub>(Manager (Managers))</sub>  $\neq$   $m$  Locus of Control<sub>(Manager (Non managers))</sub>

**Significance level:** 95%

## ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	38.28	2	19.14	1.24	0.30	3.20
Within Groups	695.64	45	15.46			
Total	733.92	47				

The F stat of 1.24 is less than the critical statistic of 3.2, thus the null hypothesis cannot be rejected.

**Conclusion:** Career type does not appear to be a significant determinant of Locus of Control in the South African population.

Data were then divided into Managers and Non-Managers to determine whether a relationship exists between Management and Locus of Control.

**Null Hypothesis ( $H_0$ ):**  $m$  Locus of Control<sub>(Non Managers)</sub> =  $m$  Locus of Control<sub>(Managers)</sub>

**Alternative Hypothesis ( $H_1$ ):**  $m$  Locus of Control<sub>(Non Managers)</sub> >  $m$  Locus of Control<sub>(Managers)</sub>

Sample mean was 8.6 for Non-Managers and 6.4 for Managers. In a one-tailed t-test assuming unequal variances, the t-stat of 2.02 was greater than the critical stat of 1.68. Thus the null hypothesis is rejected and we accept the alternative hypothesis. The probability of Type I error (P value) is 0.025, thus the results can be considered highly significant.

**Conclusion:** Managers have a more internal Locus of Control than Non-Managers in the Southern African population.

ii. China

As with the Southern African sample, the data were first divided into the various career stages specified on the questionnaire, *viz* Academically Trained Professionals, Generally Trained Office Worker and Vocationally Trained artisans, Managers of Other Managers, Managers of Non-Managers, and Never Employed (including full time students), in order to determine whether there is a relationship between career type and Locus of Control.

**Null Hypothesis (H<sub>0</sub>):**  $m$  Locus of Control<sub>(Academically Trained)}</sub> =  $m$  Locus of Control<sub>(Generally Trained)}</sub> =  $m$  Locus of Control<sub>(Manager (Managers))}</sub> =  $m$  Locus of Control<sub>(Manager (Non managers))}</sub> =  $m$  Locus of Control<sub>(No job)}</sub>

**Alternative Hypothesis (H<sub>1</sub>):**  $m$  Locus of Control<sub>(Academically Trained)}</sub> <sup>1</sup>  $m$  Locus of Control<sub>(Generally Trained)}</sub> <sup>1</sup>  $m$  Locus of Control<sub>(Manager (Managers))}</sub> <sup>1</sup>  $m$  Locus of Control<sub>(Manager (Non managers))}</sub> <sup>1</sup>  $m$  Locus of Control<sub>(No job)}</sub>

**Significance level:** 95%

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	102.90	4	25.73	1.92	0.12	2.53
Within Groups	765.81	57	13.44			
Total	868.71	61				

The F stat of 1.92 is less than the critical statistic of 2.53, thus the null hypothesis cannot be rejected.

**Conclusion:** Career type does not appear to have a relationship with Locus of Control in the Chinese population.

Data were then divided into Managers and Non-Managers to determine whether a relationship exists between Management and Locus of Control.

**Null Hypothesis ( $H_0$ ):**  $m_{\text{Locus of Control (Non Managers)}} = m_{\text{Locus of Control (Managers)}}$

**Alternative Hypothesis ( $H_1$ ):**  $m_{\text{Locus of Control (Non Managers)}} > m_{\text{Locus of Control (Managers)}}$

**Significance:** 95%

Sample mean was 13.7 for Non-Managers and 12.1 for Managers. In a one-tailed t-test assuming unequal variances, the t-stat of 1.27 was less than the critical stat of 1.74. Thus the null hypothesis cannot be rejected.

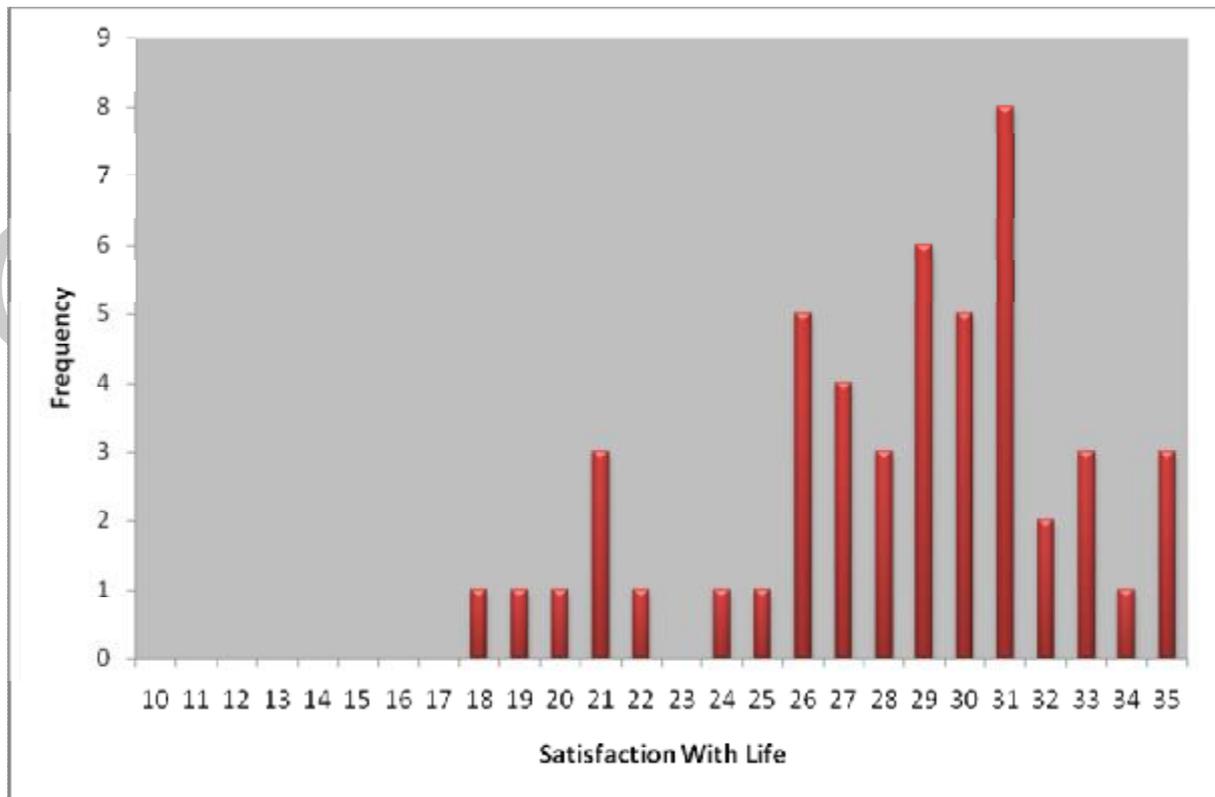
**Conclusion:** There is no relationship between Management and Locus of Control in the Chinese population.

