The Subjective Wellbeing of Malaysians

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ABSTRACT

This study compares the subjective wellbeing (SWB) of three groups of people: Malaysians in Malaysia (MIM), Malaysians in Australia (MIA) and Australians (AUS). The SWB of MIM is expected to be lower than AUS since Asians, in general, have been found to report lower SWB compared to Westerners. This difference is due, in part, to lower income, but also to religious teachings which emphasise modesty. However, when MIM migrate to Australia, personal income rises and the process of acculturation tends to diminish modesty. It is important to understand the operation of these factors to enable valid wellbeing comparisons between the people comprising these three groups of people. This is the purpose of this investigation.

The first study found that, MIM reported the lowest SWB, followed by MIA then AUS, even when income was controlled for. While acculturation played a small but significant role in predicting the wellbeing of Malaysian migrants (MIA), their perceived level of English fluency appeared to be a better predictor. Religious teachings did not explain any of the differences found. Further investigation revealed that a higher percentage of Malaysians (21%) reported SWB below 50 points on a standardized 0-100 points scale compared to Australians (4%).

SWB scores below 50 points in Australia are likely to represent homeostatic failure, which increases the risk of depression. However, it is unlikely that a fifth of the Malaysian population is depressed. Instead, the difference found is likely a reflection of some unmeasured source of variance. Hence, this is the focus of the second study.

The second study aimed to establish the comparability of the Personal Wellbeing Index (PWI) and the DASS21-Depression (DASS21-D) and Stress (DASS21-S) scales across
MIM, MIA and AUS before the associations between SWB, depression and stress were assessed. However, due to the small number of MIA participants recruited, MIA data from Study One were used to examine the factorial invariance of this group. It was not possible to do this substitution for the DASS21-D and DASS21-S since these were not measured in Study One. Hence, the examination of measurement invariance for these two scales was confined to the MIM and AUS groups only.

Results revealed that the PWI was comparable between MIA and AUS. However, only three of the seven PWI domains were comparable between MIM and AUS, and four PWI domains invariant between MIM and MIA. This finding indicates that response style varies both across items and countries. Further investigations showed that the MIM response pattern was consistent with that of Middle Response Style, not present in MIA and AUS. With regards to the DASS21- depression and stress scales, very high correlations were found between these scales, which suggest poor discriminant validity. Therefore, it was decided to focus on depression only. Results showed that valid comparisons of the DASS21-D could be made between MIM and AUS.

The SWB of MIA was found to be significantly lower than that of AUS. This difference is likely explained by the acculturation stress MIA experience when living within a new culture. Using just the comparable PWI domains, the SWB of MIM remained significantly lower than that of MIA and AUS, with small effect sizes. With the possibility of response style contamination ruled out, the difference is likely a true reflection of the discrepancies in demographic profiles, such as national wealth and political stability. More importantly, the percentage of MIM (13.9%) reporting SWB below 50 points was found to be fairly similar to that of AUS (11.0%). Exploratory analysis revealed that the narrowing percentages of MIM and AUS were a result of the number of domains retained for comparison analyses (seven for Study 1 versus three for Study 2). As expected, depression
levels did not differ across countries, despite being a significant predictor of SWB for both samples.

In summary, MIM has the lowest SWB, followed by MIA, then AUS. While religious teachings do not explain any of these differences, acculturation and perceived English fluency do explain some variance between cultures. This study also highlights the importance of establishing the comparability of scales between countries to eliminate the possibility of response style contaminating comparison analyses. With response style contamination eliminated, the small difference in SWB, along with the similar depression levels reported between countries, suggest that the homeostatic system is still in control of SWB in MIM and that MIM may have adapted to the relatively poor living conditions.
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1.0 CHAPTER 1.0

SUBJECTIVE WELLBEING

1.1 The Development of Subjective Wellbeing

Happiness has been traditionally perceived in terms of the objective aspects of life (Shea, 1976). The underlying assumption is that the increase in income would result in the enhancement of happiness. Hence, countries across the globe typically employ Gross Domestic Product (GDP) as a measure of population happiness (Wilson, 1972). However, the relationship between GDP and happiness is neither simple nor direct. While GDP has risen in Western countries such as Australia from 1034.2 billion USD in 2008 to 1589.1 billion USD in 2013 (Australian Government Department of Foreign Affairs, 2013), there has been no evident elevation in average levels of happiness (Paul & Guilbert, 2013). It is therefore clear that the employment of GDP alone is not sufficient to capture happiness, and this maybe because it disregarded other important aspects of life, such as family and health.

1.1.2 Meaning of Subjective Wellbeing

The general population typically refers to happiness, or the term happy, as an emotional state that is elicited by an experience (Fordyce, 1983). However, this is not the construct that researchers generally intend to measure. Instead, they seek to measure a more stable dispositional “mood happiness”. The term that best captures this dispositional happiness is Subjective Wellbeing (SWB).
SWB has been defined as an evaluation that people make concerning their satisfaction with life as a whole and with various aspects of life such as standard of living, safety, and so forth (Campbell, Converse, & Rodgers, 1976; Diener, 2006). It comprises both affective and cognitive components (Andrew & Withey, 1976; Headey & Wearing, 1992; Davern, Cummins, & Stokes, 2007). Although there is no consensus as to the exact contribution of affect and cognition to satisfaction with life, there is acknowledgment that these elements, together make up the perceived level of wellbeing- SWB (Diener & Diener, 1996; Davern et al., 2007). The cognitive component has been suggested to involve internal cognitive buffers such as self-esteem, optimism and control which are activated to assist adaptation and habituation to stabilize SWB, while the affective component is reported to consist of mood and emotions (Taylor & Brown, 1988; Cummins & Nistico, 2002; Davern et al., 2007).

1.1.3 Core Affect

Affect experienced at any given moment is a composition of positive and negative feelings (Diener, Suh, Lucas, & Smith, 1999). Positive affects refer to enjoyable feelings such as excitement and feeling alert, while negative affects are unpleasant feelings such as anxiety and worry (Diener, 2006). In these affective terms, SWB is considered to be a reflection of the experience of predominantly positive affective states with low levels of negative affect (Diener, Lucas, Oishi, & Suh, 2002).

Russell (2003) defined a constructed named “Core Affect” as an ‘object-free’, prolonged neurophysiological state that is the simplest non-reflective mood. He proposed that Core Affect could exist without being attributed to any cause and is akin to human body temperature in that, it is always there and can be noted at will. Core affect becomes salient and consciously noted when changes in affect occur. Changes to it can be temporary or long lasting (as seen in clinical depression) and can vary in intensity. Nonetheless, when Core
Affect is neutral and stable, it is suggested to be generally outside of conscious awareness (Russell, 2003).

Core Affect was determined by Davern and colleagues (2007) to consist of three affect- ‘happy’, ‘content’ and ‘excited’. They observed that this minimum set of affects explained 64% of the variance in ‘satisfaction with life as a whole’ (General Life Satisfaction: GLS). Such results suggest that SWB is primarily an affective construct.

Supporting these conclusions, Blore, Stokes, Mellow, Firth and Cummins (2011) compared a pure affective model of SWB with an affective and cognitive model. Results from the structural equation modelling showed that a pure affective model (Core Affect), comprising affect terms “happy”, “content” and “active”, provided the best fit to the data, accounting for 66% of the variance in SWB. It was therefore concluded that Core Affect is the primary predictor of SWB.

On the basis of these results, the simplest non-directive, object-free form of mood- Core Affect appears to be the dominant component of SWB. However, in a more recent paper, Russell (2009) proposed a different meaning of Core Affect. Whereas his earlier description depicted Core Affect as free-floating mood that is object-free (Russell, 2003), Russell (2009) revised his account to suggest that it might possibly be directed at something and therefore could be a form of emotional reaction that could be influenced by cognitions. Accordingly, given the meaning of Core Affect changed, an alternative term is required to capture the original meaning.
1.2 Homeostasis Theory of SWB

1.2.1 Homeostatically Protected Mood

Cummins (2010) coined the term Homeostatically Protected Mood (HPMood) to describe this primitive affective state that predicts SWB. HPMood is experienced without any form of stimulus and is constantly present in the background of one’s consciousness. It is the simplest and most basic form of biologically determined positive mood that provides motivation for behaviors. It is proposed that an innate system strives to defend and maintain HPMood within a set point range. This inbuilt system is known as SWB homeostasis (Cummins, 2010).

1.2.2 Positive Set Point Range

SWB homeostasis assists people to maintain a positive sense of wellbeing for normal functioning (Cummins, 2010). The goal of homeostasis is to maintain SWB within a set range of values (Cummins, Lau & Davern, 2012). A positive set point range for SWB is proposed to exist, and people have a tendency to revert back to their set point after a departure from it due to pleasant or unpleasant experiences (Cummins, 2010). This idea is supported by findings showing that emotional reactions experienced by resilient people who have endured the death of a spouse would usually rebound some time after this adverse life event (Bonanno, Wortman, & Nesse, 2004). Nonetheless, Bonanno and colleagues (2004) failed to control for, or examine, the effects of financial status or any form of financial assistance received by the widows, which was likely to have boosted resilience.

To examine whether a SWB reference point that reflects the population standard of life satisfaction existed, Cummins (1995) scanned through more than a thousand articles and books on quality of life for data. To be included in his analysis, the data had to capture
perceived satisfaction on a symmetrical Likert scale from comparable cultures and socioeconomic statuses with large normative sample sizes. Sixteen studies fulfilled these criteria and the sample mean scores were then converted using the statistic ‘Percentage of Scale Maximum (SM)’. This statistic represents the conversion of various Likert Scale scores into a standard measure that ranges from 0-100. It uses the formula \[
\frac{(X-k^{\text{min}}/ k^{\text{max}}-k^{\text{min}}) \times 100}
\]
where \(X\) is the score or mean to be converted, \(k^{\text{min}}\) is the minimum score possible on the scale and \(k^{\text{max}}\) representing the maximum score on the scale. This allows for the comparison between studies that utilized different scales. Despite wide variation in the studies, there was a remarkable consistency among the data. Using the mean survey scores as data, it was found that the SM mean was 75% with a 2.73 standard deviation (Cummins, 1995).

To strengthen the evidence of a SWB set point, further confirmatory data were gathered. A sample of 2000 Australians were recruited as part of a stratified random sample to complete the Personal Wellbeing Index (PWI; IWBG, 2013) measuring SWB, over the phone (Cummins, 2003). Congruent with his previous findings, the average satisfaction with life as a whole was 75.5%SM. These results can be taken to support the existence of a homeostatic mechanism that maintains satisfaction with life at approximately 75%SM (Cummins 1995; Cummins 2003).

Other findings show that the SWB of the average population varies little across time. A large study by the Australian Centre on Quality of Life showed that across the 32 surveys conducted over 14 years (2001-2015), population SWB varied within just 1.9 percentage points with mean scores ranging between 74.5 points and 76.4 points (Cummins et al, 2015). Nonetheless, the extent of this range differs between individuals.

A 10-year longitudinal study that presented evidence for the existence of set points showed that individual set points lie between 71-90 points, with an average set point range of 18-20 points for each individual (Cummins, Li, Wooden & Stokes, 2013). The limited
variation in sample means, as presented by the 32 survey findings, along with the evidence of the existence of individual set points, support the SWB Homeostasis theory. This theory asserts that SWB is maintained and controlled at a set point range by a set of psychological stabilizing forces. Under normal operating conditions, deviations from the set point will return to the set-point over time.

1.2.3 The Homeostatic Model of Subjective Wellbeing

This notion that SWB is managed by a psychological homeostatic system implies that external challenging agents threatening SWB will normally be reflected as limited variations within the set point range. Challenging agents are negative events, such as performing poorly for an examination or receiving a speeding ticket that threaten normal levels of SWB. Homeostasis theory asserts that when mild or no threats are experienced, SWB fluctuates within a set point range (Cummins, 2010). However, when the strength of the challenging agent intensifies and becomes too overwhelming for homeostatic management, SWB will likely fall below the set point range, which can result in the loss of normal functioning (Cummins, 2010). Figure 1 shows the graphical representation of the homeostasis process described.
Figure 1: Varying levels of SWB for an individual when homeostasis is challenged (Reproduced from Cummins, 2010).

Figure 1 shows the proposition that when no challenging agent is experienced, SWB is maintained towards the higher end of a person’s set point range. As the system is challenged at a level between the upper or lower threshold, the homeostatic system is able to comfortably accommodate changes in the environment and these changes exert little influence over SWB. The upper and lower thresholds as indicated by the vertical arrows, refers to the upper (90 point) and lower (71 point) margins of the set point range. Under these circumstances, SWB is maintained within the lower end of the set point range and the extent of fluctuation is predicted to be fairly modest, as long as the system holds. If an overwhelming threat that exceeds the homeostatic threshold challenges the system, SWB will fall below the set point range. It is at that stage that SWB is proposed to be especially sensitive to the challenging agent that has usurped control from the homeostasis process. People are suggested to be vulnerable to depression when SWB drops below the set point range (Cummins, 2010). When the homeostasis system is in control, homeostasis theory of SWB posits that stabilizing forces such as positive affectivity and a system of internal and external buffers maintains SWB at healthy psychological functioning levels.
1.2.4 External Buffers

External buffers are protective resources such as income and interpersonal relationships that protect SWB against threatening circumstances (Cummins, 2000). Although income is viewed to have a close association with SWB, it does not and cannot shift the positive set point to create heightened levels of satisfaction with life. The reason for this is that SWB set points are suggested to be genetically determined and cannot be altered (Cummins et al, 2003). Adaptation ensures that an increment in income does not necessarily mean there is a rise in SWB. Regardless of how wealthy individuals may be, SWB will never be sustained above its set point range (Cummins, 2010).

Instead, Cummins (2000) views income as a flexible protective resource that can be used to assist homeostasis. Wealth in this sense protects SWB by allowing individuals to eliminate or minimize undesired challenges experienced in life. For example, wealthy individuals can access quality health care services and can afford to hire others to complete tasks on their behalf. Individuals who lack the financial resources, on the other hand, are more susceptible to SWB threats in their environment. Therefore, SWB rises with increments in income, but only to a certain extent.