#### 4.1.3 Subjective Well-Being

#### 4.1.3.1 Differences in Subjective Well-Being Scores between Samples

##### i. Southern Africa

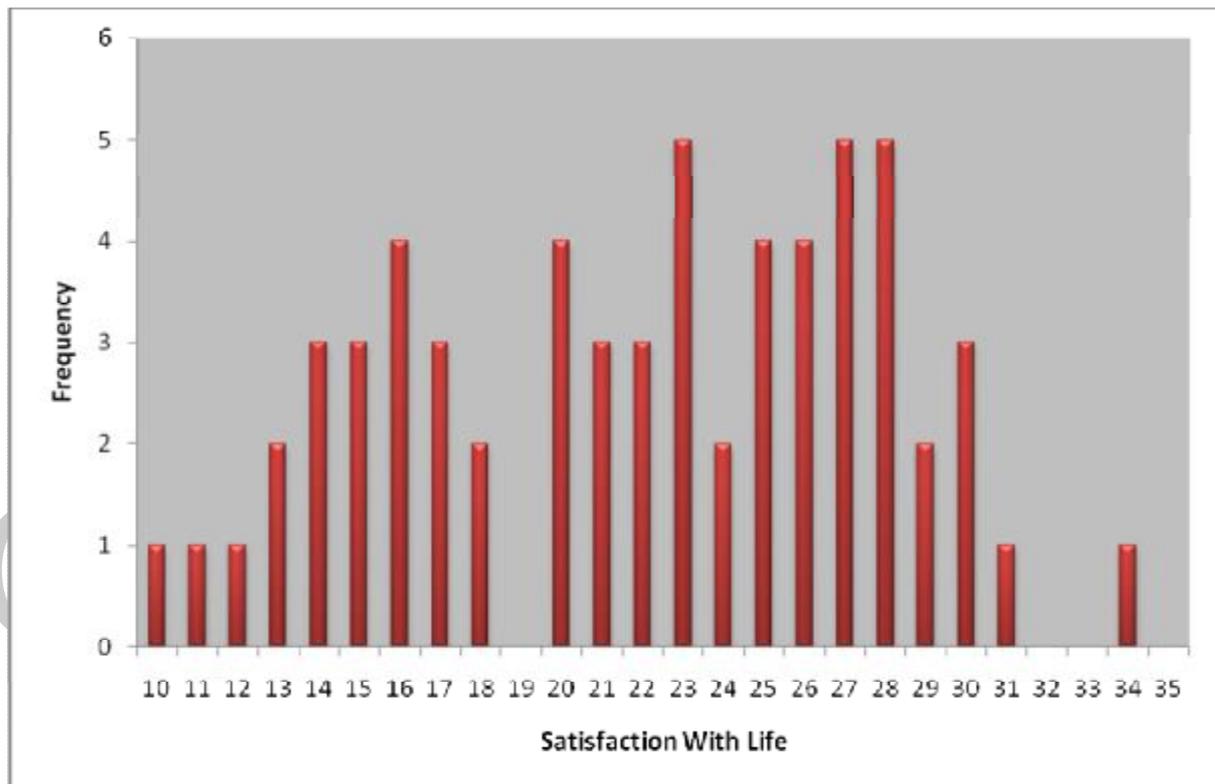
On the Satisfaction with Life Scale (Diener, Emmons, Larsen & Griffin, 1985), the Southern African sample showed a mean score of 28.3 (out of a possible 35) with a standard deviation of 4.2. The minimum SWLS score for this sample was 18 and the maximum was 35, showing complete satisfaction with life. The sample was very slightly negatively skewed with a skewness coefficient of -0.8.



**Figure 4: Histogram showing Distribution of Satisfaction With Life Scores for Southern African Sample**

##### ii. China

The Chinese sample had a mean SWLS score of 22 with a standard deviation of 5.8. This indicates that the Chinese sample is much less happy on average than the Southern African sample. The minimum SWLS was 10, the maximum 34, showing much greater variation in the Chinese sample than in the Southern African sample. The sample was slightly negatively skewed, with a skewness coefficient of -0.2.



**Figure 5: Histogram showing Distribution of Satisfaction With Life Scores for Chinese Sample**

#### *4.1.3.2 Significance of Differences in Subjective Well-Being*

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(\text{Southern Africa})} = m \text{ SWLS}_{(\text{China})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m \text{ SWLS}_{(\text{Southern Africa})} \neq m \text{ SWLS}_{(\text{China})}$

**Significance:** 95%

In a two-tailed t-test assuming unequal variances, the test statistic was 6.65 against a critical value of 1.98. Thus the null hypothesis is rejected and the alternative hypothesis is accepted. The probability of Type I error (P value) is  $1.2 \times 10^{-9}$  and is thus so small as to be negligible. This result can be considered highly significant.

**Conclusion:** There is a significant relationship between Subjective Well-Being and Culture.

#### *4.1.3.3 Gender and Subjective Well-Being*

##### *i. Southern Africa*

Sample mean for women was 29.5 with a variance of 12.6; sample mean for men was 27.6 with a variance of 20.8.

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(\text{Women})} = m \text{ SWLS}_{(\text{Men})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m \text{ SWLS}_{(\text{Women})} > m \text{ SWLS}_{(\text{Men})}$

**Significance level:** 95%

In a one-tailed t-test assuming unequal variances, the test statistic was 1.65 against a critical value of 1.68. Thus the null hypothesis cannot be rejected.

**Significance level:** 90%

In a one-tailed t-test assuming unequal variances, the test statistic was 1.65 against a critical value of 1.3. Thus the null hypothesis is rejected and the alternate hypothesis is accepted with the probability of Type I error at 0.053. Results are regarded as of medium significance.

**Conclusion:** Results suggest a weak relationship between gender and Subjective Well-Being in the Southern African population.

ii. China

Sample mean for women was 23.1 with a variance of 33.8; sample mean for men was 20.8 with a variance of 29.6.

**Null Hypothesis ( $H_0$ ):**  $m \text{ SWLS}_{(\text{Women})} = m \text{ SWLS}_{(\text{Men})}$

**Alternative Hypothesis ( $H_1$ ):**  $m \text{ SWLS}_{(\text{Women})} > m \text{ SWLS}_{(\text{Men})}$

**Significance Level:** 95%

In a one-tailed t-test assuming equal variances, the test statistic was 2.09 against a critical value of 1.68. Thus we reject the null hypothesis and accept the alternative hypothesis that women have a higher mean SWLS score than men. Probability of Type I error is 0.02 and thus this result can be regarded as highly significant.

**Conclusion:** Subjective Well-Being is higher in women than men in the Chinese population, and thus women are happier than men in this population. There is a significant relationship between Subjective Well-Being and Gender in the Chinese population.

#### 4.1.3.4 Age and Subjective Well-Being

##### i. Southern Africa

Given the low number of respondents over the age of 40 in this sample, responses were divided into respondents under 30 years of age and respondents over 30 years of age.

**Null Hypothesis ( $H_0$ ):**  $m \text{ SWLS}_{(\text{Under } 30)} = m \text{ SWLS}_{(\text{Over } 30)}$

**Alternative Hypothesis ( $H_1$ ):**  $m \text{ SWLS}_{(\text{Under } 30)} \neq m \text{ SWLS}_{(\text{Over } 30)}$

**Significance level:** 95%

Sample mean for respondents under 30 years of age was 27.6 with a variance of 22.1, whereas sample mean for those over 30 was 28.7 with a variance of 16.0.

In a two-tailed t-test assuming unequal variance, the test statistic of -0.75 does not exceed the critical statistic of 2.04, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between Age and Subjective Well-Being in the South African population.

##### ii. China

Given the low number of respondents over the age of 40 in this sample, responses were divided into respondents under 30 years of age and respondents over 30 years of age.

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(\text{Under } 30)} = m \text{ SWLS}_{(\text{Over } 30)}$

**Alternative Hypothesis (H<sub>1</sub>):**  $\text{SWLS}_{(\text{Under } 30)} \neq m \text{ SWLS}_{(\text{Over } 30)}$

**Significance level:** 95%

Sample mean for respondents under 30 years of age was 21.6 with a variance of 36, whereas sample mean for those over 30 was 24 with a variance of 19.0.

In a two-tailed t-test assuming unequal variance, the test statistic of -1.43 does not exceed the critical statistic of 2.14, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between age and Subjective Well-Being in the Chinese population.

#### 4.1.3.5 Level of Education & Subjective Well-Being

##### i. Southern Africa

The data were divided into four educational stages: 12 years or secondary school education, 13 – 15 years or Undergraduate tertiary education, 16 – 17 years or Honours-level tertiary education, and 18 Years or more or at least Masters-level tertiary education.

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(12 \text{ Years})} = m \text{ SWLS}_{(13 - 15 \text{ Years})} = m \text{ SWLS}_{(16 - 17 \text{ Years})} = m \text{ SWLS}_{(18 \text{ Years})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m \text{ SWLS}_{(12 \text{ Years})} \neq m \text{ SWLS}_{(13 - 15 \text{ Years})} \neq m \text{ SWLS}_{(16 - 17 \text{ Years})} \neq m \text{ SWLS}_{(18 \text{ Years})}$

**Significance level: 95%**

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	34.979	3	11.659	0.74	0.532	2.81
Within Groups	706.124	45	15.692			
Total	741.102	48				

The F stat of 0.74 is less than the critical statistic of 2.81, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between level of education and Subjective Well-Being

The data was also divided into Secondary and Undergraduate education vs. Postgraduate Tertiary education to determine whether postgraduate education has any effect on Subjective Well-Being.