In Australia, SWB has been found to rise with gross household income up to approximately AUD91,000 - AUD121,000, after which further increment in income has no systematic influence on SWB (Cummins et al., 2009). SWB increases with an increase in income at the lower income ranges (< AUD90,000). This is because greater wealth buys higher levels of buffering in an environment that challenges homeostasis. Once income reaches approximately AUD91,000 to AUD121,000, additional money is of little assistance as money cannot negate other variations of threats, such as personal relationship issues that may continue to challenge homeostasis. These findings are consistent with the notion that income is a flexible resource that can be used to assist homeostasis in protecting SWB.
In addition to the external buffers, it is proposed that the homeostatic system of SWB also involves a set of internal cognitive buffers. Cognitions, in this context refer to the thought process of evaluating current circumstances compared to aspirations (Mckennell & Andrew, 1983). Aspirations are the internal standards of what is acceptable. This idea that discrepancies between reality and expectations predict SWB is known as the gap theory approach (Andrews & Robinson, 1991). According to this theory, individuals may report above average satisfaction levels even when in relatively adverse conditions because of lower aspirations. Likewise, people in relatively better circumstances may still be unsatisfied with life due to having higher ambitions.

One such comprehensive model of the gap theory was developed by Michalos (1985) and is known as Multiple Discrepancies Theory. This theory proposes that life satisfaction is reflected in the perceived discrepancies between reality and several standards of comparisons such as: what a person has and wants; what others have; what a person expects to have and the best a person has before. Although this set of discrepancies was found to be moderately positively related to satisfaction with life, it provided the poorest fit for SWB data when compared to an affective-cognitive model and a pure affective model (Blore et al., 2011). That is, despite it being the most thorough of the gap theories, Multiple Discrepancies Theory did not provide good explanations for the SWB data.

An alternative understanding of the system involves a set of cognitive devices, which include self-esteem, along with perceived control and optimism that has been shown by converging evidence to play a key role in SWB (see Taylor & Brown, 1988, 1994; Cummins & Nistico, 2002). For example, Taylor and Brown (1988) argued that to maintain healthy psychological functioning, people are typically unrealistically optimistic about the future and possessed an overly positive sense of self and control. This can be reflected in people
generally have an overly positive sense of self-worth (self-esteem); believing that tomorrow will be a better day despite what objective life circumstances might suggest (optimism) and that a desired outcome is achievable through one’s own actions (perceived control). Such biases of thoughts about the self and future seem to be done intentionally to minimize the effects of adverse life experiences for psychological health. Subsequently, these cognitive biases have been grouped together and included into the homeostatic model of SWB as internal buffers (Cummins & Nistico, 2002).

These cognitive devices serve a common purpose of reshaping reality to maintain SWB at a normal functioning level by buffering the negative impact of challenging agents on SWB (Cummins, 2010). They are activated when SWB is challenged and when external buffers are incapable of preventing or minimizing SWB disturbances from occurring. The aim of these internal buffers is to protect SWB from maladaptive thought processes and minimize the effects of unavoidable aversive experiences.

1.2.6 Summary

SWB is primarily an affective construct with cognitions contributing to its maintenance. According to the homeostatic model, SWB fluctuates within a set point range reflecting normal functioning that differs between individuals. When a challenging agent threatens the homeostasis mechanism, the cognitive buffers of self-esteem, optimism and perceived control are activated in an attempt to prevent SWB from dropping below its set point range. This study will consider the operation of homeostasis within comparative samples of Malaysians and Australians.
2.1 Cross Culture Differences in Subjective Wellbeing

It has long been established that several factors significantly affect SWB, some of which have already been mentioned. Apart from affect, income, living arrangements, age and gender, SWB has also been reported to significantly differ across countries and cultures (Ostroot & Snijder; 1985; Arrindell et al., 1997; Lau, Cummins et al., 2005). For instance, Australians tend to report higher satisfaction with life compared to Chinese in China even when socioeconomic factors are taken into consideration (Lau et al., 2005; Lai et al., 2013) and, Americans, New Zealanders and Canadians were higher on self-reported happiness than Japanese, Indians and Iranians (Keith et al., 1995; World Values Survey, 2009).

While the SWB normative range for Australian population have been reported to vary within just 1.9 percentage points with mean scores ranging between 74.5 points and 76.4 points (Cummins et al, 2015), the normative range for Chinese in the People’s Republic of China appears to be lower. In Chen and Davey’s (2008) study, results showed remarkable consistency in life satisfaction score between the 15 of the 17 datasets examined despite the varying instruments used. Life satisfaction scores were reported to generally fall within the 60 to 70 points range on a 0–100 scale (Chen & Davey, 2008). When the datasets examined were confined to those that used the Personal Wellbeing Index (PWI), the SWB of the Chinese people were positioned between 64.2 and 67.1 points, appearing lower than the Australian normative range (Davey, 2012).
Subjective wellbeing not only differs across countries but was also reported to differ across cultural groups within a country (Lai et al., 2013). This raises the question as to whether the average SWB levels differ across countries and cultures due to factors directly affecting a person’s perceived satisfaction with life or whether the differences are due to test biases. Therefore, the use of psychometrically sound instruments is crucial.

One measure that has been widely used to assess SWB is the Personal Wellbeing Index (PWI) developed by the International Wellbeing Group (IWBG, 2013). The PWI comprises seven items that measure satisfaction with standard of living, health, achieving in life, relationships, safety, community connectedness and future security. Participants recorded their answers using an 11-point response scale where 0= ‘not at all satisfied’ and 10= ‘completely satisfied’. The adult version of the PWI has strong inter-item reliability, with Cronbach’s α ranging from .70 to .85 and a 1-2 week test-retest reliability of 0.84 within the Australian population (IWBG, 2013).

Apart from Australia, the translated version of the PWI has also been reported to demonstrate good psychometric properties (Cronbach α =.80) within the Hong Kong population (Lau et al., 2005). In this study, Hong Kong Chinese were found to report significantly lower SWB (65.9%) on average compared to Australians (78.8%) with a medium effect size ($d= .79$). Hong Kong Chinese were not only less satisfied with life in general but were significantly less satisfied with all domains of life measured by the PWI compared to Australians. Without first controlling for factors such as income and gender that may have contributed to the difference in SWB between the two populations, Lau and colleagues proceeded to explain the differences as due to cultural response bias. However, without consideration of the effect of varying income levels, the explanations regarding cultural response bias seem premature.
Nevertheless, a more recent study that similarly investigated the differences in SWB between Hong Kong Chinese and Australians showed that the significant differences in SWB remained even after controlling for income (Lai et al., 2013). That is, Hong Kong Chinese in the same income brackets as their Australian counterparts, across all income groups, were still rating SWB significantly lower than Australians. The authors concluded that the difference between these two samples could be attributed to cultural response bias, with the assumption that both samples were equivalently challenged and were equivalently resilient, and that every participant’s SWB was under homeostatic control. Cultural response bias in this study refers to a phenomenon found in East Asian populations where people have the tendency to avoid reporting extreme scores and are more inclined to give ratings closer to the midpoint of a scale. This was proposed to be the probably explanation for the lower SWB average found in Hong Kong Chinese, as there was a lower frequency of extreme high scores in this group (Lai et al., 2013). Nonetheless, the strength of this influence appears to vary with acculturation.

In addition to the Australian and Hong Kong Chinese samples, Lai and colleagues (2013) also examined the SWB of first generation and second-generation Chinese immigrants in Australia. It was found that as predicted, participants who were first and second-generation Chinese migrants reported higher SWB than those based in Hong Kong across income groups. The average SWB of second-generation Chinese migrants was statistically indifferent from the comparative Australian sample. A possible explanation given by Lai and colleagues for the indifference between these two groups was successful acculturation. It was proposed that as this group of Chinese were both born in Australia and raised in Australia, they had integrated and adopted the Australian culture. Given the above findings, the following section will explain the meaning of cultural response bias and acculturation and discuss the effects these two variables have on the SWB of East Asian populations.
2.2 Cultural Differences in Response Style

Cultural bias is evident in the systematic cross-cultural differences in the manner individuals respond to self-report scales (Ostroot & Synder, 1985). It is manifested in the tendency of certain cultural groups to be confident or cautious when rating subjective measures and when revealing these ratings to others. It is proposed that this culture specific bias is acquired quite naturally through social cultural training, which modifies self-rating tendencies in a systematic way. The tendency in this case specifically refers to the willingness to express high levels of positivity or negativity on self-report scales. Nonetheless, the term bias can be misleading as it suggests there is deviation from the truth, or in this case, a true value (Veehoven, 1987). To demonstrate bias, it is then necessary to show the differences between self-rated satisfaction and ‘true’ satisfaction, which is difficult (if not impossible) to demonstrate. Therefore, describing the phenomenon as a ‘cultural difference in response style’ appears to be more appropriate.

This cultural difference in response style phenomenon is not only prevalent in life satisfaction measures (Lee & Wu, 2008; Lai et al., 2013) but also self-rating affect scales (Tsai, Knutson, & Fung, 2006), body dissatisfaction scale (Fuller-Tyszkiewicz et al., 2012) and even brand evaluation (Dolnicar & Grün, 2007). In fact, cross-cultural differences in response patterns has been reported to explain up to 6% of the variance in data, therefore may potentially be a significant source for misinterpretation in comparing data cross culturally (Dolnicar & Grün, 2007). This highlights the importance of considering response style differences when examining self-ratings before concluding that the differences in scores between different cultures are a valid reflection of the variable being measured.

There are basically three types of response styles that have been documented - the Acquiescent Response style, Middle Response style, and Extreme Response Style.
Acquiescent Response Style refers to the inclination to agree with survey items, (Meisenberg & Williams, 2008) while Middle Response Style is the inclination to avoid extreme ends of a scale (also referred to as Cultural Response Bias in the studies previously mentioned in this chapter) and Extreme Response Style is the tendency to give extreme response options (Dolnicar & Grün, 2007). As Middle Response Style is more common among Asians as found in several SWB studies (e.g. Diener & Diener, 1995; Lee, Jones, Mineyama, & Zhang, 2002; Lee & Wu, 2008), it is most likely to occur within the Malaysian population, and it will be the focus of this study.

Several explanations for Middle Response Style within the Asian population have been proposed. One of them is Dialectical-thinking style, which has been reported to be common amongst East Asians such as the Chinese and Koreans (Peng & Nisbett, 1999; Choi & Choi, 2002). According to Peng and Nisbett (1999), the principles of Dialectic thinking are that reality is unpredictable, filled with contradictions and that nothing is independent. Rather, everything is interrelated. When compared to Americans, Chinese often preferred proverbs with contradictions and were more likely to accept two apparently conflicting propositions. Such form of thinking style is ultimately different from that utilized by Western populations, which polarizes conflicting perspectives. That is, for example, the notion of being outgoing implies that one is never shy. To the contrary, dialectical beliefs about the self as displayed by East Asians may go along the line, “I’m a risk taker but am also somewhat cautious”.

It is therefore not surprising that East Asians have a dialectical view of happiness. For instance, in the case of happiness and unhappiness, a Chinese proverb states “Happiness is dependent on unhappiness, while unhappiness is hidden in happiness” (Lu, 1998). This view of happiness is very much in line with the Ying Yang philosophy that considers life as an endless “process of change between good and bad, happiness and misery, wellbeing and ill-
being” (Lu & Gilmour, 2004, p. 277). More importantly, such a view of happiness stems from Confucianism that proposes misfortune may arise from positive states, while the opportunity for self-cultivation may arise from negative states (Lee & Wu, 2008). As blessings and misfortunes may be their opposite in disguise, these Chinese philosophies of life aim to teach people not to be happy when positive things occur, and not to be sad when negative things happen. Hence, such an ambivalent view of happiness might possibly be the reason Chinese students were found to view happiness and life satisfaction as of lesser importance, and worry less frequently about whether they were satisfied with life when compared to American students (Diener, Suh, Smith, & Shao, 1995).

In addition to Confucianism, philosophical training within Taoism and Buddhism has also been suggested as a plausible reason for Middle Response Style (Lu, 2001). In Taoism, everything and everyone must act in accordance to “Tao” the Natural driving force of everything that exists. Taoism asserts that true happiness is achieved when a person is liberated from all human desires by accepting fate and adhering to the Natural force to live and face life with a peaceful mind. Hence, vanishing into nature and merging with it is the ultimate goal. To achieve this goal, one is to practice a lifestyle of quietness and withdrawal. On the other hand, Buddhism teaches that absolute and lasting happiness does not exist in life as everything has been stained by unhappiness from the beginning (Chiang, 1996). Happiness, according to Buddhism, can only be found in “nirvana” - a place of perfect peace. Similar to Taoism, Buddhism encourages people to meditate, do charitable deeds and extinguish all human desires to reach nirvana, which is impossible in this life.

As can be seen, Confucianism, Taoism and Buddhism all promote spiritual cultivation, encourage people to eliminate extreme and excessive desires, and to live life in a simple manner with a clear mind. As such, extreme and intense mood and emotional experiences are not advocated. Followers of these schools of teaching and religion thus have
an inclination to restrain from expressing and experiencing intense mood and emotions and
tend to be more modest (Lu, 2001). It is possible that as these schools of thought form the
backbone of the Chinese culture, Chinese are more likely to avoid the extreme ends of a
response scale and give ratings around the mid-point of a scale, as found by Lau and
colleagues (2005), and Lai and colleagues (2013). If true, then perhaps the influences that
Confucianism, Taoism and Buddhism have on a person’s life will affect how that person
evaluates life satisfaction. That is, whether or not Middle Response Style is exhibited.
Nevertheless, as to date, no study has investigated the relationship between these
philosophical teachings and Middle Response Style.

2.3 Acculturation

In addition to Confucian, Buddhism and Taoism related Middle Response Style,
acculturation appears to be another factor that influences Middle Response Bias in Asians
that immigrate to Western nations such as Australia (Lai et al., 2013). Acculturation is the
process of change in a person’s or a group’s original cultural patterns during continuous first
hand contact with individuals of another culture, also known as the host culture (Redfield,
Linton, & Herskovits, 1936). A couple of cultural identifications are involved during the
acculturation process: Native-culture or culture of origin identification is the degree of
closeness to one’s heritage culture, while host culture identification refers to the degree of
closeness to the dominant mainstream culture (Berry, 1997). Initially, at the individual level,
the acculturation process was viewed as a single and linear continuum. This model of
acculturation is unidimensional, with native culture representing one end of the dimension
and host culture the other (Stonequist, 1964). Under the unidimensional model, the stronger
the degree of orientation toward the host culture, the less individuals will endorse their
culture of origin (Cuellar, Arnold, & Maldonado, 1995). However, researchers soon found the unidimensional model of acculturation problematic and incomplete, as it assumed that culture of origin features are lost when dominant mainstream features are gained. This model does not account for the existence of those who are highly orientated towards both their culture of origin and dominant mainstream culture (see, Berry, 1990; Ryder, Alden, & Paulhus, 2000; Abe-Kim, Okazaki, & Goto, 2001).