**Null Hypothesis ( $H_0$ ):**  $m$  SWLS<sub>(12 – 15 Years)</sub> =  $m$  SWLS<sub>(16 Years or more)</sub>

**Alternative Hypothesis ( $H_1$ ):**  $m$  SWLS<sub>(12 – 15 Years)</sub> <sup>1</sup>  $m$  SWLS<sub>(16 Years or more)</sub>

**Significance level: 95%**

Sample mean for respondents with 12 – 15 years of education was 28.8 with a variance of 23.9. Sample mean for respondents with 16 or more years of education was 28.1 with a variance of 15.8.

In a two-tailed t-test assuming unequal variances, the test statistic of 0.5 did not exceed the critical statistic of 2.07. Thus the null hypothesis cannot be rejected.

Conclusion: There is no significant relationship between postgraduate education and Subjective Well-Being.

**Conclusion:** Postgraduate tertiary education is not a significant determinant of Locus of Control in the South African population.

ii. China

The data were divided into four educational stages: 12 years or secondary school education, 13 – 15 years or Undergraduate tertiary education, 16 – 17 years or Honours-level tertiary education, and 18 Years or more or at least Masters-level tertiary education.

**Null Hypothesis (H<sub>0</sub>):**  $m_{WLS (12 \text{ Years})} = m_{SWLS (13 - 15 \text{ Years})} = m_{SWLS (16 - 17 \text{ Years})} = m_{SWLS (18 \text{ Years})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m_{SWLS (12 \text{ Years})} \neq m_{SWLS (13 - 15 \text{ Years})} \neq m_{SWLS (16 - 17 \text{ Years})} \neq m_{SWLS (18 \text{ Years})}$

**Significance level:** 95%

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	51.824	3	17.275	1.23	0.308	2.76
Within Groups	816.885	58	14.084			

The F stat of 1.23 is less than the critical statistic of 2.76, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between career type and Subjective Well-Being.

The data were also divided into Secondary and Undergraduate education vs. Postgraduate Tertiary education to determine whether postgraduate education has any effect on Locus of Control.

**Null Hypothesis ( $H_0$ ):**  $m \text{ SWLS}_{(12-15 \text{ Years})} = m \text{ SWLS}_{(16 \text{ Years or more})}$

**Alternative Hypothesis ( $H_1$ ):**  $m \text{ SWLS}_{(12-15 \text{ Years})} \neq m \text{ SWLS}_{(16 \text{ Years or more})}$

**Significance level:** 95%

Sample mean for respondents with 12 – 15 years of education was 23.2 with a variance of 18.2. The sample mean for respondents with at least 16 years of education was 21.7 with a variance of 36.7.

In a two-tailed t-test assuming unequal variance, the test statistic of 0.9 does not exceed the critical statistic of 2.14, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between postgraduate education and Subjective Well-Being in the Chinese population.

#### 4.1.3.6 Career Type and Subjective Well-Being

##### i. Southern Africa

The data were first divided into the various career stages specified on the questionnaire, *viz* Academically Trained Professionals, Generally Trained Office Worker and Vocationally Trained artisans, Managers of Other Managers, Managers of Non-Managers, and Never Employed (including full-time students), in order to determine whether career type has an effect on Locus of Control.

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(\text{Academically Trained})} = m \text{ SWLS}_{(\text{Generally Trained})} = m \text{ SWLS}_{(\text{Manager (Managers)})} = m \text{ SWLS}_{(\text{Manager (Non managers)})} = m \text{ SWLS}_{(\text{No job})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m \text{ SWLS}_{(\text{Academically Trained})} \neq m \text{ SWLS}_{(\text{Generally Trained})} \neq m \text{ SWLS}_{(\text{Manager (Managers)})} \neq m \text{ SWLS}_{(\text{Manager (Non managers)})} \neq m \text{ SWLS}_{(\text{No job})}$

**Significance level:** 95%

##### ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	85.5076	4	21.3769	1.4347	0.2385	2.5837
Within Groups	655.5944	44	14.8999			
Total	741.102	48				

The F stat of 1.43 is less than the critical statistic of 2.58, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between career type and Subjective Well-Being in the Southern African population.

Data were then divided into Managers and Non-Managers to determine a relationship exists between Management and Locus of Control.

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(\text{Non Managers})} = m \text{ SWLS}_{(\text{Managers})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m \text{ SWLS}_{(\text{Non Managers})} \neq m \text{ SWLS}_{(\text{Managers})}$

**Significance level:** 95%

Sample mean was 28 for Non-Managers and 28.6 for Managers with variances of 19.1 and 17.5 respectively. In a two-tailed t-test assuming unequal variances, the t-stat of -0.45 did not exceed the critical statistic of 2.02. Thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between Management status and Subjective Well-Being in the Southern African population.

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ii. China

As with the Southern African sample, the data were first divided into the various career stages specified on the questionnaire, *viz* Academically Trained Professionals, Generally Trained Office Worker and Vocationally Trained artisans, Managers of Other Managers, Managers of Non-Managers, and Never Employed (including full time students), in order to determine whether there is a relationship between career type and Locus of Control.

**Null Hypothesis (H<sub>0</sub>):**  $m \text{ SWLS}_{(\text{Academically Trained})} = m \text{ SWLS}_{(\text{Generally Trained})} = m \text{ SWLS}_{(\text{Manager (Managers)})} = m \text{ SWLS}_{(\text{Manager (Non managers)})} = m \text{ SWLS}_{(\text{No job})}$

**Alternative Hypothesis (H<sub>1</sub>):**  $m \text{ SWLS}_{(\text{Academically Trained})} \neq m \text{ SWLS}_{(\text{Generally Trained})} \neq m \text{ SWLS}_{(\text{Manager (Managers)})} \neq m \text{ SWLS}_{(\text{Manager (Non managers)})} \neq m \text{ SWLS}_{(\text{No job})}$

**Significance level: 95%**

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	85.5076	4	21.3769	1.4347	0.2385	2.5837
Within Groups	655.5944	44	14.8999			
Total	741.102	48				

The F stat of 1.43 is less than the critical statistic of 2.58, thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between Management status and Subjective Well-Being in the Chinese population.

Data were then divided into Managers and Non-Managers to determine whether a relationship exists between Management and Locus of Control.

**Null Hypothesis ( $H_0$ ):**  $m \text{ SWLS}_{(\text{Non Managers})} = m \text{ SWLS}_{(\text{Managers})}$

**Alternative Hypothesis ( $H_1$ ):**  $m \text{ SWLS}_{(\text{Non Managers})} \neq m \text{ SWLS}_{(\text{Managers})}$

**Significance level: 95%**

Sample mean for non-managers was 22.6 with a variance of 29.8, and 19.7 for managers with a variance of 46.2. In a two-tailed t-test assuming unequal variances, the t-stat of 1.4 did not exceed the critical statistic of 2.2. Thus the null hypothesis cannot be rejected.