Models that incorporate the existence of individuals who are bi-culturally orientated are referred to as bilinear models of acculturation, which are bidimensional and importantly orthogonal. These models posit that orientation toward native culture and host culture are independent of each other (Berry, 1990; Zea, Asner-Self, Birman, & Buki, 2003). That is, people can develop a cultural orientation toward the host culture but retain the ability to strongly endorse their culture of origin. An example of bidimensionality is Berry’s (1990) bidimensional model of acculturation, wherein it is possible for two cultural identities to be accepted and exhibited to various degrees, also known as biculturalism. Using this dichotomous dimension of cultural identities, four strategies of adjustment are proposed. Those who strongly adhere to both culture of origin and host culture are ‘integrated’, while those who neither favor their heritage nor host cultures are referred as ‘marginalized’. ‘Assimilated’ individuals strongly adhere to their host culture and not their native culture. Lastly, ‘separated’ individuals represent the opposite strategy, of having a strong orientation toward their culture of origin and a weak identification with the host culture.

2.3.1 Unidimensional Versus Bidimensional

Even though both unidimensional and bidimensional models of acculturation have some empirical evidence to support their premises (Suinn, Rickard-Figueroa, & Lew, 1987;
Berry, 1997), recent researchers in the area of acculturation have been more inclined to support the bidimensional model that asserts cultural orientations are orthogonal (Cabassa, 2003; Baker, Soto, Perez, & Lee, 2012; Koydemir, 2013). This view has emerged from studies, which have examined and compared the validity of both models (e.g. Ryder et al., 2000; Abe-Kim et al, 2001; Lieber, Chin, Nihira, & Mink, 2001). In Ryder and colleagues’ (2000) study, the authors compared both models of acculturation in three ethnic Chinese samples (N=454), one non-Chinese East Asian sample (n= 70), and one non-Chinese, non-East Asian, non-English speaking sample (n= 140), all of whom were students at a Canadian university. The authors first examined both models of acculturation in the context adjustment, personality and self-identity. It was found that culture of origin and mainstream culture were not negatively correlated and did not appear to be opposite poles of a dimension, thereby supporting the bidimensional model. In a second study, the authors compared the ability of the two models to predict psychosocial adjustment, while their third study sought to replicate the findings of Study Two in other non-English-speaking Asians. Results from both study two and three showed that the bidimensional model had greater predictive power.

In a similar vein, Abe-Kim and colleagues (2001) compared both models involving 355 Asian American university students. Congruent with Ryder and colleagues’ (2000) study, Abe-Kim and colleagues (2001) reported that the bidimensional model of acculturation was superior in its ability to adequately reflect and describe the integrated orientation (bicultural orientation). These general results were further supported by Lieber and colleagues (2001), who reported the bidimensional model to better account for the quality of life of Chinese immigrants in America.

While the above studies favor the bidimensional model, a couple of studies have found that bidimensional models of acculturation are not always superior to unidimensional ones. For example, Tsai, Ying and Lee (2000) assessed the ability of both models of
acculturation to adequately represent Chinese who were born in the United States (US), and Chinese who were born overseas but were residing in the US. The authors reported that the bidimensional model was only better at representing the acculturation process of American born Chinese, while a unidimensional model was superior at representing the process of acculturation of foreign-born Chinese. Similar results were reported by Flannery, Reise and Yu (2001). Amongst Asian and Asian American students, who had at least 50% Asian heritage via bloodline, Flannery and colleagues found that both models equally predicted Asians’ cultural knowledge, generation status and cultural identification. An important point to note was that Flannery and colleagues’ (2001) results did not reveal that orientations toward native culture and host culture were independent, an essential tenet of bidimensional models of acculturation.

A further perspective on these studies has been provided by Miller (2007), in a review of both models. It was noted that measurement and methodological issues could possibly be responsible for the contradictory findings of Tsai and colleagues (2000), and Flannery and colleagues (2001). To clarify the incongruent findings, Miller compared a range of models using likelihood ratio testing after analysing each model independently using Asian Americans. It was found that the bidimensional model yielded a significant ($p<.0001$) improvement in model fit over the unidimensional model. Hence, it was suggested that it is possible for individuals to be increasingly orientated toward a second culture without the decrement in orientation toward their culture of origin. Moreover, more recent meta-analyses conducted by Gupta, Leong, Valentine and Canada (2013) provided evidence that orientation toward host culture and culture of origin were not negatively correlated, which provided further support for the use of the bidimensional model. Therefore, it can be concluded that acculturation is best conceptualized and operationalized as a bidimensional process (Miller, 2007; Gupta et al., 2013).
2.3.2 Acculturation and Subjective Wellbeing in Asians

Acculturation occurs over time. While it appears intuitive that longitudinal studies are necessary to fully understand this process, it remains possible to study differences amongst immigrants with varying lengths of residence in a new cultural setting (Zheng, Sang, & Wang, 2004; Kang, 2006; Mahmud & Schölmerich, 2011). In general, these studies show the expected result. The longer the duration of residency, and the more competence with regard to the mainstream language, the faster the process of integration (Zheng et al., 2004; Kang, 2006; Mahmud & Schölmerich, 2011). In addition, certain demographic factors including socio-economic status, gender and age also influence the speed of acculturation (Berry & Sam, 1997). Some studies have also proposed that demographic variables such as the ethnic composition of the larger society (monocultural versus multicultural) may have an impact on the ways that migrants acculturate (Neto, 2001; Myles & Hou, 2003).

Although the speed at which immigrants acculturate may be an important measure of assimilation, the manner by which immigrants acculturate is also important for acculturation status. Using Berry’s (1990) categorizations of ‘integrated’, ‘assimilated’, ‘separated’ or ‘marginalized’, acculturation status significantly predicts various aspects of functioning and health such as educational performance of migrant children (Kim, Newhill, & López, 2013), depression (Hasin, Goodwin, Stinson, & Grant, 2005; Kuo, Chong, & Joseph, 2008; Gupta et al., 2013) and level of stress (Ramdhonee & Bhowon, 2012).

Such associations, between acculturation and the various aspects of functioning, are often explained using a stress coping framework of acculturation (Zheng et al., 2004). This emphasises the physical, psychological and social repercussions of adapting to a new culture. For example, for immigrants with an ethnic minority background, learning to live within another culture presents a range of stressful challenges, such as comprehending cultural
norms, and communication barriers due to restricted language competence. The stress from challenges is suggested to often manifest through mental illness, such as depression and anxiety, psychosomatic symptoms, and feelings of isolation and discrimination (Berry, 1990).

Amongst first generation Asian immigrants in America, both Wong (2001) and Yeh (2003) found significant positive correlations between acculturation stress and poor psychological health. People who remained orientated toward their culture of origin had significantly higher rates of depression than those who were mainstream orientated (Wong, 2001). Immigrants may also experience bicultural stress - the feeling of conflict associated with functioning within two contrasting systems of cultural values (Sodowsky, 1991). Chinese cultural values, which are influenced by Confucianism, include self-control, conformity to authority and restraint, while American culture values promote personal rights, autonomy and privacy (Oyserman, Coon, & Kemmelmeier, 2002). This clash in collectivist and individualist values, ‘bicultural stress’, may manifest either intergenerationally (parents and children) or intrapersonally (identity conflict) (Sodowsky & Lai, 1997; Wu & Chao, 2005).

The nature of acculturation stress suggests that acculturation status moderates the stress experienced by immigrants (Baker et al., 2012). Separated individuals who are orientated toward their cultural of origin are expected to experience pronounced acculturation stress. This is because the lack of integration with the mainstream culture exposes the individual to stressful acculturation challenges, such as underemployment and a language barrier. ‘Assimilated’ individuals, on the other hand, who are orientated toward mainstream culture, may experience bicultural stress. As this orientation involves adopting Western values at the expense of their own traditional values, it may bring forth criticism from friends and family, a form of bicultural stress. From this, it seems clear that biculturally orientated
(integrated) immigrants, who are able to effectively navigate between two cultures, should experience less psychological distress (Baker et al., 2012).

While much research has been devoted to understanding the association between acculturation and psychological distress (see review by Yoon et al., 2013), little attention has been given to the connection between acculturation status and SWB, particularly within the Asian population. Of the few that investigated this relationship, most have used the unidimensional model of acculturation, instead of the bidimensional one (e.g. Yoon, Lee, & Goh, 2008; Stephens, Stein, & Landrine, 2010; Paterson & Hakim-Larson, 2012). Using the bidimensional model, the effect acculturation has on life satisfaction has been examined among Turkish students in Germany, and a diverse sample of Asian Americans and Chinese students in Australia (Zheng et al., 2004; Baker et al., 2012; Koydemir, 2013). While these studies highlight the importance of recognizing both host and heritage cultural orientations in understanding the relationship between acculturation and life satisfaction, they have also yielded conflicting results.

For example, Zheng and colleagues (2004) recruited Mainland Chinese students in Australia to complete the Acculturation Index (Ward & Kennedy, 1994) and Satisfaction with Life Scale (Pavot & Diener, 1993). They found that integrated students were significantly more satisfied with life than those who were assimilated, separated and marginalized. Similar results were reported within a Turkish sample, with Koydemir (2013) finding that the acculturation status of “integrated” significantly contributed to satisfaction with life. In addition to integrated individuals reporting better affective states, acculturation status explained an additional 2% of variance in life satisfaction above and beyond other acculturation and demographic variables, thus playing a unique role in predicting life satisfaction. (Koydemir, 2013). This is not surprising given that bi-culturally orientated individuals have bicultural resources to manage and cope with a variety of everyday life and
acculturation stressors. The possession of bi-cultural resources gives integrated students an advantage over mono-culturally orientated students (assimilated and separated) and those who did not possess any form of cultural resources (marginalized) (Zheng et al., 2004).

Nevertheless, Baker and colleagues (2012) reported quite different findings. A group of East Asian American students (from countries such as Vietnam, Cambodia and Korea), who self-identified as Asians, was recruited. Baker and colleagues found no significant differences in life satisfaction between integrated students and those who were either assimilated or separated. One possible explanation is that the sample size of Baker and colleagues’ study is too small for it to have enough statistical power to detect significant differences. There were only 20 students who were integrated and 20 who were assimilated. Alternatively, the marked differences in context between the Australian and American Asian student samples could possibly explain some of the inconsistencies. Moreover, as only those who self-identified as Asians were recruited, this could have resulted in self-selection bias. This may explain the disproportionately larger number of ‘separated’ individuals (n=56) in the study, compared to assimilated or integrated ones. Hence, a more appropriate manner of recruitment would be to recruit participants based on their place of birth. Nevertheless, though non-significant, integrated students in Baker and colleagues’ (2012) study did report marginally higher life satisfaction and lower levels of depressed mood than those who were assimilated or separated. Hence, based on these findings, integrated individuals seem to experience better mood in general, and are more satisfied with their lives than those who are assimilated, separated and marginalized.
2.4 Summary

In summary, the SWB of East Asians is significantly lower on average than the SWB of Australians. The difference in SWB between cultures appears to prevail even after controlling for the strongest determining factor of SWB, which is income (Lai et al., 2013). Hence, it is proposed that the significantly lower SWB of East Asians might be due to Middle Response Style, which may likely be related to philosophical training in Confucianism, Buddhism and Taoism. The influence of Middle Response Style seems to vary with acculturation, as second generation Chinese migrants were found to have SWB scores equivalent to Australians (Lai et al., 2013). Nevertheless, as to date, no study has explored how Middle Response Style is affected by acculturation. Do immigrants who strongly adhere to the Western values exhibit Middle Response Style when rating their satisfaction with life? This remains a question worth exploring.

Additionally, the bidimensional model of acculturation asserts that there are four types of adjustments an immigrant may adopt when living in a new environment. Of these four, integrated immigrants were significantly more satisfied with life, compared to the other three groups (assimilation, separation and marginalization) (Zheng et al., 2004). However, this study examined how the different immigrants compared to each other, but not to the mainstream population of their new country. Hence, it remains unclear as to how the life satisfaction of immigrants would compare to those of their host country.
2.5 Conclusion

As discussed in the previous chapter and this chapter, subjective wellbeing (SWB) is an evaluation people make regarding their satisfaction with life in general and with various aspects of life that largely comprises an affective component (Campbell, Converse, & Rodgers, 1976; Diener, 2006; Davern et al., 2007). SWB has been found to be stable across time, and the average SWB for the Australian population has been reported to vary within just 3 percentage points, ranging between 74.5 points and 76.4 points (Cummins et al, 2015). With such remarkable stability found in SWB scores, Cummins (2010) suggests that SWB is managed by a psychological homeostatic system that ensures SWB operates within a set point range, when mild or no threats are experienced. However, when the strength of the challenging agent intensifies and becomes too overwhelming for homeostatic management, SWB will likely fall dramatically below the set point range of 71-90 points, which results in the loss of normal functioning (Cummins, 2010). Hence, it is suggested that individuals with SWB below the set point range are vulnerable to depression.

There are several known factors that have been found to significantly affect SWB. In particular, SWB differs across countries and cultures (Ostroot & Snijder; 1985; Arrindell et al., 1997; Lau, Cummins et al., 2005). For instance, Australians tend to report higher satisfaction with life compared to Chinese from Hong Kong, even when socioeconomic factors are taken into consideration (Lau et al., 2005; Lai et al., 2013). Additionally, Americans, New Zealanders and Canadians reported higher scores on self-rated happiness than Japanese, Indians and Iranians (World Values Survey, 2009). Subjective wellbeing appears to not only differ across countries but was also between cultural groups within a country (Lai et al., 2013).
Two possible explanations for the difference in SWB across culture and country have been provided. In Lau and colleagues’ (2005) study that compared the SWB of Hong Kong Chinese to Australians, the authors concluded that the differences could be attributed to differences in response style. The authors also proposed that the tendency for Middle Response Style amongst Asians may be related to the influence of Confucian, Buddhism and Taoism teachings during their lives. When the life satisfaction of Hong Kong Chinese residing in Australia was compared to Australians and Chinese in Hong Kong, Lai and colleagues (2013) found that first and second-generation Chinese migrants living in Australia reported higher SWB than those based in Hong Kong across income groups. Additionally, while first-generation migrants reported lower SWB compared to the general Australian sample, the SWB of second-generation Chinese migrants was statistically indifferent from the Australians. Hence, it was suggested that the indifference between these two groups reflected successful acculturation.