**Conclusion:** There is no significant relationship between Management and Locus of Control in the Chinese population.

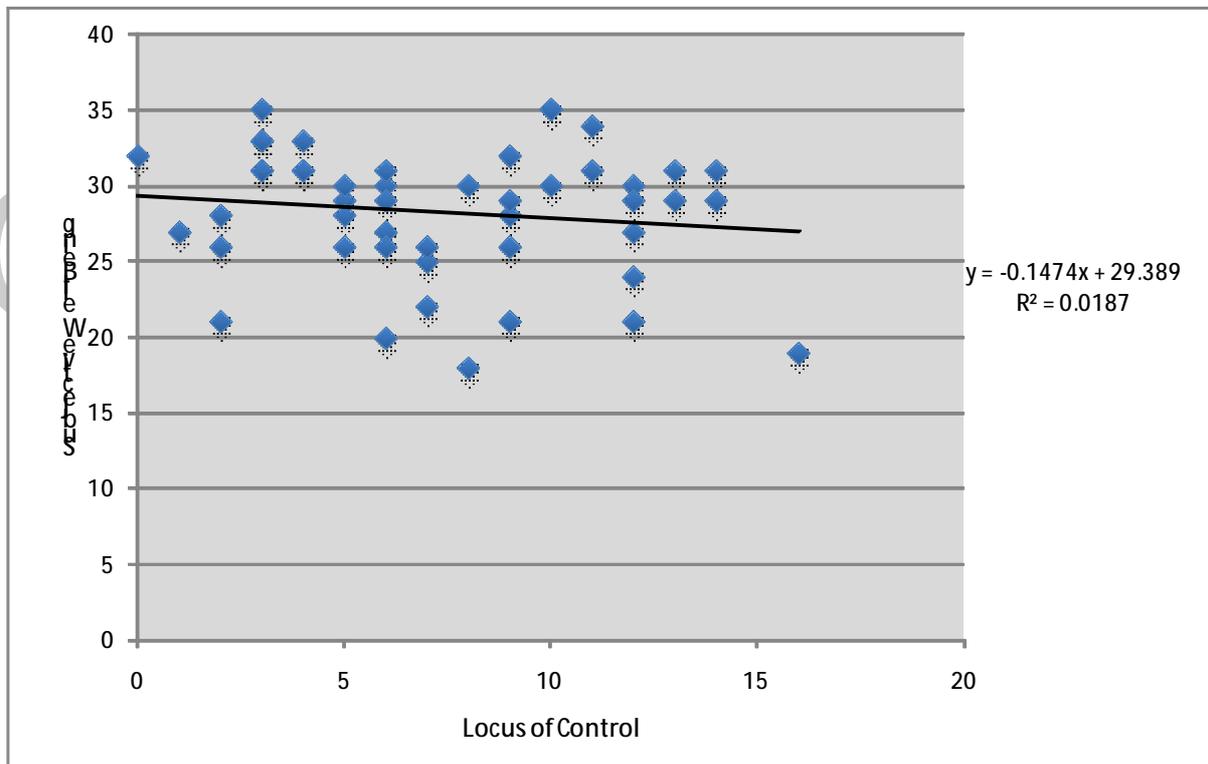
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#### 4.1.4 Locus of Control & Subjective Well-Being

This serves to answer the secondary research question of whether the relationship between Locus of Control and Subjective Well-Being differs between Southern Africa and China.

##### *i. Southern Africa*

Figure 6 below represents the relationship between Subjective Well-Being and Locus of Control in the Southern African population.



**Figure 6: Scatter Diagram Showing Relationship between Locus of Control and Subjective Well-Being in the Southern African Population**

Regression analysis revealed the coefficient of correlation,  $r$ , to be -0.137 indicating weak negative correlation between Locus of Control and Subjective Well-Being.

To test the significance of the correlation coefficient against the population, a two-tailed t-test was performed:

**Null Hypothesis ( $H_0$ ):**  $r = 0$  (The correlation in the population is 0)

**Alternative Hypothesis ( $H_1$ ):**  $r \neq 0$  (The correlation in the population is different from 0)

**Significance Level:** 95%

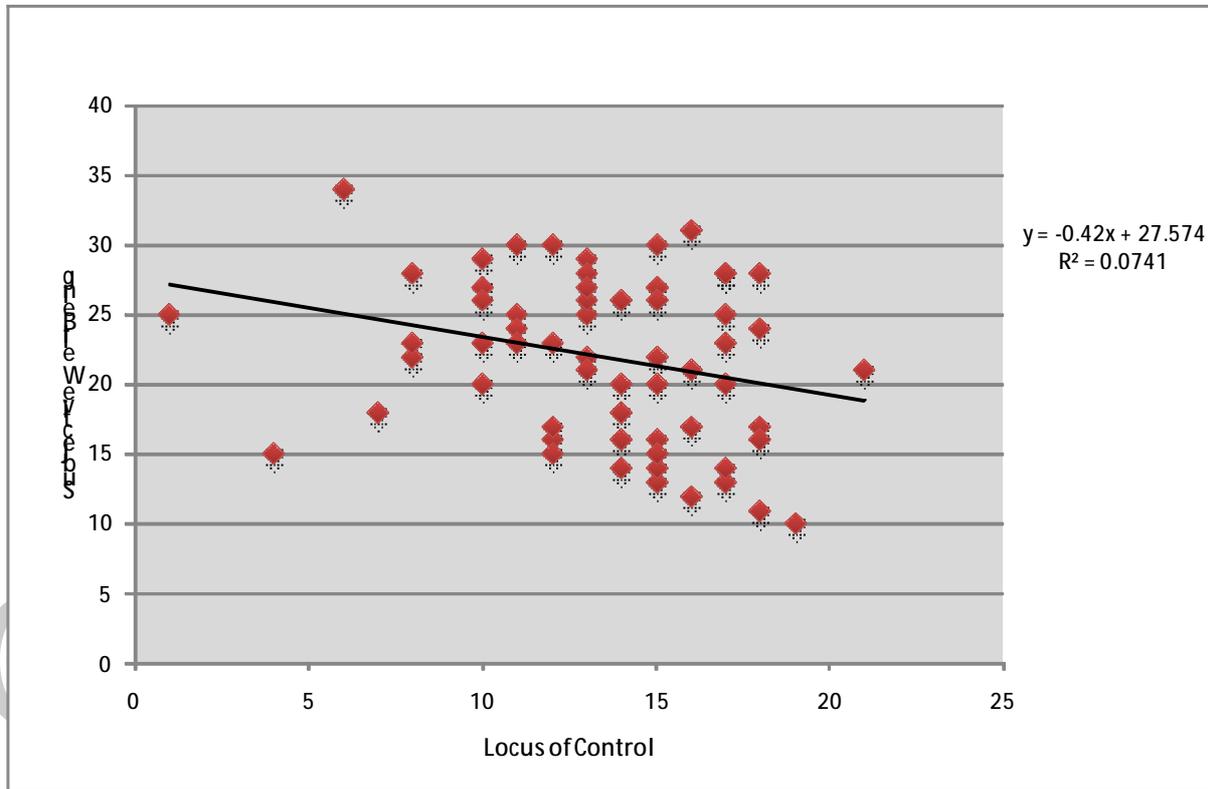
The two-tailed t-test yields a test statistic of -0.095 against a critical statistic of -2.012 and a p-value of 0.35, thus we cannot reject the null hypothesis.

**Conclusion:** There is no significant correlation between Locus of Control and Subjective Well-Being in the Southern African Population.

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ii. China

Figure 7 below represents the relationship between Subjective Well-Being and Locus of Control in the Chinese population.



**Figure 7: Scatter Diagram Showing Relationship between Locus of Control and Subjective Well-Being in the Chinese Population**

Regression analysis revealed the coefficient of correlation,  $r$  to be -0.272 indicating weak negative correlation between Locus of Control and Subjective Well-Being.

To test the significance of the correlation coefficient against the population, a two-tailed t-test was performed:

**Null Hypothesis ( $H_0$ ):**  $r = 0$  (The correlation in the population is 0)

**Alternative Hypothesis ( $H_1$ ):**  $r \neq 0$  (The correlation in the population is different from 0)

**Significance Level:** 95%

The two-tailed t-test yields a test statistic of -2.191 against the critical statistic of 2.000 and a p value of 0.032, thus the null hypothesis is rejected and the alternate hypothesis is accepted.

**Conclusion:** There is significant correlation between Locus of Control and Subjective Well-Being in the Chinese population.

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### 4.1.3 Summary of Findings

**Table 5: Summary of Locus of Control Findings**

	Southern Africa	China
<b>Sample Mean Locus of Control</b>	7.3	13.4
<b>Sample Standard Deviation</b>	3.9	3.8
<b>Locus of Control &amp; Culture</b>	<b>Significant Relationship</b>	
<b>Locus of Control &amp; Gender</b>	<b>Significant Relationship</b>	No Significant Relationship
<b>Locus of Control &amp; Age</b>	<b>Significant Relationship</b>	No Significant Relationship
<b>Locus of Control &amp; Level of Education</b>	No Significant Relationship	No Significant Relationship
<b>Locus of Control &amp; Post Graduate Studies</b>	No Significant Relationship	No Significant Relationship
<b>Locus of Control &amp; General Career Type</b>	No Significant Relationship	No Significant Relationship
<b>Locus of Control &amp; Management Status</b>	<b>Significant Relationship</b>	No Significant Relationship
<b>Locus of Control &amp; Subjective Well-Being</b>	No Significant Relationship	<b>Significant Relationship</b>

**Table 6: Summary of Subjective Well-Being Findings**

	<b>Southern Africa</b>	<b>China</b>
<b>Mean Subjective Well-Being</b>	28.3	22
<b>Standard Deviation</b>	4.2	5.8
<b>Subjective Well-Being &amp; Culture</b>	<b>Significant Relationship</b>	
<b>Subjective Well-Being &amp; Gender</b>	<b>Weak Relationship</b>	<b>Significant Relationship</b>
<b>Subjective Well-Being &amp; Age</b>	No Significant Relationship	No Significant Relationship
<b>Subjective Well-Being &amp; Level of Education</b>	No Significant Relationship	No Significant Relationship
<b>Subjective Well-Being &amp; Post Graduate Studies</b>	No Significant Relationship	No Significant Relationship
<b>Subjective Well-Being &amp; General Career Type</b>	No Significant Relationship	No Significant Relationship
<b>Subjective Well-Being &amp; Management Status</b>	No Significant Relationship	No Significant Relationship

## 4.2 Research Analysis and Discussion

### 4.2.1 Reliability & Validity

Quantitative research criteria take the forms of reliability, replication and validity (Bryman & Bell, 2007).