Based on the above findings, Study One will explore the SWB of Malaysians residing in Australia and Malaysia, and compare them to Australians. It will also assess the relationship between SWB, Acculturation and Middle Response Style related to the three philosophical teachings- Confucianism, Buddhism and Taoism amongst Malaysians.
CHAPTER 3.0

STUDY ONE: THE SUBJECTIVE WELLBEING OF MALAYSIANS

3.1 The Malaysian Population

The Malaysian population comprises several ethnic groups, which makes the country ethnically, racially, religiously, and linguistically diverse. While Malays, as the Indigenous people, are the dominant ethnic group, constituting 67.3% of the population, the Chinese and Indians make up 24.7% and 7% of the population respectively (Joseph, 2013). Bahasa Malaysia, the first language of the Malays, is the national language of Malaysia. While it is used by all groups when liaising with government departments and authority, most also retain and use their cultural languages and or dialects (e.g. Mandarin, Cantonese, Hokkien, Hindi, Iban, Kadazan, etc) in informal social settings. Nonetheless, English is the official language used within the private sector.

With regards to culture, Malaysians from all walks of life have adopted Malay traditions while maintaining elements of their own ethnic and cultural identities. For example, Malaysians celebrate many holidays and festivities throughout the year. These include the Hari Raya Puasa (also known as Hari Raya Aidilfitri), which marks the end of Ramadan, the fasting month for Muslims; Hari Raya Haji (also known as Hari Raya Aidiladha); Awal Muharram, which is the Islamic New Year; Maulidur Rasul, which is the birthday of the Prophet Mohammed; the Chinese New Year; Deepavali, the Indian festival of light; Thaipusam; and Wesak, which is the Birthday of Buddha.
Malaysia is a multi-religious society with Islam as the official religion of the federation. The Malaysian Constitution (Article 11) theoretically guarantees freedom of religion to all. Article 11 of the Malaysian Constitution states that every person has the right to profess, practice and to propagate his/her own religion. However this is subjected to a clause that mentions the state law and, in respect of the Federal Territories of Kuala Lumpur and Lubuan, federal law may control or restrict the propagation of any religious doctrine or belief among Muslims. Muslims who attempt to convert to other religious beliefs are punishable by state governments with punishments ranging from fines to imprisonment. According to Article 160 of the Malaysian Constitution, the ethnic Malays are legally presumed to be Muslims. Non-Malays are freer to choose/shift between religions. However, if a non-Muslim wishes to marry a Muslim, he/she must first convert to Islam. When a non-Muslim converts to Islam, he/she will legally become Malay and is then entitled to privileges granted by Article 153 of the Malaysian Constitution and the New Economic Policy.

Article 153 of the Constitution of Malaysia and the New Economic Policy (NEP) grant those with Malay ethnicity (the majority group) and indigenous backgrounds with entitlement to privileges that Malaysian Chinese and Indians, who form the minority, are not entitled to. Some of the privileges are as follow:

a) The mandate that publicly listed companies must set aside 30% of equity for Malays and Indigenous Malaysians;

b) Discounts that must be provided for automobile and real estate purchases;

c) A set amount of lots set aside for Malays and Indigenous in housing projects;
d) Companies submitting bids for government projects be Malay/Indigenous-owned and that Approved Permits (APs) for importing automobiles be preferentially given to Malays/indigenous.

Given these differences in privileges across the various ethnic groups in Malaysia, it would be reasonable to expect that SWB might vary between them. However, findings from a study that assessed the psychometric properties of the Malay version of the Satisfaction with Life Scale suggested otherwise (Swami & Chamorro-Premuzic, 2009). With a Malay speaking community sample of 816 Malay and 738 Chinese participants from Malaysia, the authors established that the scale was invariant across the ethnic groups and, surprisingly, that life satisfaction did not significantly differ between them.

In a more recent study, differences were found across ethnic groups in Malaysia (Mellor et al., 2013). However, the differences were only found between a very selected group of Indians (who carry various types of Kavadi (burden) during the Thaipusam festival), a very small group of Chinese (n=19), and Malays (n=28) (Mellor et al., 2013). Hence, the significant difference found may lack generalizability given the small sample sizes and that the selected group of Indians are certainly not representative of the Malaysian population as a whole.

In the context of the homeostasis theory of subjective wellbeing, it is uncertain whether systematic differences would be expected between these population sub-groups. This is because it would depend on the balance between the level of challenge and available resources. SWB is maintained within a set point range by a homeostatic system (Cummins, 2010), and when mild or no threats are experienced, SWB approximates the set-point. As threats to the homeostasis system intensify and become too overwhelming for homeostatic management, SWB falls below the set point range, which results in the loss of normal
psychological functioning. Nonetheless, protective resources can be used to assist the SWB homeostasis in its attempt to maintain SWB within its optimal range. These protective factors include external resources such as income and intimate relationships, and internal resources such as self-esteem, perceived control and optimism. As these resources are highly personalized and the intensity of the threat experienced varies, an imbalance in these two factors will be reflected in reported levels of SWB.

While a lack of available protective resources may negatively impact SWB, having an abundance of it does not increase SWB beyond its set point range. When individuals possess enough protective resources to negate the effects of external threats, SWB fluctuates within its set point range. Thus, any differences in SWB across subgroups within a population (e.g. Mellor et al., 2013) may be a reflection of the varying intensity of the life challenge experienced and protective resources available. Importantly, having an advantage in terms of available resources does not necessarily translate to an increase in SWB, if SWB is already within its set-point range. This may explain the lack of difference in life satisfaction found between Malays and Chinese in Malaysia by Swami and Chamorro-Premuzic (2009).

3.2 Malaysian Migrants

Despite the lack of difference in life satisfaction between ethnic groups, Malaysians continually cite the discriminatory race-based policies as one of several reasons they chose to leave Malaysia (Joseph, 2013). Other factors cited for migration include corruption, low income and the poor education system. These are factors that have likely affected the level of protective resources available to Malaysians, which in turn influences the ability for their homeostatic system to maintain SWB within its optimal range. In pursuit of better quality of life for themselves and their families, it was estimated that in 2010, approximately 1 million
Malaysians lived outside of Malaysia with the majority of them (of Chinese descent) in Singapore and Australia (Joseph, 2013).

Although large numbers of Malaysians have migrated for better quality of life, whether they are really doing better, away from their country of origin, is uncertain. As mentioned previously, researches have found that migrants living in Australia reported higher SWB compared to individuals in their country of origin (Lau et al., 2005; Lai et al., 2013). More importantly, the significant differences remained even after controlling for income. Thus, although World Bank data for 2014 (The World Bank, 2015) show that Malaysia has a much lower GDP per capita (US$10,829.90) compared to Australia (US$ 61,887.0) and that national wealth at the level of Malaysia would lower average levels of SWB, it is unlikely to be the sole significant contributor to the differences in SWB across countries. An alternate explanation could be that differences in response styles between Western and Eastern individuals play a significant role (Lau et al., 2005; Lai et al., 2013; Mellor et al., 2013).

Cross-cultural differences in response style have been reported to account for up to 6% of the variance (Dolnicar & Grün, 2007). Thus, response style may likely be a significant source for misinterpretation in comparing data cross culturally. This highlights the importance of considering response style tendencies when examining self-ratings before concluding that the differences in scores between different cultures are a valid reflection of the variable being measured. The academic literature effectively focuses on three types of response style - the Acquiescent Response style, Middle Response style and Extreme Response Style. Acquiescent Response Style refers to the inclination to agree with survey items, (Meisenberg & Williams, 2008) while Middle Response Style is the inclination to avoid extreme ends of a scale (also referred to as Cultural Response Bias in the studies previously mentioned in this chapter) and Extreme Response Style is the tendency to give
extreme response options (Dolnicar & Grün, 2007). However, as Middle Response Style is more common among Asians, as found in several SWB studies (e.g. Diener & Diener, 1995; Lee et al., 2002; Lee & Wu, 2008), it is most likely to occur within the Malaysian population, and will be the focus of this study.

Several explanations for Middle Response Style within the Asian population have been proposed. One of them is the influence of Confucianism, Taoism and Buddhism teachings over people’s lives (Lau et al., 2005; Lai et al., 2013). Confucianism, Taoism and Buddhism all promote spiritual cultivation, encourage people to eliminate extreme and excessive desires, and to live life in a simple manner with a clear mind (Lu, 2001). As such, extreme and intense mood and emotional experiences are not encouraged. Followers of these schools of teaching and religion thus have an inclination to restrain from expressing and experiencing intense mood and emotions and tend to be more modest (Lu, 2001). If true, then perhaps the influences that Confucianism, Taoism and Buddhism have on a person’s life will affect how that person evaluates life satisfaction. However, to date no study has investigated the relationship between these philosophical teachings and Middle Response Style.

Apart from Confucian, Buddhism and Taoism related middle response style, acculturation was also proposed to explain some variance in SWB across cultures (Lai et al., 2013). In Lai and colleagues’ study that examined the SWB of first generation and second-generation Chinese immigrants in Australia, first generation Chinese immigrants in Australia were found to report significantly lower SWB than the second-generation immigrants. Additionally, the SWB of the second-generation Chinese migrants was statistically no different from the Australians. The authors proposed that, as the second-generation of Chinese immigrants were not only born in Australia but also raised in Australia, they had integrated and adopted the Australian culture. The authors reasoned that successful
acculturation is why second-generation Chinese migrants reported similar levels of SWB to Australians.

The bidimensional model of acculturation asserts that there are four types of adjustment an immigrant may adopt when living in a new environment. Those who strongly adhere to both culture of origin and host culture are ‘integrated’, while those who neither favor their heritage nor host cultures are referred to as ‘marginalized’. ‘Assimilated’ individuals strongly adhere to their host culture and not their native culture. ‘Separated’ individuals have a strong orientation toward their culture of origin and a weak identification with the host culture. Of these four, integrated immigrants were reported to be significantly more satisfied with life, compared to the other three groups (assimilation, separation and marginalization) (Zheng et al., 2004). However, it remains unclear as to whether the life satisfaction of those who are integrated in Zheng and colleagues’ (2004) study were similar to that of those from the mainstream culture (Australia) they were living in, as this comparison was not made.

Based on the above literature, this study will examine the SWB of Malaysians residing in Australia and Malaysia, and compare them to Australians. It will also investigate the relationships between SWB, Acculturation and Confucianism, Buddhism and Taoism related Middle Response Style amongst Malaysians.

It is noted that while the majority of Malaysians are Muslim, Islam has not been found or proposed to be associated with any specific type of response style. Hence, this study assumes that Islam has no impact on the manner to which an individual responses to life satisfaction questions.
3.3 Study aims and hypotheses

Study One has three main aims. The first is to compare the SWB of Malaysians residing in Malaysia and Australia to the general Australian population. As past research has shown that SWB differs across country and culture even after controlling for income (Lau et al., 2003; Lai et al., 2013), it is hypothesized that the SWB of Malaysians in Malaysia (MIM) will be significantly lower than that of Malaysians in Australia (MIA) and Australians (AUS). It is also expected that the SWB of MIA will be significantly lower than that of AUS. It is predicted that the differences will remain after controlling for income.

The second aim is to investigate whether the differences in SWB between Malaysians and Australians involves response style. As mentioned, Asians in general have been found to have a tendency of avoiding extreme scores on self-report measures, which is commonly known as Middle Response Style (e.g. Diener & Diener, 1995; Lee et al., 2002; Lee & Wu, 2008). Furthermore, Middle Response Style was proposed to be associated with Confucianism, Taoism and Buddhism, which all encourage people to eliminate extreme and excessive desires (Lu, 2001). Thus, the second hypothesis is in two parts as: (a) That the SWB of Malaysians (MIM and MIA combined) will differ with the varying degree of exposure/influence of Confucian, Buddhism and Taoism (the religions), and (b) that Malaysians’ likelihood of endorsing extreme SWB scores will systematically vary with their religious exposure/influence.

The third aim is to examine the relationship between acculturation and SWB. Acculturation for the MIA will involve having a stronger orientation for Western culture (Redfield et al., 1936). This orientation is proposed to have an influence over SWB as second generation Chinese migrants were found to have SWB scores equivalent to Australians (Lai et al., 2013). Given that the duration of residency and level of competence in the mainstream
language has been reported to not only affect acculturation but also to positively correlate with SWB, these will need to be controlled for (Zheng et al., 2004; Kang, 2006; Mahmud & Schölmerich, 2011). Therefore, it is hypothesized that (a) MIA levels of SWB will vary with acculturation status (integrated, assimilated, separated and marginalized); and (b) that these differences will remain after controlling for perceived level of English fluency and duration of residency in Australia.
CHAPTER 4.0

STUDY ONE: METHOD

4.1 Participants

The sample comprised a total of 358 Malaysian-born participants recruited from Australia and Malaysia. Of these, six participants from Australia and one from Malaysia were excluded from the data due to a response set where they consistently scored 10 for all PWI domains, as advised in the PWI Manual (IWBG, 2013). Of the remaining participants, 197 were from Malaysia with 105 males, 91 females and one person who did not disclose his/her gender. Their mean age was 37.92 years ($SD = 14.27$). A further 154 participants were from Australia, out of which, 81 were males and 72 females with one gender undisclosed. Their mean age was 34.05 years ($SD = 12.40$).

In order to compare data from Malaysians in Malaysia (MIM) and Malaysians in Australia (MIA) to data representing the general Australian population (AUS), a sample of 183 participants was obtained from the 30th Survey of the Australian Unity Wellbeing Index, matched for income and age. As the AUS sample could only be matched with one of the Malaysian samples, the AUS sample was matched with the MIM sample. This choice enables comparison of the MIA sample with two distinct samples as it is assumed that the MIA group has culture orientations toward both the Malaysian and Australian cultures.

Participants for the AUS sample were selected based on the percentages of MIM participants within each income group and age group. For example, using this method, 22 (11% of 200) AUS participants were needed within the first income bracket and 18 (9% of
200) AUS participants for the second income group. Of the 22 within the first income group, 15 (71%) of them were to be 18 to 25 years of age, 4 (19%) between 26 to 35 years of age and so on. Table 1 shows the matching within each income group. Refer to Appendix A for the rationale of the construction of the income groups.