Reliability fundamentally is concerned with issues of consistency of measures (Bryman & Bell, 2007). It is concerned with the stability of the variables over time and whether the measurements are independent of one another (Bryman & Bell, 2007).

Replicability is concerned with whether the results of a study can be repeated by other researchers with the same results (Bryman & Bell, 2007).

Finally, validity refers to the integrity of a researcher's conclusions with respect to the suitability of a measure to a concept (measurement validity), to whether a causal relationship is correctly indicated (internal validity), and to whether a finding is generalisable (external validity) (Bryman & Bell, 2007).

This researcher has used established tests and scales that have proven reliability, replicability, internal validity and measurement validity (Rotter, 1966; Diener, 1995), thus the researcher is confident of the reliability of the variables over time.

Regarding external validity, as the research only focused on a small sub-population from each nation, namely educated professionals, the findings cannot be generalised across the whole

population (Bryman & Bell, 2007), only to similar sub-populations. Nevertheless, the researcher hopes that this research provides the basis for further study in this area.

## **4.2.2 Locus of Control**

The primary objective of this research was to compare and contrast the similarities and differences between Southern Africa and China with respect to both Locus of Control and Subjective Well-Being.

### *4.2.1.1 Locus of Control & Culture*

According to Jackson (2002), Southern Africa exhibits both internal and external Loci of Control as well as both individualistic and collectivist aspects. However, the results yielded from the questionnaire indicate a far more internal Locus of Control for this population than would be expected given these facts. Mean Locus of Control for this group falls within the 95% confidence interval of 6.2 – 8.5, suggesting that the sub-population represented in this research is far more internal and thus individualistic than the population as a whole.

The data shows that China exhibits a much more external Locus of Control than Southern Africa. As China is a collectivist nation (Hamid, 1994; Hui, 1982) and thus expected to exhibit more external Locality, this result is not surprising. The 95% confidence interval for Chinese mean Locus of Control is from 12.4 to 14.3 on the original Rotter scale (1966), a finding that is in line with previous researchers' discoveries (Spector et al, 2002; Smith, Trompenaars & Dugan, 1995).

#### 4.2.1.2 *Locus of Control & Gender*

Very little evidence is available in the literature to suggest a link between Locus of Control and Gender; however, in the Southern African population a significant relationship was noted, with women exhibiting more external Locus of Control than men.

Historically women have played a role more consistent with secondary control as men have traditionally had more control of resources and thus more power than women through the use of religion (Ruether, 1981), law (Kessler-Harris, 1982) and social convention (Keohane, 1981). Discrimination continues to this day, both actively in the workplace through the presence of glass ceilings and passively through sex-role stereotyping (Reed, Kratchman & Strawser, 1994).

Sex-role stereotypes are the “sum of socially designated behaviours that differentiate between men and women” (Broverman, Vogel, Broverman, Clarkson & Rosenkranz, 1994, p.191). Within these stereotypes, women are perceived as “less competent, less independent, less objective, and less logical than men” (Broverman, Vogel, Broverman, Clarkson & Rosenkranz, 1994, p.207). More importantly, a person’s self-concept takes these social stereotypes into account and, as women have a more negative stereotype than men, women tend to have more negative self-concepts than men ((Broverman, Vogel, Broverman, Clarkson & Rosenkranz, 1994).

This negative self-concept is more consistent with external than internal control, and Brown (1983) in his study of graduate students found that women who took on more traditional feminine roles tended to be more externally orientated, whereas women in non-traditional roles tended to be more internally orientated. Freedman (1992) further notes that the Rotter (1966) I-E test does not distinguish between different types of external control, specifically control through powerful others and control through luck.

Given historical context and sex-role stereotypes, it is possible that women take on more external control through their experience of and belief in the effects of powerful others.

The presence of sex-role stereotypes may help explain the differences between Locus of Control expectancies between men and women in the Southern African population as these stereotypes exist despite the high levels of education and career success in the research population.

However, it must also be noted that the women surveyed were on average younger than men surveyed and that, as a significant link was found between age and Locus of Control in the Southern African population, further research is required before any firm conclusions can be drawn. The results are suggestive, but internal validity cannot be confirmed.

No significant relationship was found between gender and Locus of Control in the Chinese population. This is more consistent with findings in the literature. It is also possible that as a collectivist, communist nation, China's sex-role stereotypes are different to those in Southern Africa. Another possibility is that the collectivist nature of the population is a more powerful determinant of Locus of Control than gender.

#### *4.2.1.3 Locus of Control & Age*

There is a certain amount of ambiguity regarding Locus of Control and Age in the literature, although a certain amount of evidence exists to suggest that Locus of Control does increase with age (Duke, Shaheen & Nowicki, 1974, Knoop, 1981, & Lao, 1976). Knoop (1981) notes that an individual's sense of control over his or her environment becomes more differentiated as his or her experiences increase.

Southern Africa was found to have a significant relationship between Age and Locus of Control, with people over the age of 30 significantly more internally orientated than those under 30. Given that people tend to take on more positions of control as they age, either management positions at work or head of family positions at home, the researcher speculates that this increased control over the environment could cause the increased internality.

China was found to have no significant relationship between Locus of Control and Age, suggesting that collectivism or other factors are more compelling when establishing Locus of Control expectancies.

#### *4.2.1.4 Locus of Control & Level of Education*

Locus of Control has been shown to have an effect on academic performance (Gifford, Briceño-Perriott & Mianzo, 2006), but there is little evidence to suggest whether level of education affects a person's Locus of Control. No statistically significant relationship was found between level of education and Locus of Control for either population, and given this lack of evidence for education as a contributor towards determining Locus of Control, the researcher concludes that it is life experiences in general that affect a person's locality, and that education is thus only a small component thereof.

Rotter (1966) noted that the Locus of Control construct is created through behavioural reinforcements and that an individual seeks out positive reinforcement and avoids negative stimulations, and that similar situations will have varying levels of impact on individuals depending on life experience. Thus the researcher concludes that education does not affect an individual's Locus of Control in any specific direction but rather contributes experiences that reinforce Locus of Control in either a positive or negative manner.

#### 4.2.1.5 *Locus of Control & Career Type including Management Status*

No statistically significant relation was found between general level of career and Locus of Control for either population, although a highly significant relationship was discovered between Management status and Locus of Control in the Southern African population, with managers showing significantly more internal Locus of Control than non-managers.

The former finding agrees with the researcher's suggestion regarding educational status, in that each individual takes the experiences in whatever situation he or she finds him- or herself and adapts them to meet his or her own expectancies regardless of career path.

The latter finding offers two possible explanations: firstly that individuals with more internal control are more likely to apply for and receive management positions as these are positions in which control must be assumed over a variety of situations on an ongoing basis and thus require a more internal frame attitude. In this scenario, Management status is not a determinant of Locus of Control but rather that an internal Locus of Control is a possible antecedent for Management.

The second possible explanation is that Management contributes to internality and that non-management contributes to a degree to externality. As managers are expected to make decisions and be responsible for those decisions, the researcher suggests that management acts reinforce internal expectancies in individuals. Likewise, non-management positions require people to take orders and not have as much control over their environments, thus reinforcing external expectancies.

The association between internality and leadership is not a new idea; internally-orientated leaders and managers have been found to be more confident and effective (Howell & Avolio, 1993) as well as having the ability to adapt, act and innovate more frequently and adroitly

(Miller et al, 1982, Rotter, 1966). This suggests that although internality is not a prerequisite for management and leadership, that the most effective managers exhibit internal Locus of Control. Indeed, it has been found that individuals in the upper tiers of organisations tend to exhibit more internal control (Mamlin, Harris, & Case, 2001).