**Table 1: The frequency and percentage of MIM, MIA and AUS within each income group**

<table>
<thead>
<tr>
<th>Monthly Household Income (MIM)/ Annual Household Income (MIA, AUS)</th>
<th>MIM N=189</th>
<th>MIA N=151</th>
<th>AUS N=177</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than RM1k/ Less than AUD15k</td>
<td>21</td>
<td>32</td>
<td>12</td>
</tr>
<tr>
<td>RM1,001-RM2k/ AUD15,001- AUD30k</td>
<td>16</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>RM2,001- RM4k/ AUD30,001-AUD60k</td>
<td>49</td>
<td>20</td>
<td>51</td>
</tr>
<tr>
<td>RM4,001- RM6.5k/ AUD60,001-AUD100k</td>
<td>33</td>
<td>37</td>
<td>34</td>
</tr>
<tr>
<td>RM6,501- RM9,500/ AUD100,001-AUD150k</td>
<td>32</td>
<td>11</td>
<td>33</td>
</tr>
<tr>
<td>RM9,501- RM15,500/ AUD150,001-AUD250k</td>
<td>23</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>More than RM30k/ More than AUD250k</td>
<td>13</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

The table shows there is a discrepancy in terms of the percentages between the AUS and MIM samples across the income groups. This discrepancy is due to the fact that there are only a limited number of AUS participants who matched the MIM participants in both income and age. For example, the study needed 22 AUS participants within the first income group and 18 for the second group, however, only 12 and 13 AUS participants were available for the respective income groups within the sample of 2000 Australians.
Overall, the table shows a greater proportion of MIA within the low-income brackets compared to the other two groups, and a lower proportion in the higher brackets, despite the matching procedure. Thus, the MIA group has lower household income on average. Table 5 shows the matching within each age group.

Table 2: Age group frequencies and percentages of MIM, MIA and AUS within each age group

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>MIM N=190</th>
<th>MIA N=154</th>
<th>AUS N=177</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>Percent</td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>18 to 25</td>
<td>44</td>
<td>23%</td>
<td>50</td>
</tr>
<tr>
<td>26 to 35</td>
<td>61</td>
<td>31%</td>
<td>46</td>
</tr>
<tr>
<td>36 to 45</td>
<td>22</td>
<td>11%</td>
<td>28</td>
</tr>
<tr>
<td>46 to 55</td>
<td>38</td>
<td>19%</td>
<td>14</td>
</tr>
<tr>
<td>56 to 65</td>
<td>21</td>
<td>11%</td>
<td>14</td>
</tr>
<tr>
<td>66 to 75</td>
<td>4</td>
<td>2%</td>
<td>2</td>
</tr>
</tbody>
</table>

The number of MIM and AUS participants within each age group varies slightly after matching participants based on both income and age. The percentages vary due to the limited number of AUS participants with ages 18 to 35 and more who were aged 35 and above. Table 2 shows there is a larger proportion of participants from MIA aged 18 to 35 compared to MIM and AUS. This is due to the number of international students recruited for this study.

It is also important to check that the AUS sample extracted from Survey 30 of the Australian Unity Wellbeing Index conforms to the normal ranges for GLS, PWI and domains obtained from the 30 Australian Unity Project surveys combined, so that they can be said to represent the general population in terms of their average wellbeing. The scores on the PWI and domains were plotted against their respective ranges in Figure 2 below. The cross
indicates the strength of satisfaction for the AUS sample that was extracted from Survey 30 of the Australian Unity Wellbeing Index, and the arrows represent the normal range for each variable. The normal range is achieved by using the mean scores from each survey as data, and calculating the range of two standard deviations either side of the mean.

![Figure 2: AUS PWI, GLS and Domains vs. Domain Normal Ranges Based on Survey Mean Scores (N=30)](image)

It can be seen that the PWI lies close to the top of its normal range, as do the domains of Standard of Living, Health, and Future Security. Apart from GLS, Personal Relationships and Safety, and the others also lay close to their normal mean. Next, the items that lay outside their normal means were then compared to random sample 190 from the 30th survey using independent t-tests. Results revealed that there are no significant differences between the AUS sample and the random sample for GLS (t (371) = 1.87, p=.06) and Safety (t (371) = .37, p=.71). However, Personal Relationships for the AUS group is significantly lower than the random sample, t (370) = 2.77, p = .01. This difference may be due to the method of recruitment, which resulted in a greater number of students (14.4%), who are known to be lower than normal in this domain (AUWI Survey 30, 2013). While noting this difference, MIA also has a high proportion of students (MIA= 24.6% students), so the AUS sample was used for further analyses.
4.2 Materials

The 70-item Wellbeing Questionnaire included scales to measure subjective wellbeing (SWB), acculturation, and perceived level of influence of Confucianism, Buddhism and Taoism. Scales that measure Homeostatically Protected Mood, Perceived Control, Optimism and Self Esteem, which are relevant to the present study were also included, but not directly assessed herein.

A demographic questionnaire comprising nine items enquiring about gender, age, marital status, household structure, work status, visa status, income and ethnic background was also included. The Wellbeing Questionnaire was available in both online and, pen and paper versions.

4.2.1 Subjective Wellbeing

A single item assessed general life satisfaction (GLS). Participants responded to the question “How satisfied are you with your life as a whole” on an 11-point, end-defined scale where 0= ‘not at all satisfied’ and 10= ‘completely satisfied’.

The Personal Wellbeing Index (PWI) (International Wellbeing Group, IWBG, 2013) provides an alternative, domain measure of SWB, whereby each domain contributes unique variance to the single GLS item. The scale contains seven items that measure satisfaction with standard of living, health, achieving in life, relationships, safety, community connectedness and future security. All items began with “How satisfied are you with…” Participants rated all items on the same scale as for GLS. The adult version of the PWI is an internally reliable measure of SWB with Cronbach’s α ranging from .70 to .85. It also has sound 1-2 week test-retest reliability with a correlation coefficient of 0.84 (IWBG, 2013).
The scores for each domain were averaged to give a single measure of SWB. The Australian adult normative SWB ranges from 73.43% to 76.43%.

4.2.2 Perceived Influence of Philosophical Teachings

The perceived level of influence of Confucianism, Buddhism and Taoism on the lives of the participants was assessed using a measure developed specifically for this study. It comprises six items. The first three established whether the participant had been exposed to any of the three philosophical teachings. Participants who responded ‘yes’ were then requested to rate how much the particular teaching/belief has influenced their lives from 0= ‘no influence at all’ to 10= ‘completely influenced’ on the subsequent items.

4.2.3 Acculturation

Acculturation was measured using a four-item measure developed for this study in accordance to Berry’s (1990) bidimensional acculturation model. This model suggests that the two primary dimensions of acculturation are the level at which respondents identify with both their culture of origin and mainstream culture. The measure was adapted from Ward and Kennedy’s (1994) Acculturation Index that was originally developed to assess identification with the Turkish and German cultures.

Two items measure the level of national identification of participants toward Australia and Malaysia. These items begin with “To what extend do you think of yourself as an Australian/Malaysian?” Participants rated both items on an 11-point scale where, 0= ‘not at all’ and 10= ‘completely’. The other two items measure the perceived similarity of lifestyle to that of a typical Malaysian and Australian. These items begin with “Are your experiences and
behaviours similar to those of a typical Australian/Malaysian?” and participants rated themselves from 0= ‘not similar at all’ to 10= ‘completely similar’.

The average of each cultural identification score was then subjected to a bipartite split to obtain four classification modes of acculturation. The median score was selected as the cut off criterion. In the present study, the median for the level of identification toward the Malaysian culture was 6.5 while the median for level of identification toward the Australian culture was 5.0. This resulted in 30 (19.9%) participants being classified as integrated, 51 (33.8%) as assimilated, 46 (30.5%) as separated and 24 (15.9%) as marginalized. This allows for further meaningful comparisons across the four modes.

Please refer to Appendix A for the MIM questionnaire and Appendix B for MIA questionnaire.

4.3 Procedure

Participants were mainly associates of the researcher or recruited through snowballing via social media (i.e., Facebook). Through snowballing, each participant was encouraged to suggest other Malaysians in either Australia or Malaysia to participate. In terms of Facebook, paid advertisements targeting Malaysians currently living in Australia or Malaysia were used to reach the target population. The following criteria had to be met for participation:

a) They must be at least 18 years of age,

b) They must have been born in Malaysia, but do not need to hold a Malaysian passport, and,

c) Must be residing in either Australia or Malaysia.
Participants who opted to participate using the pen and paper version of the questionnaire were provided with an envelope containing a plain language statement, a questionnaire and a reply-paid envelope.
CHAPTER 5.0

STUDY ONE: RESULTS

5.1 Data Preparation and Assumptions

IBM SPSS Statistical Software (Version 22) was used for data screening and analysis. All self-report data were converted to standardized percentages of Scale Maximum (%SM) for ease of interpretation. To achieve this, all scores were simply multiplied by 10 to convert them to lie within a 0-100 range, as each item was assessed on an 11-point scale from 0-10.

Data cleaning revealed that there were less than 5% of missing cases for each variable. Hence, cases were excluded pairwise in subsequent analyses, as recommended by Pallant (2007).

Examination of z-scores for all three samples independently revealed there were no univariate outliers for the MIM and MIA samples, as no scores were more than 3.29 z-scores below or above the mean. Four univariate outliers lying beyond this threshold were found within the AUS sample. These were recoded so that they laid 3.29 z-scores away from the mean, and were thus no longer statistically considered to be outliers.

No multivariate outliers were identified using the criterion of Mahalanobis distance at a significance level of .001 (df=6) with a Chi-Square value of 22.46 for the MIA sample. However, two multivariate outliers were identified by the Mahalanobis distance at a significance level of .001 (df=4) with a Chi-Square value of 18.47 for the MIM sample. Two multivariate outliers were identified by the Mahalanobis distance at a significance level of .001 (df=2) with a Chi-Square value of 13.82 for the AUS sample. These cases were removed following advice from Tabachnik and Findell (2007) that inclusion might distort the results in
almost any direction.

Tests of normality were conducted upon each scale, for each population independently, using the Kolmogorov-Smirnov test. All scales for all three samples violated this test of normality. A detailed examination into the descriptive statistics of these results revealed that no skewness scores for the MIM and MIA were more than 3.29 z-scores above or below the mean. Both the Personal Wellbeing Index (PWI) and General Life Satisfaction (GLS) scores for the AUS sample were 3.29 z-scores below the mean. Nonetheless, as large samples would often have small standard errors, even small deviations from normality would yield significant values for z-scores (Field, 2009). Following advice from Curran, West and Finch (1996), given that none of the skew scores exceeded the value of two, they are unlikely to distort results. Moreover, it is acknowledged that SWB variables are negatively skewed and multivariate analyses are robust to mild violations of normality (Tabachnick & Fidell 2007). The scales were retained in this form for further analyses.

5.2 Factor Analyses

In order to determine the integrity of each scale, factor analyses were performed for each scale. As all three sample sizes (MIM, MIA and AUS) were greater than 100 and the ratio of cases to variables was greater than 5 to 1, the minimum requirement for factor analyses as recommended by Tabachnick and Fidell (2007) were met.

5.2.1 Factor analyses for the PWI

Maximum Likelihood analyses were conducted on the seven-item PWI scale for all three samples. Maximum Likelihood was utilized as it was assumed that results obtained from the samples of this study could be generalized to a larger population (Field, 2009).
Following Stevens’ (2002) recommendations, only factor loadings with an absolute value greater than .4 were considered to form part of a factor.

Within the MIA sample, the items were deemed appropriate for factor analysis based on the Kaiser-Meyer-Olkin (KMO) measure verifying the sampling adequacy for the analysis, KMO=.88, and Bartlett’s test of sphericity being significant. A single factor structure emerged accounting for 50.96% of variance.

The values for the MIM sample were: KMO=.85 and Bartlett’s test of sphericity was significant for the MIM sample. A single factor structure emerged and accounted for 51.85% of variance.

For the AUS sample, values were KMO=.77 with Bartlett’s test of sphericity being significant. A single factor structure emerged and accounted for 33.66% of variance. Factor loadings for all three samples can be seen in Table 3.

**Table 3: Component matrix showing item loadings for the Personal Wellbeing Index**

<table>
<thead>
<tr>
<th>Questionnaire Items</th>
<th>Factor Loadings for MIA</th>
<th>Factor Loadings for MIM</th>
<th>Factor Loadings for AUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>How satisfied are you with your standard of living?</td>
<td>.785</td>
<td>.735</td>
<td>.674</td>
</tr>
<tr>
<td>How satisfied are you with your health?</td>
<td>.554</td>
<td>.690</td>
<td>.516</td>
</tr>
<tr>
<td>How satisfied are you with what you are achieving in life?</td>
<td>.803</td>
<td>.708</td>
<td>.612</td>
</tr>
<tr>
<td>How satisfied are you with your personal relationships?</td>
<td>.567</td>
<td>.539</td>
<td>.472</td>
</tr>
<tr>
<td>How satisfied are you with how safe you feel?</td>
<td>.649</td>
<td>.704</td>
<td>.568</td>
</tr>
<tr>
<td>How satisfied are you with feeling part of the community?</td>
<td>.826</td>
<td>.799</td>
<td>.416</td>
</tr>
<tr>
<td>How satisfied are you with your future security?</td>
<td>.757</td>
<td>.829</td>
<td>.737</td>
</tr>
</tbody>
</table>

The factor analyses revealed that all items for all three samples, MIM, MIA and AUS loaded on a single factor.
5.3 Multicollinearity and Singularity

To identify multicollinearity, Field (2009) recommends scanning a correlations matrix for all variables to examine whether there are correlations greater than .80, which suggests there is risk of inflated correlations.

Table 4 presents the correlations, means and standard deviations (SD) between all measured continuous variables for the MIM, MIA and AUS samples.
Table 4: Correlations, means and SDs between all continuous variables for the MIM= (n=190), MIA (N=151) and AUS (N=176) samples

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SWB</td>
<td>MIM</td>
<td>57.69</td>
<td>17.43</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>70.17</td>
<td>15.62</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>75.63</td>
<td>11.05</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. GLS</td>
<td>MIM</td>
<td>65.74</td>
<td>19.99</td>
<td>.76**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>71.10</td>
<td>20.18</td>
<td>.78**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>75.08</td>
<td>14.78</td>
<td>.66**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Duration Lived in Australia</td>
<td>MIM</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>8.75</td>
<td>9.55</td>
<td>.13</td>
<td>.06</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Perceived English Fluency</td>
<td>MIM</td>
<td>81.29</td>
<td>17.92</td>
<td>.18*</td>
<td>.12</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>85.10</td>
<td>15.57</td>
<td>.41**</td>
<td>.34**</td>
<td>.20*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Confucius Influence</td>
<td>MIM</td>
<td>40.10</td>
<td>30.11</td>
<td>-.08</td>
<td>-.13</td>
<td>-.21*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>30.98</td>
<td>28.15</td>
<td>-.12</td>
<td>-.04</td>
<td>.07</td>
<td>-.13</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Buddhism Influence</td>
<td>MIM</td>
<td>42.29</td>
<td>32.47</td>
<td>-.01</td>
<td>-.02</td>
<td>-.13</td>
<td>.73*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>40.25</td>
<td>33.45</td>
<td>-.25**</td>
<td>-.14</td>
<td>-.00</td>
<td>-.21*</td>
<td>.61**</td>
<td>1</td>
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<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7. Taoism Influence</td>
<td>MIM</td>
<td>36.40</td>
<td>31.00</td>
<td>-.11</td>
<td>-.21*</td>
<td>-.01</td>
<td>.78*</td>
<td>.81*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>27.91</td>
<td>29.91</td>
<td>-.25**</td>
<td>.20</td>
<td>-.01</td>
<td>-.18</td>
<td>.62**</td>
<td>.76**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>8. Cultural Identity-Malaysian</td>
<td>MIM</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>63.35</td>
<td>22.64</td>
<td>-.06</td>
<td>-.02</td>
<td>-.36**</td>
<td>-.28**</td>
<td>.18</td>
<td>.13</td>
<td>.21</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9. Cultural Identity- Australian</td>
<td>MIM</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>MIA</td>
<td>52.10</td>
<td>25.85</td>
<td>.37**</td>
<td>.28**</td>
<td>.43**</td>
<td>.41**</td>
<td>-.03</td>
<td>-.06</td>
<td>-.08</td>
<td>-.44**</td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: **. Correlations is significant at .01 level (2-tailed)
* Correlations is significant at .05 level (2-tailed)
Only one correlation between Buddhism and Taoism influence (.81) exceeded the criterion for multicollinearity.

It was evident that all three religions correlated substantially with one another. These teachings may be positively correlated due to shared values such as the avoidance of extreme and intense mood and emotional experiences. It is possible for individuals to report being highly influenced by these teachings, as they are similar in some aspects and are sometimes practiced together. Given that the aim of this research was to examine how Confucian, Buddhism and Taoism related to middle response bias, it was necessary to include both groups in further analyses.

Next, the general correlation patterns shown in Table 4 are addressed.

Strong positive relationships between GLS and SWB and the perceived influences of Confucius, Buddhism and Taoism were noted. There was also a significant positive association between duration lived in Australia, perceived level of English fluency and the level of Australian cultural identification. To the contrary, significant negative relationships were found between duration lived in Australia, perceived level of English fluency and the level of Malaysian cultural identification.

The PWI scores of the MIM and MIA samples were then compared to the general Australian population’s normative ranges. It was found that MIM and MIA participants reported SWB scores that were below the Australian normative range of 73.7 to 76.7.

The next section addresses the hypotheses posed for study one.
5.4 Testing Hypothesis 1

The first hypothesis was that the SWB of MIM will be significantly lower than that of MIA and AUS, and that the SWB of MIA will be significantly lower than that of AUS. It was expected that the differences will remain after controlling for income. An ANCOVA was used to test this hypothesis.

Although SWB was the main variable under investigation in this study, the domains were also analyzed to give a more detailed picture.

Prior to running ANOVAs, the data were examined for homogeneity of variance using Levene’s test. Table 5 shows the results.

Table 5: Results of Levene’s test of homogeneity of variance for GLS, PWI and each PWI domain for the MIM, MIA and AUS samples as a whole

<table>
<thead>
<tr>
<th>Domains</th>
<th>Levene’s test of homogeneity of variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLS</td>
<td>$F(2, 523) = 7.26, p=.001$</td>
</tr>
<tr>
<td>Standard of Living</td>
<td>$F(2, 522) = 5.38, p=.005$</td>
</tr>
<tr>
<td>Health</td>
<td>$F(2, 523) = 2.64, p=.072$</td>
</tr>
<tr>
<td>Achieving</td>
<td>$F(2, 522) = 2.49, p=.084$</td>
</tr>
<tr>
<td>Relationships</td>
<td>$F(2, 522) = .36, p=.700$</td>
</tr>
<tr>
<td>Safety</td>
<td>$F(2, 523) = 35.33, p=.000$</td>
</tr>
<tr>
<td>Community</td>
<td>$F(2, 522) = 4.62, p=.010$</td>
</tr>
<tr>
<td>Future Security</td>
<td>$F(2, 521) = 18.26, p=.000$</td>
</tr>
<tr>
<td>SWB</td>
<td>$F(2, 517) = 18.62, p=.000$</td>
</tr>
</tbody>
</table>

Levene’s tests revealed that the variances for “Health”, “Achieving in Life” and “Personal Relationships”, were not significantly different across the three samples, thus the assumption of homogeneity of variance was met for these items. Tukey’s HSD post hoc tests were used for these domains. All other items revealed significant differences in homogeneity of variance between samples; hence the Games-Howell post hoc test procedure was used for these domains. ANCOVA is
reasonably robust to violations of this assumption when the size of the groups is reasonably similar - when the largest group is divided by the smallest group is equal or less than 1.5 (Pallant, 2007). This criterion was met by this study. There were no violations of homogeneity of regression slope.

In order to establish whether income was associated with the dependent variables, bivariate correlations were used to analyze the relationship between these variables. The results are shown in Table 6.

Table 6: Correlations between Income, SWB, GLS and PWI domains for the MIM, MIA and AUS samples as a whole

<table>
<thead>
<tr>
<th>Correlation with Income</th>
<th>GLS</th>
<th>Standard of Living</th>
<th>Health</th>
<th>Achieving</th>
<th>Relationships</th>
<th>Safety</th>
<th>Community</th>
<th>Future Security</th>
<th>SWB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r(517) = .208, p = .000</td>
<td>r(516) = .246, p = .000</td>
<td>r(517) = .169, p = .000</td>
<td>r(516) = .294, p = .000</td>
<td>r(516) = .240, p = .000</td>
<td>r(517) = .046, p = .300</td>
<td>r(516) = .092, p = .038</td>
<td>r(515) = .158, p = .000</td>
<td>r(511) = .225, p = .000</td>
</tr>
</tbody>
</table>

The analysis showed that GLS, SWB and all domains, except safety, were significantly associated with income, though the correlations were all weak in size. In particular, satisfaction with community was very marginally related to income.

Table 7 compares the means and standard deviations for each domain using both income and HPMood as covariates.
Table 7: Means, standard deviations, ANCOVA results for PWI, GLS and PWI domains using income (MIM and MIA only) as covariates

<table>
<thead>
<tr>
<th>Domains</th>
<th>MIM N= 195</th>
<th>MIA N= 154</th>
<th>AUS N=183</th>
<th>ANOVA/ANCOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>GLS</td>
<td>65.74</td>
<td>19.99</td>
<td>71.10</td>
<td>20.18</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard of Living</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>66.62</td>
<td>19.31</td>
<td>73.38</td>
<td>16.77</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieving</td>
<td>60.36</td>
<td>20.06</td>
<td>64.18</td>
<td>21.05</td>
</tr>
<tr>
<td>Covariate: Income</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relationships</td>
<td>64.85</td>
<td>22.93</td>
<td>70.91</td>
<td>23.69</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>49.74</td>
<td>26.93</td>
<td>78.18</td>
<td>19.65</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>54.31</td>
<td>23.53</td>
<td>64.77</td>
<td>22.42</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Future Security</td>
<td>47.63</td>
<td>26.789</td>
<td>66.10</td>
<td>22.297</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SWB</td>
<td>57.69</td>
<td>17.44</td>
<td>70.17</td>
<td>15.62</td>
</tr>
<tr>
<td>Covariate: Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The ANOVA results in Table 7 show that there were significant differences across the three samples for all items. The strongest of these was the medium effect size for Safety. All other item differences were small. Also worth noting were the very low Safety and Future Security scores reported by MIM participants.

As hypothesized, after controlling for income, the significant differences across the three samples on all items remained. The effect size of the safety item remained the same after income was controlled for while the effect sizes of the remaining items increased slightly, ranging from .1% to 1.8%.

Table 8 presents the post hoc tests results for each item.

Table 8: ANCOVA Post hoc test results for the various items with Income as a Covariate

<table>
<thead>
<tr>
<th>Domains</th>
<th>Post Hoc Test Results</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GLS</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
<tr>
<td>Standard of Living</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achieving</td>
<td></td>
<td></td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
<tr>
<td>Relationships</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
<tr>
<td>Future Security</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
<tr>
<td>SWB</td>
<td>MIM &lt; MIA</td>
<td>MIM &lt; AUS</td>
<td>MIA &lt; AUS</td>
<td></td>
</tr>
</tbody>
</table>

Post hoc tests revealed that AUS consistently scored significantly higher than MIM on all items. Similarly, MIA also scored significantly higher than MIM on all items, apart from Achieving in Life. The AUS group scored significantly higher than MIA on most measures, though there were no significant differences in GLS, Health
and Relationships.

In summary, results supported the first hypothesis. The SWB of MIM was significantly lower than MIA and AUS. The SWB of MIA was also found to be lower than AUS. More importantly, these differences remained after income was controlled for.

5.5 Testing Hypothesis 2

The second hypothesis was in two parts as: (a) That the SWB of Malaysians (MIM and MIA combined) significantly differs with the varying degree of exposure/influence of Confucian, Buddhism and Taoism (the religions), and (b) that Malaysians’ likelihood of endorsing extreme SWB scores depends on their religious exposure/influence.

To test these hypotheses, the MIA and MIM samples were combined in order to provide sufficient statistical power (Field, 2009).

The Malaysian sample consisted of Malaysians with different ethnicity-Malays, Chinese, Indians and Others. One-way ANOVA results revealed there were no significant differences across the ethnic groups, $F(3,339) = 2.44, p = .064$. Hence, all ethnic groups were analysed as one (Malaysians) in the following analyses to maintain sufficient statistical power (Field, 2009).

While data were collected on ratings of felt influence of religion (from 0=no influence at all to 10= completely influenced), the distribution of scores was highly irregular and so these rating data were not used. The continuous data were categorized in the following manner:
1) Malaysians who reported they were never exposed to the specific religion were grouped as ‘No Exposure’

2) Malaysians who endorsed the score 0 for influence were categorized as the ‘No Influence’ and

3) Malaysians who endorsed influence scores from 1 to 10 were categorized as ‘Some Influence’

Participants were not categorized using the median split, as it was not a meaningful manner of categorizing scores. The reason for this was that participants rated religious influence based on a scale where 0= ‘no influence at all’ and 10= ‘completely influenced’. Using the median split would cause participants who indicated that a particular religion had no influence at all over their lives (0) to be categorized together with those who reported that the same religion had some influence over their lives, losing the meaning of the score.

Also taken into consideration was the fact that each participant was affected by varying degrees of exposure/influence of the religions, which rendered the data not amenable to ANOVA as it violated the assumption of independence.

A frequency table was generated to explore variable distribution for the various exposure/influence combinations of the three religions. Table 9 shows the results.
<table>
<thead>
<tr>
<th>Combinations</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cne Bne Tne</td>
<td>41</td>
<td>13.3</td>
<td>13.3</td>
</tr>
<tr>
<td>Cne Bne Tni</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cne Bne Tsi</td>
<td>2</td>
<td>0.6</td>
<td>13.9</td>
</tr>
<tr>
<td>Cne Bni Tne</td>
<td>14</td>
<td>4.5</td>
<td>18.4</td>
</tr>
<tr>
<td>Cne Bni Tni</td>
<td>7</td>
<td>2.3</td>
<td>20.7</td>
</tr>
<tr>
<td>Cne Bni Tsi</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cne Bsi Tne</td>
<td>34</td>
<td>11.0</td>
<td>31.7</td>
</tr>
<tr>
<td>Cne Bsi Tni</td>
<td>4</td>
<td>1.3</td>
<td>33.0</td>
</tr>
<tr>
<td>Cne Bsi Tsi</td>
<td>24</td>
<td>7.8</td>
<td>40.8</td>
</tr>
<tr>
<td>Cni Bne Tne</td>
<td>2</td>
<td>0.6</td>
<td>41.4</td>
</tr>
<tr>
<td>Cni Bne Tni</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cni Bne Tsi</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cni Bni Tne</td>
<td>2</td>
<td>0.6</td>
<td>42.0</td>
</tr>
<tr>
<td>Cni Bni Tni</td>
<td>28</td>
<td>9.1</td>
<td>51.1</td>
</tr>
<tr>
<td>Cni Bni Tsi</td>
<td>1</td>
<td>0.3</td>
<td>51.4</td>
</tr>
<tr>
<td>Cni Bsi Tne</td>
<td>2</td>
<td>0.6</td>
<td>52.0</td>
</tr>
<tr>
<td>Cni Bsi Tni</td>
<td>11</td>
<td>3.6</td>
<td>55.6</td>
</tr>
<tr>
<td>Cni Bsi Tsi</td>
<td>4</td>
<td>1.3</td>
<td>65.9</td>
</tr>
<tr>
<td>Csi Bne Tne</td>
<td>2</td>
<td>0.6</td>
<td>57.5</td>
</tr>
<tr>
<td>Csi Bne Tni</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Csi Bne Tsi</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Csi Bni Tne</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Csi Bni Tni</td>
<td>3</td>
<td>1.0</td>
<td>58.5</td>
</tr>
<tr>
<td>Csi Bni Tsi</td>
<td>2</td>
<td>0.6</td>
<td>59.1</td>
</tr>
<tr>
<td>Csi Bsi Tne</td>
<td>15</td>
<td>4.9</td>
<td>64.0</td>
</tr>
<tr>
<td>Csi Bsi Tni</td>
<td>5</td>
<td>1.6</td>
<td>65.6</td>
</tr>
<tr>
<td>Csi Bsi Tsi</td>
<td>106</td>
<td>34.3</td>
<td>100</td>
</tr>
</tbody>
</table>

Total                      | 309       | 100.0   

*Note: C= Confucian, B= Buddhism, T=Taoism, ne=No Exposure, ni=No Influence and si=Some Influence*
Table 9 shows that respondents were not equally spread across the various exposure/influence combinations. The majority of combinations had less than 10 participants. Therefore, the respective relationship that Confucian, Buddhism and Taoism may have with SWB without being influenced by each other could not be determined in this study. To do so, a much larger sample size would be needed.

Based on the information gained from the frequency table above, the following analysis focused on the three groups: no exposure, no influence, some influence.