China again found no link between management status and Locus of Control. Chinese Locus of Control was unaffected by any of the demographic variables tested and, as such, the researcher must conclude that Chinese culture and norms or another unknown variable has the predominant impact on Locus of control expectancies.

### **4.1.3 Subjective Well-Being**

The second half of the primary research objective was to compare and contrast any differences in Subjective-Wellbeing between the nations under study.

#### *4.1.3.1 Subjective Well-Being and Culture*

According to White's (2007) global map of Subjective Well-Being, China is a happier region than Southern Africa. According to the map, China shows medium-high levels of Subjective Well-Being and Southern Africa shows medium-low to low levels of Subjective Well-Being.

The results from this research show that the Southern African population studied have high Subjective Well-Being and are significantly happier than the Chinese population who show medium-high Subjective Well-Being.

White (2007) noted strong correlations between poverty and Subjective Well-Being, thus the elevated Southern African results may have arisen because the population under study

consists of primarily well-educated professionals who do not feel the effects of poverty. Diener (2000) noted the effects of financial well-being on Subjective Well-Being so the elevated Southern African result is not surprising.

Other correlations with Subjective Well-Being include health and access to basic education (White, 2007). As both populations studied have comparable backgrounds, the researcher finds it unlikely that either of these correlates explains the difference in Subjective Well-Being.

#### *4.1.3.2 Subjective Well-Being and Gender*

The relationship between Subjective Well-Being and gender has produced conflicting results in the literature, with studies on positive aspect and general life satisfaction showing higher satisfaction in women (Fujita, Diener & Sandvik, 1991), no gender differences (Okun & George, 1994), and varying differences (Shmotkin, 1990). On the other hand, women regularly report more negative emotions than men (Costa, Terracciano & McCrae, 2001, Hansson, Hillerås & Forsell, 2005) and report lower levels of Subjective Health than men (Baltes, Freund & Horgas, 1999).

This study showed a statistically significant relationship between Subjective Well-Being and Gender with China yielding a stronger relationship between the variables than Southern Africa. Both results show that women have higher life satisfaction than men.

The literature suggests that biological sex differences could account for differences in Subjective Well-Being (Lippa, 2005); however, these primarily hormonal factors are not well supported empirically (Nydegger, 2004). The literature also suggests that different living conditions, including opportunity structures and resources, might account for the differences

(Tesch-Romer, Motel-Klingebiel & Tomasik, 2008), although these are primarily used to explain why women have lower Subjective Well-Being than men.

The researcher does not have enough data to make a supposition as to why women are happier than men in the populations studied.

#### *4.1.3.3 Subjective Well-Being & Other Variables*

This study found no other relationship between Subjective Well-Being and the demographic variables (age, level of education, or career type) studied in either population. This is a surprising result given the large body of literature supporting a link between Age and Subjective Well-Being (Ehrlich, Isaacowitz, 2002, Horley & Lavery, 1994, Oswald & Clark, 2006), which suggests that older individuals should be happier than their younger counterparts.

#### *4.1.3.4 Correlation between Locus of Control and Subjective Well-Being*

The secondary research question addresses whether Locus of Control and Subjective Well-Being are correlated differently for the cultures under study, with the research hypothesis that different correlates will be found in each country. The premises for this hypothesis are as follows:

- Individualism and Collectivism affect both Locus of Control (Spector et al., 2002) and Subjective Well-Being (Diener, Diener & Diener, 1995)
- China is a typically collectivist country (Spector et al., 2002)
- Southern Africa exhibits both individualist and collectivist behaviours (Theimann, April & Blass, 2006)
- China exhibits more external Locus of Control (Jackson, 2002)

- Southern Africa (within the paradigm of African Renaissance) exhibits both internal and external Locus of Control (Jackson, 2002)
- China shows higher levels of Subjective Well-Being than Southern Africa (White, 2007)

As seen in the research findings, correlation between Locus of Control and Subjective Well-Being was stronger in China than in Southern Africa with both showing weak negative correlations; however, only the Chinese result could be extrapolated to the population being studied. Thus the results show that China's Subjective Well-Being is negatively correlated with Locus of Control – the more internal the control, the happier the individual – and that Southern Africa shows no correlation between Locus of Control and Subjective Well-Being. From this the researcher accepts Hypothesis 2, that each country is differently correlated.

Comparing the results of this study to those yielded in Spector et al's (2002) study, we see a different pattern emerging. Spector et al (2002) found that different nations were similarly negatively correlated, whereas the result yielded from this study shows differences between the nations studied. China's correlation in this study was -0.272, comparable to the -0.35 correlation yielded in Spector's (2002) study. Southern Africa, on the other hand, showed a sample correlation of -0.137 against Spector's (2002) -0.5. This indicates that the Southern African population surveyed in this research greatly differed from those in the 2002 study, whereas the Chinese population surveyed was reasonably comparable. The differing results suggest the need for the research to be repeated in order to confirm reliability.

## 4.2 Research Limitations

All research studies have limitations (Cooper & Schindler, 2001) and the reader should be aware of the following limitations encountered during this study and the counter-measures imposed where appropriate:

- The sample set is limited to alumni, staff and students of Graduate School of Business, University of Cape Town, South Africa and of China European International Business School in Shanghai, China, thus the findings cannot be generalised to the population as a whole (Bryman & Bell, 2007). However, as the populations studied are of well-educated professionals, it can be argued that the research can be generalised to this sub-population in Southern Africa and China.
- Both the Graduate School of Business and the China European International Business School attract international students, who are outside the scope of this study. Thus these students and alumni were eliminated from the samples to ensure that the data is an accurate representation of the populations studied. Only Chinese nationals and Southern African nationals were included in the study.
- Use of an online questionnaire may have excluded participants without internet access (Bryman & Bell, 2007); however, the researcher assumes that as students are required to access the internet in order to complete their assignments and thus their studies, the population under study did not exclude too large a proportion of the population.
- Online questionnaires also have the disadvantage of low response rates (Bryman & Bell, 2007), but low costs and faster response mitigate this disadvantage. Furthermore, online questionnaires contain less missing data than posted questionnaires (Bryman & Bell, 2007). To mitigate this, the researcher allowed a

three-week period to complete the questionnaire and actively solicited responses from the Southern African set. Furthermore, an administrator at the China European International Business School was responsible for ensuring a large response at that school.

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## **5 RESEARCH CONCLUSIONS**

The primary research objective was to determine what differences exist between Southern Africa and China with respect to Locus of Control and Subjective Well-Being. The research discovered that there are myriad and profound differences between the populations, with culture emerging as a highly significant determinant of both Locus of Control and Subjective Well-Being.

### **5.1 Locus of Control**

#### **5.1.1 Introduction**

China was found to have external Locus of Control unrelated to variables such as age, gender, level of education, or career type, suggesting that the general culture and behavioural norms affect the Locus of Control construct in this region. The researcher concludes that general secondary control exhibited and accepted by the Chinese has a stronger effect on a person's Locus of Control expectancies than individual events and occurrences in a person's environment.

In contrast Southern African exhibited very internal Locus of Control, despite literature indicating that this region should display both internal and external expectancies. This suggests that the population sampled is more homogenous in terms of ethnic or cultural background.

Southern Africa also showed strong relationships between various demographic variables and Locus of Control, notably Gender, Age, and Management Status. Women were found to have more external control than men, people over 30 were found to have more internal control than their younger counterparts, and managers were found to be more internal than non-managers.

From these findings the researcher makes the following conclusions:

### **5.1.2 Locus of Control & Gender**

Given the more external control exhibited by Southern African females, the researcher posits that historical gender roles have resulted in more secondary control in this population, whereby a woman expresses her control through alignment with powerful others or through emotional response mediation (Weisz, Rothbaum & Blackburn, 1984). This in turn suggests that women are more collectivist in nature than men; however, further research is needed to confirm or deny this supposition.

With regards to China, the researcher concludes that the lack of relationship between Locus of Control and Gender can be attributed to the general collectivist nature of the state, arising from the communist beliefs of an equal, classless society.

### **5.1.3 Locus of Control & Age**

The data indicates a relationship between Locus of Control and Age in Southern Africa with individuals over 30 exhibiting more internal control than those younger than 30. The researcher concludes that life experience for this population of educated, career-orientated

people reinforces the idea that outcomes are based on what a person puts in rather than on external factors. The researcher further posits that younger individuals are less likely to have been in positions of power or control than older individuals and thus their expectancy that they are under the control of powerful others is reinforced. Once an individual reaches a stage where he or she has more control over his or her environment, his or her internal expectancies are reinforced, resulting in more internal control.

As with Gender, the researcher concludes that the collectivist nature of China precludes any differences in Locus of Control arising from age.

#### **5.1.4 Locus of Control & Management Status**

The relationship between Southern Africa and management status showed that managers had more internal control than non-managers. From this the researcher concludes that being in a position of control reinforces the internal expectancy for managers. Similarly, having limited control as a non-manager reinforces the external expectancy, resulting in more external Locus of Control in this group. The researcher also suspects that people with more internal Locus of Control are more likely to apply for and receive management positions because they are comfortable taking charge of situations and making decisions.

This relationship does not hold true in the Chinese population; however, as previously stated, it seems that the collectivist cultural norms override individual expectancy reinforcement.

### **5.1.5 Locus of Control & Education**

No relationship was found between Locus of Control and level of Education in either population, thus the researcher concludes that education does not fundamentally reinforce either internal or external expectancy.

### **5.1.6 Locus of Control & Culture**

Culture appears to be the most important variable when determining Locus of Control in China versus Southern Africa. The researcher concludes that culture is the overarching factor that affects Locus of Control in China, but that in Southern Africa culture allows other variables to affect Locus of Control expectancies.

## **5.2 Subjective Well-Being**

### **5.2.1 Introduction**

The results for Subjective Well-Being were surprising given White's (2007) global map of subjective happiness. Southern Africa showed a much higher Subjective Well-Being than expected from the map, as well as being higher than Chinese Subjective Well-Being, which the maps shows as exceeding Southern Africa's.

Thus the researcher concludes that the educated, professional Southern African population researched is happier than the population of the country as a whole. Reasons for this discrepancy could include financial well-being, health, or levels of opportunity available to the population; however, further research needs to be conducted to determine the actual reasons behind this result.

The researcher also concludes that this Southern African population is happier than the equivalent Chinese population. It is unlikely that White's (2007) main correlates of Subjective Well-Being – health, wealth, and access to education – are causes of the discrepancy as both populations should exhibit similar levels of all three.

Another possible reason for Southern Africa's higher levels of Subjective Well-Being could be related to its more internal Locus of Control. The literature has noted the negative correlation between Locus of Control and Subjective Well-Being, with externals being less happy than their internal counterparts.

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### **5.2.2 Subjective Well-Being & Gender**

The research found a significant relationship between Subjective Well-Being and Gender for both populations, although the relationship was much weaker in the Southern African population. The data suggests that women are happier than men in both populations. This is an exciting finding not noted in the literature and the researcher thus concludes that something in the feminine make-up results in women being happier with and more accepting of their lives than men. This is identified as an area for further research as the data does not provide enough information to determine causality.

### **5.2.3 Subjective Well-Being & Other Demographic Factors**

No other demographic factor had a significant effect on Subjective Well-Being in either population. The researcher thus concludes that Subjective Well-Being is independent of age, level of education, and career type and that other factors are therefore responsible for happiness in these populations.

### **5.3 Subjective Well-Being and Locus of Control**

The secondary objective of this research was to determine whether a difference existed between how Locus of Control and Subjective Well-Being were correlated in each country.

As previously noted, there is significant negative correlation between Locus of Control and Subjective Well-Being in the literature. The secondary objective of this research was to determine whether the correlations differ between Southern Africa and China.

Southern Africa showed a much weaker negative correlation than did China, but this correlation was shown not to be significant within the population as a whole. Thus the researcher must conclude that Southern Africans' Subjective Well-Being is not dependant on their locality and that they determine their happiness through other means.

China showed significant negative correlation in the population, with people becoming less happy as their Locus of Control became more external. This is in line with the literature and the researcher concludes that while other factors do come into play when determining Subjective Well-Being, Locus of Control is a significant determining factor.

With respect to Hypothesis 2 as set out in section 3.1, the researcher concludes that the hypothesis was correct and that Southern Africa and China have different correlates of Locus of Control and Subjective Well-Being.

## **5.4 Final Conclusions**

Southern Africa and China show marked differences both in Locus of Control and Subjective Well-Being and in which factors affect these constructs. Culture remains the over-riding factor that differentiates the two, with the other factor differences providing exciting hints towards better understanding of these differences at a psychological level.

The relevance of gender to Locus of Control (Southern Africa) and Subjective Well-Being (both) is an exciting finding not well represented in the literature and that provides interesting avenues for future research both cross-culturally and locally.

## 6 FUTURE RESEARCH DIRECTIONS

Locus of Control and Subjective Well-Being both remain popular topics in the furtherance of understanding the human condition and this research opened up several exciting avenues for future research. The opportunities identified during the course of this study were as follows:

- Further research into the relationship between Locus of Control and Gender, including causal factors.
- Further research into the relationship between Subjective Well-Being and Gender, including causal factors.
- Research into the causal factors affecting Subjective Well-Being in Southern Africa versus China for this population group.
- A longitudinal study ascertaining the relationship between age, responsibility and Locus of Control.
- The effect on ethnicity, rather than just culture, on Locus of Control and Subjective Well-Being.

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## APPENDICES

### Appendix 1 – Rotter (1966) Internal-External Scale

- 1a. Children get into trouble because their parents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.
- 2a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.
- 3a. One of the major reasons why we have wars is because people don't take enough interest in politics.
- b. There will always be wars, no matter how hard people try to prevent them.
- 4a. In the long run people get the respect they deserve in this world
- b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries
- 5a. The idea that teachers are unfair to students is nonsense.
- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
- 6a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7a. No matter how hard you try some people just don't like you.

b. People who can't get others to like them don't understand how to get along with others.

8a. Heredity plays the major role in determining one's personality

b. It is one's experiences in life which determine what they're like.

9a. I have often found that what is going to happen will happen.

b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.

b. Many times exam questions tend to be so unrelated to course work that studying in really useless.

11a. Becoming a success is a matter of hard work; luck has little or nothing to do with it.

b. Getting a good job depends mainly on being in the right place at the right time.

12a. The average citizen can have an influence in government decisions.

b. This world is run by the few people in power, and there is not much the little guy can do about it.

13a. When I make plans, I am almost certain that I can make them work.

b. It is not always wise to plan too far ahead because many things turn out to- be a matter of good or bad fortune anyhow.

14a. There are certain people who are just no good.

b. There is some good in everybody.

15a. In my case getting what I want has little or nothing to do with luck.

b. Many times we might just as well decide what to do by flipping a coin.

16a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

b. Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

17 a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

b. By taking an active part in political and social affairs the people can control world events.

18a. Most people don't realize the extent to which their lives are controlled by accidental happenings.

b. There really is no such thing as "luck."

19a. One should always be willing to admit mistakes.

b. It is usually best to cover up one's mistakes.

20a. It is hard to know whether or not a person really likes you.

b. How many friends you have depends upon how nice a person you are.

21a. In the long run the bad things that happen to us are balanced by the good ones.

b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22a. With enough effort we can wipe out political corruption.

b. It is difficult for people to have much control over the things politicians do in office.

23a. Sometimes I can't understand how teachers arrive at the grades they give.

b. There is a direct connection between how hard I study and the grades I get.

24a. A good leader expects people to decide for themselves what they should do.

b. A good leader makes it clear to everybody what their jobs are.

25a. Many times I feel that I have little influence over the things that happen to me.

b. It is impossible for me to believe that chance or luck plays an important role in my life.

26a. People are lonely because they don't try to be friendly.

b. There's not much use in trying too hard to please people, if they like you, they like you.

27a. There is too much emphasis on athletics in high school.

b. Team sports are an excellent way to build character.

28a. What happens to me is my own doing.

b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29a. Most of the time I can't understand why politicians behave the way they do.

b. In the long run the people are responsible for bad government on a national as well as on a local level.

(Rotter, 1966)

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## Appendix 2 – Satisfaction with Life Scale

DIRECTIONS: Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number in the line preceding that item. Please be open and honest in your responding.