The analysis for hypothesis 2a was completed using a One Way ANOVA. Table 10 shows the SWB means and standard deviation (SD) for the three groups.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Exposure</td>
<td>39</td>
<td>63.52</td>
<td>15.66</td>
</tr>
<tr>
<td>No Influence</td>
<td>27</td>
<td>69.89</td>
<td>18.22</td>
</tr>
<tr>
<td>Some Influence</td>
<td>104</td>
<td>63.24</td>
<td>17.92</td>
</tr>
</tbody>
</table>

Results revealed that there were no significant differences in SWB between the three groups $F(2, 169) = 1.611, p=.203$.

In summary, SWB did not differ with Malaysians’ religious exposure and influence.
5.6.1 Testing Hypothesis 2b

The following analysis examined whether Malaysians’ likelihood of endorsing extreme SWB scores was linked to their religious exposure/influence. A Chi Square analysis was performed to test this hypothesis.

To determine the range or scores that would be considered as extreme, a frequency distribution of SWB scores is shown in Table 11a and Table 11b.
### Table 11: SWB Score Frequency

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00</td>
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<td>.3</td>
<td>.3</td>
</tr>
<tr>
<td>12.86</td>
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<td>.3</td>
<td>.6</td>
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<tr>
<td>18.57</td>
<td>1</td>
<td>.3</td>
<td>.9</td>
</tr>
<tr>
<td>20.00</td>
<td>2</td>
<td>.6</td>
<td>1.5</td>
</tr>
<tr>
<td>21.43</td>
<td>1</td>
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<td>1.7</td>
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<tr>
<td>22.86</td>
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<td>24.29</td>
<td>2</td>
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<td>2.9</td>
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<td>25.71</td>
<td>3</td>
<td>.9</td>
<td>3.8</td>
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<td>27.14</td>
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</tr>
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<td>28.57</td>
<td>2</td>
<td>.6</td>
<td>5.2</td>
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<td>31.43</td>
<td>2</td>
<td>.6</td>
<td>5.8</td>
</tr>
<tr>
<td>32.86</td>
<td>5</td>
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<td>7.3</td>
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<td>34.29</td>
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<td>8.4</td>
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<tr>
<td>35.71</td>
<td>3</td>
<td>.9</td>
<td>9.3</td>
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<td>13.4</td>
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<td>42.86</td>
<td>2</td>
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<td>14.0</td>
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<td>44.29</td>
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<td><strong>Sub-Total</strong></td>
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<td><strong>58.4</strong></td>
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<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
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<td>62.5</td>
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<td>71.43</td>
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<td>2.0</td>
<td>64.5</td>
</tr>
<tr>
<td>72.86</td>
<td>16</td>
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<td>69.2</td>
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<tr>
<td>98.57</td>
<td>2</td>
<td>.6</td>
<td>100.0</td>
</tr>
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</table>

**Total** | **344** | **100.0** |
Table 11 shows that the distribution of SWB scores was negatively skewed with the median of scores lying above the mid-point of a scale. Nonetheless, a higher percentage (21.8%) of Malaysians reported SWB scores that were below 50 compared to only 4% of a 60,000 Australian sample recruited over 13 years (Cummins et al., 2013). It has been suggested that SWB below 50 points is likely to represent homeostatic failure and that individuals falling within this category are at high risk of depression (Cummins, 2010). This implies that SWB values under 50 are likely to be highly influenced by depression and so their psychometric connections to other variables cannot be unequivocally interpreted. It is unlikely that a fifth of the Malaysian population is suffering from depression. This difference likely represents some unmeasured form of variance. Given the complexities of interpreting SWB scores below 50, this study focused on the likelihood of Malaysians endorsing extreme SWB on the upper end of the scale.

SWB set points, have been shown to range between 70 to 90 points with an operating range of 18 to 20 points (Cummins et al. 2013). With SWB above 90 being considered as ‘Extreme’ and scores ranging between 50 to 90 being ‘Non-Extreme’, Table 14 shows the distribution of SWB scores based on religious exposure/influence.

| Table 12: Cross tabulation of SWB score categories based on participant’s level of religious exposure/influence |
|---------------------------------------------------------------|-------------------|-------------------|
|                                                                 | SWB Scores         | Total             |
|                                                              | Non-Extreme 50 to 90 | Extreme (>90)    |
| No exposure                                                  | Count             | 32                |
|                                                             | Expected Frequency | 29.9              | 2.1               | 32.0   |
| No Influence                                                 | Count             | 20                | 4                 | 24     |
|                                                             | Expected Frequency | 22.4              | 1.6               | 24.0   |
| Some influence                                                | Count             | 75                | 5                 | 80     |
|                                                             | Expected Frequency | 74.7              | 5.3               | 80.0   |
| Total                                                        | Count             | 127               | 9                 | 136    |
|                                                             | Expected Frequency | 127.0             | 9.0               | 136.0  |
Table 12 shows that more than 33.3% of expected frequencies were below 5, which violated the Chi-Square test assumption. Hence, a Chi-Square could not be performed. To address this issue, SWB scores above 80 were categorised as ‘Extreme’, and those between 50 and 80 were ‘Non-Extreme’. A new cross tabulation was produced to show the frequency distribution of SWB categories based on religious exposure/influence.

Table 13 shows the results.

Table 13: Cross tabulation of SWB score categories based on participant’s level of religious exposure/influence

<table>
<thead>
<tr>
<th></th>
<th>SWB Scores</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-Extreme</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>50 to 80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No exposure</td>
<td>Count</td>
<td>26</td>
<td></td>
<td></td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>Expected Frequency</td>
<td>26.4</td>
<td></td>
<td></td>
<td>32.0</td>
</tr>
<tr>
<td>No Influence</td>
<td>Count</td>
<td>18</td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Expected Frequency</td>
<td>19.8</td>
<td></td>
<td></td>
<td>24.0</td>
</tr>
<tr>
<td>Some influence</td>
<td>Count</td>
<td>68</td>
<td></td>
<td></td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>Expected Frequency</td>
<td>65.9</td>
<td></td>
<td></td>
<td>80.0</td>
</tr>
<tr>
<td>Total</td>
<td>Count</td>
<td>127</td>
<td></td>
<td></td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>Expected Frequency</td>
<td>127.0</td>
<td></td>
<td></td>
<td>136.0</td>
</tr>
</tbody>
</table>

Results showed that 16.7% (less than 20%) of expected frequencies were below 5, thus, a Chi Square test was performed. Results showed that there was no significant association between Malaysians’ likelihood of endorsing extreme SWB scores and their level of religious exposure/influence, $\chi^2 = 1.31, p = .521$.

In summary, the SWB of Malaysians had no significant association with their level of religious exposure/influence, and Malaysians reporting No Exposure or No Influence were no more likely to endorse ‘Extreme’ SWB scores than those with Some Influence.
5.6 Testing of Hypothesis 3

The third hypothesis was in two parts as: (a) That MIA participants’ SWB scores differ significantly with acculturation status (integrated, assimilated, separated and marginalized); and (b) That these differences would remain after controlling for perceived level of English fluency and duration lived in Australia.

Prior to running the ANOVA, data were examined for homogeneity of variance using Levene’s test. This test revealed that the variances for SWB were significantly different across the four groups, hence, Games-Howell post hoc tests were used.

Table 14 shows the SWB means and standard deviation for MIA participants who were Integrated, Assimilated Separated and Marginalized.

<table>
<thead>
<tr>
<th>Acculturation Statuses</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated</td>
<td>76.762</td>
<td>10.031</td>
<td>30</td>
</tr>
<tr>
<td>Assimilated</td>
<td>72.971</td>
<td>16.940</td>
<td>50</td>
</tr>
<tr>
<td>Separated</td>
<td>67.422</td>
<td>13.800</td>
<td>46</td>
</tr>
<tr>
<td>Marginalized</td>
<td>60.538</td>
<td>17.235</td>
<td>24</td>
</tr>
</tbody>
</table>

Results from a One Way ANOVA showed that there were significant differences in SWB between acculturation statuses, $F(3,149)= 6.415$, $p=.000$, $\eta^2 = .116$. Post Hoc tests revealed that participants who were Integrated reported significantly higher SWB than those who were Separated and Marginalized. Participants who were Assimilated reported SWB significantly higher than those who were Marginalized.

To control for the effects of perceived level of English fluency and duration lived in Australia, an ANCOVA was performed. The correlations between SWB, duration lived in
Australia and perceived level of English fluency was reported in Table 4. Results showed that there was a significant positive relationship between perceived level of English fluency and SWB. Nonetheless, no significant relationship was found between duration lived in Australia and SWB. Hence, it was excluded as a covariate in the following analysis.

The ANCOVA results revealed that there were significant differences in SWB across the four acculturation statuses after perceived level of English fluency was controlled for, $F(3, 142)= 5.328$, $p=.002$, partial $\eta^2 = .101$. Post Hoc tests revealed that MIA participants who were Marginalized reported significantly lower SWB scores than those who were Integrated, Assimilated and Separated. There were no significant differences in SWB between those who were Integrated, Assimilated and Separated.

In summary, although the SWB of MIA participants did differ with acculturation status, only those who were marginalised had significantly lower SWB compared to those who were Integrated, Assimilated and Separated after perceived English fluency was controlled for.
5.7 Study 1 Results Summary

In summary, the hypothesis that the SWB of MIM, MIA and AUS participants would differ significantly even after controlling for income was supported. However, the SWB of Malaysians did not significantly differ with Confucian, Buddhism and Taoism exposure/influence, which was not as expected. Additionally, Malaysians reporting No Exposure or No Influence were no more likely to endorse ‘Extreme’ SWB scores than those with Some Influence. With regards to acculturation status, results showed that it only accounted for a small amount of SWB variance for the MIA participants, with those who were Marginalized reporting significantly lower SWB than those who were Integrated, Assimilated and Separated after controlling for perceived English fluency.
CHAPTER 6.0

STUDY ONE: DISCUSSION

The purpose of study one was to examine some of the factors that may explain differences in SWB between Malaysians in Malaysia (MIM), Malaysians in Australia (MIA), and Australians. The first aim of this study was to establish whether there were significant differences in SWB between the three samples. The second aim was to investigate the relationship between the three religions (Confucian, Buddhism and Taoism) and Malaysians’ likelihood of endorsing extreme SWB scores. The third aim was to assess the association between acculturation status and SWB for MIAs.

In terms of SWB differences, it was hypothesised that the SWB of MIM would be significantly lower than that of MIA and AUS, and that the SWB of MIA would be significantly lower than that of AUS. It was also expected that the differences would remain after controlling for income. These predictions were based on previous findings that showed Hong Kong Chinese in Hong Kong and Australia reported significantly lower SWB compared to that of Australians even when income was controlled for (Lau et al., 2005; Lai et al., 2013). The results of this study supported these hypotheses. The mean SWB of MIM (57.69%SM) participants were significantly lower than that of MIA (70.17%SM) and AUS (75.62%). The mean SWB of MIA participants were also significantly lower than that of AUS. Moreover, these differences in SWB remained after income was controlled for with minimal change in effect sizes. This result indicates that, when income is controlled for, the country of residence and the culture one associates with have a significant association with how satisfied people are with their life.
Although SWB was the main variable of interest to this study, PWI domain scores were also analysed to gain a more detailed picture of the differences. PWI domains included Standard of Living, Health, Achieving, Relationships, Safety, Community and Future Security, and income levels were controlled in the comparisons. Results revealed AUS reported significantly higher satisfaction in all domains measured compared to MIM. Similarly, when compared to MIA, MIM reported lower satisfaction on all items with the exception of Achieving. Therefore, it seems that MIM participants are not functioning as well and appear to have marked deficits across most domains. These findings were consistent with Lau and colleagues’ (2005) findings that Hong Kong Chinese were not only less satisfied with life in general but were also significantly less satisfied with all aspects of life measured by the PWI compared to Australians.

When participants from the same residing country were compared with each other (MIA and AUS) across all domains, MIA reported significantly lower satisfaction with their Standard of Living, Achieving in Life, Safety, Community and Future Security compared to AUS even with their varying income levels controlled for. MIA participants seem to not be functioning as well as AUS participants despite living in the same country. Such results were similar to those reported by Lai and colleagues (2013). Nonetheless, given the subjective nature of the construct measured, it is premature to conclude that the differences in SWB and PWI domains found are a reliable and valid reflection of the participants’ actual level of satisfaction with life. This is because, it has been reported that Asians seem to have a tendency to endorse middle responses and avoid extreme scores (Diener & Diener, 1995; Lee et al., 2002; Lee & Wu, 2008). Hence, response style could be an underlying factor that may explain some of the differences in SWB across country and culture. As Lau and colleagues (2005) suggested that Middle Response Style may be due to an individual’s philosophical training in Confucian, Buddhism and Taoism, the following discussion focuses on the
relationship between the three religions and Malaysians’ likelihood of endorsing extreme SWB scores.

The second hypothesis stated that (a) the SWB of Malaysians (MIM and MIA combined) will differ with the varying degree of exposure/influence of Confucian, Buddhism and Taoism (the religions), and (b) that Malaysians’ likelihood of endorsing extreme SWB scores will depend on their religious exposure/influence. Neither hypothesis was confirmed. Thus, exposure to the three religions does not seem to be associated with differential SWB. Additionally, there seems to be no significant association between the likelihood of Malaysians endorsing extreme SWB scores and their level of religious exposure/influence. These results were inconsistent with Lau and colleagues (2005) suggestion that the lower SWB scores of Asians may be due their training in the religions as Confucian, Buddhism and Taoism teach individuals to avoid extremity in life.

Although the religions do not appear to account for the differences in SWB amongst Malaysians, the result from this study does not eliminate the probability that Malaysians in this study are exhibiting Middle Response Style. Other possible theoretical explanations for Middle Response Style such as collectivism, masculinity, power distance, uncertainty avoidance (Hofstede, 2001) and dialecticism (Choi & Choi, 2002; Hamamura, Heine, & Paulhus, 2008) would be worth exploring in a future study.

An interesting observation, additional to the hypothesis testing, is that the frequency distribution of the SWB scores (Table 13) show that 21.8% of the Malaysian sample reported SWB scores that are below 50 compared to only 4% of the Australian sample (Cummins et al., 2013). Although it has been suggested that individuals with SWB below 50 points are at high risk of depression (Cummins, 2010), it is unlikely that a fifth of the Malaysian population suffers from depression (Centers for Disease Control and Prevention, 2010;
Maideen et al., 2014). Results from the Malaysian National Health Morbidity Survey IV (NHMS IV) in 2011 revealed that the prevalence of current depression was 1.85 while lifetime depression was 2.4% (Institute for Public Health, 2011). In a more recent study of 1556 Malaysians, the prevalence of current depression was 10.3%, which is a rate similar to the 9.1% published by the Centres for Disease Control and Prevention of the United States of America (Centers for Disease Control and Prevention, 2010; Maideen et al., 2014). This variation in the depression prevalence rates is likely due to the difference in measures used. The initial study used the Mini International Neuropsychiatry Interview (MINI), a diagnostic instrument to diagnose depression, while the latter utilized the Patient Health Questionnaire-9 (PHQ-9), a self-report measure of depression. Despite the variation in depression prevalence rate, both are far below 21.8%. Hence, the higher frequency of Malaysians reporting SWB below 50 compared to Australians likely represents some form of measurement variance or cultural difference.