1 = Strongly Disagree

2 = Disagree

3 = Slightly Disagree

4 = Neither Agree or Disagree

5 = Slightly Agree

6 = Agree

7 = Strongly Agree

\_\_\_\_\_ 1. In most ways my life is close to my ideal.

\_\_\_\_\_ 2. The conditions of my life are excellent.

\_\_\_\_\_ 3. I am satisfied with life.

\_\_\_\_\_ 4. So far I have gotten the important things I want in life.

\_\_\_\_\_ 5. If I could live my life over, I would change almost nothing.

(Diener, Emmons, Larsen, & Griffin, 1985)

## Appendix 3 – Demographic Questions

1. Are you

Male                  Female

2. How old are you?

Under 20      20 - 24      25 - 30      30 - 34      35 - 39      40 - 49

Over 50

3. How many years of formal school education (or their equivalent) did you complete (starting with primary school)?

10 Years or less      11 years      12 years      13 years      14 years

15 years                  16 years      17 years      18 years or more

4. If you have or have had a paid job, what kind of job is it / was it?\*

No paid job (includes full-time students)

Unskilled or semi-skilled manual worker

Generally trained office worker or secretary

Vocationally trained craftsperson, technician, informatician, nurse, artist or equivalent

Academically trained professional or equivalent (but not a manager of people)

Manager of one or more subordinates (non-managers)

Manager of one or more managers

5. What is your nationality?

6. What was your nationality at birth (if different)?

Hofstede (1994)

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## Appendix 4 - Locus of Control & Subjective Well-Being Survey

### Demographic Details

Some information about yourself for statistical purposes

1. Are you\*

Male  Female

---

2. How old are you?\*

Under 20

20 - 24

25 - 29

30 - 34

35 - 39

40 - 49

Over 50

---

3. How many years of formal school education (or their equivalent) did you complete (starting with primary school)?\*

10 years or less

11 years

12 years

13 years

14 years

15 years

16 years

17 years

18 years or more

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4. If you have or have had a paid job, what kind of job is it / was it?\*

No paid job (includes full-time students)

Unskilled or semi-skilled manual worker

Generally trained office worker or secretary

Vocationally trained craftsperson, technician, informatician, nurse, artist or equivalent

- Academically trained professional or equivalent (but not a manager of people)
  - Manager of one or more subordinates (non-managers)
  - Manager of one or more managers
- 

5. What is your nationality?\*

---

 6. What was your nationality at birth (if different)?

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### Locus of Control

Julian Rotter's Locus of Control scale (1966) measures the extent of a person's internal or external reinforcement beliefs. Indicate which of each statement you believe to be true, despite what you may wish to be true. There are no right or wrong answers.

7. Please select the answer with which you identify most:\*

- Children get into trouble because their parents punish them too much.
- The trouble with most children nowadays is that their parents are too easy with them.

---

8. Please select the answer with which you identify most:\*

- Many of the unhappy things in people's lives are partly due to bad luck.
- People's misfortunes result from the mistakes they make.

---

9. Please select the answer with which you identify the most:\*

- One of the major reasons why we have wars is because people don't take enough interest in politics.
- There will always be wars, no matter how hard people try to prevent them.

---

10. Please select the answer with which you identify the most:\*

- In the long run people get the respect they deserve in this world.
- Unfortunately, an individual's worth often passes unrecognized no matter how hard he/she tries.

---

11. Please select the answer with which you identify the most:\*

- The idea that teachers are unfair to students is nonsense.
- Most students don't realize the extent to which their grades are influenced by accidental happenings.

---

12. Please select the answer with which you identify most:\*

- Without the right breaks one cannot be an effective leader.
- Capable people who fail to become leaders have not taken advantage of their opportunities.

---

13. Please select the answer with which you identify most:\*

- No matter how hard you try some people just don't like you.
- People who can't get others to like them don't understand how to get along with others.

---

14. Please select the answer with which you identify most:\*

- Heredity plays the major role in determining one's personality.
- It is one's experiences in life which determine what they're like.

---

15. Please select the answer with which you identify most:\*

- I have often found that what is going to happen will happen.
- Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

16. Please select the answer with which you identify most:\*

- In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
  - Many times exam questions tend to be so unrelated to course work that studying is really useless.
- 

17. Please select the answer with which you identify most:\*

- Becoming a success is a matter of hard work; luck has little or nothing to do with it.
  - Getting a good job depends mainly on being in the right place at the right time.
- 

18. Please select the answer with which you identify most:\*

- The average citizen can have an influence in government decisions.
  - This world is run by the few people in power, and there is not much the little guy can do about it.
- 

19. Please select the answer with which you identify most:\*

- When I make plans, I am almost certain that I can make them work.
- It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

---

20. Please select the answer with which you identify most:\*

- There are certain people who are just no good.
- There is some good in everybody.

---

21. Please select the answer with which you identify most:\*

- In my case getting what I want has little or nothing to do with luck.
- Many times we might just as well decide what to do by flipping a coin.

---

22. Please select the answer with which you identify most:\*

- Who gets to be the boss often depends on who was lucky enough to be in the right place first.
- Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.

---

23. Please select the answer with which you identify most:\*

- As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
- By taking an active part in political and social affairs the people can control world events.

---

24. Please select the answer with which you identify most:\*

- Most people don't realize the extent to which their lives are controlled by accidental happenings.
- There really is no such thing as "luck."

---

25. Please select the answer with which you identify most:\*

- One should always be willing to admit mistakes.
- It is usually best to cover up one's mistakes.

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26. Please select the answer with which you identify most:\*

- It is hard to know whether or not a person really likes you.
- How many friends you have depends upon how nice a person you are.

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27. Please select the answer with which you identify most:\*

- In the long run the bad things that happen to us are balanced by the good ones.
- Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

28. Please select the answer with which you identify most:\*

- With enough effort we can wipe out political corruption.
  - It is difficult for people to have much control over the things politicians do in office.
- 

29. Please select the answer with which you identify most:\*

- Sometimes I can't understand how teachers arrive at the grades they give.
  - There is a direct connection between how hard I study and the grades I get.
- 

30. Please select the answer with which you identify most:\*

- A good leader expects people to decide for themselves what they should do.
  - A good leader makes it clear to everybody what their jobs are.
- 

31. Please select the answer with which you identify most:\*

- Many times I feel that I have little influence over the things that happen to me.
- It is impossible for me to believe that chance or luck plays an important role in my life.

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32. Please select the answer with which you identify most:\*

- People are lonely because they don't try to be friendly.
- There's not much use in trying too hard to please people, if they like you, they like you.

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33. Please select the answer with which you identify most:\*

- There is too much emphasis on athletics in high school.
- Team sports are an excellent way to build character.

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34. Please select the answer with which you identify most:\*

- What happens to me is my own doing.
- Sometimes I feel that I don't have enough control over the direction my life is taking.

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35. Please select the answer with which you identify most:\*

- Most of the time I can't understand why politicians behave the way they do.
- In the long run the people are responsible for bad government on a national as well as on a local level.

## Satisfaction With Life

The Satisfaction With Life Scale is a short, 5-item instrument designed to measure global cognitive judgments of one's lives.

36. In most ways my life is close to my ideal.\*

Please indicate your agreement with the following statement:

Strongly Agree

Agree

Slightly Agree

Neither Agree Nor Disagree

Slightly Disagree

Disagree

Strongly Disagree

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37. The conditions of my life are excellent.

Please indicate your agreement with the following statement:

Strongly Agree

Agree

- Slightly Agree
  - Neither Agree Nor Disagree
  - Slightly Disagree
  - Disagree
  - Strongly Disagree
- 

38. I am satisfied with my life.\*

Please indicate your agreement with the following statement:

- Strongly Agree
  - Agree
  - Slightly Agree
  - Neither Agree Nor Disagree
  - Slightly Disagree
  - Disagree
  - Strongly Disagree
- 

39. So far I have gotten the important things I want in life.\*

Please indicate your agreement with the following statement:

- Strongly Agree
  - Agree
  - Slightly Agree
  - Neither Agree Nor Disagree
  - Slightly Disagree
  - Disagree
  - Strongly Disagree
- 

40. If I could live my life over, I would change almost nothing.\*  
Please indicate your agreement with the following statement:

- Strongly Agree
- Agree
- Slightly Agree
- Neither Agree Nor Disagree
- Slightly Disagree
- Disagree
- Strongly Disagree