It is also acknowledged that differences in SWB between cultures could be due to actual and meaningful differences. For example, it was reported that democratic countries appear to be happier than countries with no democratic government (Dorn et al. 2007; Inglehart et al. 2008). There are also cultural differences in terms of what constitutes a good life. Eastern countries, which have been reported to possess a more collective nature, are more motivated in maintaining the group interests while Western counties appear to be more interested in personal happiness and self-esteem (Wong and Ahuvia, 1997; Suh and Oishi, 2002). Nonetheless, measurement error, which could result in inaccurate findings through over inflation of group differences (Chen, 2008) needs to be minimised, and if possible, eliminated to ensure that any significant differences found in SWB would not be misleading. Hence, it is essential that the Personal Wellbeing Index (PWI), which is used as a measure of SWB in this study, work similarly across all three samples. This is known as measurement
invariance. Measurement invariance examines the level to which the responses to a scale are similarly associated to latent factors across different testing samples and is a necessary statistical property to establish to support inferences made based on scales scores across samples (Millsap, 2011). This will be taken up in the next study.

With regards to the association between acculturation status and SWB, it was predicted that the SWB scores of MIA participants would differ significantly with acculturation status (integrated, assimilated, separated and marginalized). It was also hypothesised that the differences would remain significant after perceived level of English fluency and duration lived in Australia were controlled for. These were based on previous findings which showed individuals who “integrated” reported significant higher satisfaction with life than those who were assimilated, separated and marginalized (Zheng et al., 2004). Results partially supported these hypotheses. The SWB of “integrated” MIA participants was significantly higher than those who were “separated” and “marginalized” but were not statistically different from the “assimilated”. Moreover, when participants’ perceived level of English fluency was controlled for, only those who were “marginalised” had significantly lower life satisfaction compared to those who “integrated”, “assimilated” and “separated”. These results suggest that Malaysian immigrants, who seem low on cultural resources (not orientated to either culture of origin and mainstream culture), are the least satisfied with life compared to those who possess stronger mono and bi cultural resources. Results also indicate that immigrants who are bi-culturally orientated (integrated) and have bicultural resources are no more satisfied with life than immigrants who are mono-culturally orientated (assimilated and separated) if they report similar levels of perceived English fluency.

While the results of this study were inconsistent with Zheng and colleagues’ (2004) findings, the findings were similar to those reported by Baker and colleagues (2012) who
found that life satisfaction did not differ between East Asian American students who were “integrated”, “assimilated” and “separated”. There are a few possible explanations for the differences in findings between Zheng and colleagues’ (2004) study and this study.

Firstly, perceived level of English fluency was not measured and controlled for in Zheng and colleagues’ (2004) study. This is of considerable importance as language competence was found to be a better predictor of acculturation than other domains of acculturation such as peer relationship, family conflict and perceived stress (Kang, 2006).

Secondly, while duration lived in Australia was a significant predictor of life satisfaction in Zheng and colleagues’ (2004) study, the same was not found in this study. Duration lived in Australia did not predict the SWB of MIA participants. However, duration lived in Australia was positively associated with acculturation toward the Australian culture, and acculturation toward the Australian culture was positively associated with SWB. Such findings suggest that perhaps for MIA, their length of stay in Australia does not necessarily predict higher satisfaction with life unless their level of acculturation towards the Australian culture also changed during that period.

Lastly, this study adopted a bidimensional model of acculturation as it was reported to be superior over unidimensional models in its predictive power for quality of life (Lieber et al., 2001). However, correlations between variables revealed that acculturation toward culture of origin and mainstream culture were negatively correlated, indicating that the two orientations were non-independent and violated an essential tenet of the bidimensional model. This finding appears to provide support for Tsai and colleagues’ (2000) suggestion that the bidimensional model is better at representing the acculturation process of second-generation immigrants while a unidimensional model was superior at representing the process of acculturation of foreign-born immigrants. Nonetheless, it has also been argued that the
presence of a negative correlation between the two dimensions does not necessarily invalidate the bidimensional models as the correlation is not perfectly negative as would the unidimensional models suggest (Nguyen, Messé, and Stollak, 1999). It may actually indicate that the bidimensional model insufficiently covers the entire acculturation process and that the inclusion of a third dimension looking at the “emergent ethnic identity” may possibly be necessary (Mendoza, 1989; Cuéllar, Arnold, & Maldonado, 1995). Either way, the findings suggest that the bidimensional model of acculturation may not be the most appropriate means of assessing the acculturation of Malaysians.

6.1 Limitations

A major limitation to the generalization of results from this study is that the questionnaire was only made available in English. While a considerable proportion of Malaysians possess a fairly good level of English competency, generalizability to the wider Malaysian population is clearly limited.

A second limitation is that the scale developed to assess the acculturation of Malaysians in Australia seems not to be the most appropriate means of assessing the acculturation of Malaysians. The short four-item acculturation measure was developed in accordance to Berry’s (1990) bidimensional acculturation model, however, data revealed that the two orientations (acculturation toward Malaysian culture and acculturation toward the Australian culture) were not independent. This finding violates an essential tenet of the bidimensional model suggesting that the model may have insufficiently covered the entire acculturation process of Malaysians and that a third dimension may be necessary. Hence, it would be beneficial for future studies to develop a three-dimension acculturation model for Malaysians to open doors for further research in this area.
Lastly, it is acknowledge that the MIA and MIM samples may be potentially biased as individuals known to the researcher initiated the snowballing process.

6.2 Conclusions

The purpose of this first study was to examine some of the factors that may explain the differences in life satisfaction between Malaysians in Malaysia (MIM), Malaysians in Australia (MIA) and Australians (AUS). The data for MIM and MIA were collected over a period of 4 months in 2014 via the social media platform, Facebook, while data for the AUS sample were obtained from the 30th Survey of the Australian Unity Wellbeing Index.

Results revealed that MIM have the lowest SWB amongst the three groups, followed by MIA. This suggests that the country of residence and the culture to which one associates with significantly accounts for some of the differences in SWB. Surprisingly, it was found that perceived levels of religious influence do not account for the differences in SWB amongst Malaysians. Religious influence is also not significantly associated with the likelihood of Malaysians endorsing extreme SWB scores. Lastly, acculturation status only differentiated the SWB between Malaysian immigrants with stronger and weaker cultural resources when perceived level of English fluency is controlled for. Malaysian immigrants low on cultural resources are the least satisfied with life. Malaysian immigrants with either stronger mono or bi cultural resources have similar functioning if they report similar levels of perceived English fluency. Hence, acculturation status appears to only play a small role in explaining the differences in SWB amongst MIA.

Although the three religions were ruled out as a possible explanation for Middle Response Style, the probability of Malaysians exhibiting this response pattern was not. Also,
a higher frequency of Malaysians reporting SWB below 50 compared to Australians may likely represent some form of measurement variance. Measurement variance occurs when the measure used to assess a certain construct does not work similarly across samples. Thus, it is of great importance that measurement invariance, which includes the assessment of group difference in response style, is examined.

Study two evaluates the measurement invariance of the PWI, depression and stress scales across the MIM, MIA and AUS samples. It also aims to investigate the depression and stress levels of Malaysians with SWB scores below 50.
CHAPTER 7.0

STUDY TWO: INTRODUCTION

7.1 Introduction

The first study determined that the SWB scores of Malaysians in Malaysia (MIM) and Malaysians in Australia (MIA) were significantly lower than that of Australians (AUS) even after controlling for income. Nonetheless, this comparison of group differences would only be valid if the measure used was psychometrically similar across countries. It was assumed that the Personal Wellbeing Index (PWI) measured the same psychological construct in all three groups. Although the PWI has been extensively used and tested within the Australian population (IWG, 2013) and has been used several times in Malaysia (e.g. Jaafar et al., 2012; Clark, Amar-Singh, & Hashim, 2014; Mahpul et al., 2014), measurement invariance of the PWI across these two countries has not been thoroughly assessed.

Measurement invariance assesses three types of measurement bias (Gregorich, 2006). It evaluates whether the: 1) Scale has the same number of underlying factors across groups (factor structure); 2) Scale conveys the same meaning across groups (factor loading); and 3) Groups differ in response style (item intercept). Until measurement invariance of a scale is established across the groups of interest, any differences found between groups may not be validly interpreted. Hence, the first aim of Study Two is to examine measurement invariance of the PWI across the MIM, MIA and AUS samples.

The second aim of Study Two is to investigate the depression and stress levels of Malaysians who reported SWB scores below 50. Study One revealed that a considerably higher percentage (21.8%) of Malaysians reported SWB scores that are below 50 compared to only 4% of a 60,000 Australian sample (Cummins et al., 2013). It has been suggested that
SWB below 50 points is likely to represent homeostatic failure and that individuals falling within this category are at high risk of depression (Cummins, 2010). Nonetheless, it seems unlikely that a fifth of the Malaysian population is depressed (Centers for Disease Control and Prevention, 2010; Maideen et al., 2014), and more likely that this difference represents some form of measurement variance or cultural bias.

Prior to investigating the association between depression, stress and SWB, the measurement invariance of the depression and stress scales across the two countries will be assessed to ensure results can be validly interpreted. Next, the effects of country of residence and SWB on depression and stress will be examined. It is hypothesized that depression and stress levels will not differ across country as depression prevalence rates have been found to be similar between Malaysia and Australia (Australian Institute of Health and Welfare, 2007; Maideen et al., 2014; Ng, 2014). However, they are expected to differ between participants who report SWB scores above and below 50. Lastly, multiple regression analyses will be used to determine the amount of variance that depression and stress each account for in SWB. Multiple regressions will be performed for each sample (MIM, MIA and AUS) as a whole and for split samples with SWB scores above and below 50.
8.1 Participants

It was initially planned to recruit a similar numbers of Malaysians in Australia for Study 2 as for Study 1. However, the return of several key contacts back to Malaysia, together with respondent fatigue from the first survey, resulted in very few recruits. A Facebook advertisement targeted specifically at Malaysians in Australia was also very unsuccessful. As a result, MIA data obtained for Study One (N=154) was used in the assessment of measurement invariance of the PWI across the three samples. Given no data on depression is available for MIA, the second aim of the study was modified to assess measurement invariance of the depression and stress scales using AUS and MIM samples only.

Of the 410 MIM participants, 5 were excluded from the data due to response set where they consistently scored 10 for all PWI domains. The usable sample comprised 89 males and 315 females and one with undisclosed gender. Their mean age was 45.46 years ($SD = 14.08$).

As MIA data from Study One was employed in Study Two, please refer to the Methods section of Study One for information regarding the MIA participants.
8.1.1 The Australian Sample (AUS)

Consistent with Study One, in order to compare data from Malaysians in Malaysia (MIM) with data representing the general Australian population (AUS), a sample of 376 participants was obtained from the 23rd survey of the Australian Unity Wellbeing Index, matched on income and age with the MIM sample. This survey comprised two versions that differed in terms of item-wording. For consistency with the current survey, the matched sample was selected from the version of the study that had item-wording consistent with the MIM and MIA questionnaires.

The method employed to extract the AUS sample, is identical to the one used in Study One. Please refer to Chapter 4.1 for details of the method used. Table 15 shows the matching within each income group.

Table 15: The frequency and percentage of MIM and AUS within each income group

<table>
<thead>
<tr>
<th>Monthly Household Income (MIM)/ Annual Household Income (AUS)</th>
<th>MIM N=403</th>
<th>AUS N=376</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>Less than RM1k/ Less than AUD15k</td>
<td>33</td>
<td>8.19%</td>
</tr>
<tr>
<td>RM1,001-RM2k/ AUD15,001- AUD30k</td>
<td>33</td>
<td>8.19%</td>
</tr>
<tr>
<td>RM2,001- RM4k/ AUD30,001- AUD60k</td>
<td>65</td>
<td>16.13%</td>
</tr>
<tr>
<td>RM4,001- RM6.5k/ AUD60,001-AUD100k</td>
<td>79</td>
<td>19.60%</td>
</tr>
<tr>
<td>RM6,501- RM9,500/ AUD100,001-AUD150k</td>
<td>75</td>
<td>18.61%</td>
</tr>
<tr>
<td>RM9,501- RM15,500/ AUD150,001-AUD250k</td>
<td>54</td>
<td>13.40%</td>
</tr>
<tr>
<td>More than RM30k/ More than AUD250k</td>
<td>64</td>
<td>15.88%</td>
</tr>
</tbody>
</table>
The table shows there were some discrepancies in terms of the percentages between the AUS and MIM across the income groups. These discrepancies were due to the fact that there were only a limited number of AUS participants who matched the MIM participants in both income and age. For example, the study needed 33 AUS participants within the first income group and 64 for the last, however only 22 and 15 AUS participants were available for the respective income group within the sample of 1000 Australians. Thus, the sample obtained represents the best attempt at matching on these variables given the available participants.

Table 16 shows the matching within each age group.

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>MIM N=403</th>
<th>AUS N=376</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Percent</td>
</tr>
<tr>
<td>18 to 25</td>
<td>51</td>
<td>12.65%</td>
</tr>
<tr>
<td>26 to 35</td>
<td>61</td>
<td>15.13%</td>
</tr>
<tr>
<td>36 to 45</td>
<td>63</td>
<td>15.63%</td>
</tr>
<tr>
<td>46 to 55</td>
<td>112</td>
<td>27.79%</td>
</tr>
<tr>
<td>56 to 65</td>
<td>102</td>
<td>25.31%</td>
</tr>
<tr>
<td>66 to 75</td>
<td>11</td>
<td>2.73%</td>
</tr>
<tr>
<td>Above 75</td>
<td>3</td>
<td>.007%</td>
</tr>
</tbody>
</table>

The number of MIM and AUS participants within each age group varied slightly after matching participants based on both income and age. Similarly, the percentages varied as there were limited numbers of AUS participants who were aged 18 to 35.
To ensure that the AUS sample extracted from Survey 23 of the Australian Unity Wellbeing Index conformed to the normal ranges for the PWI and domains obtained from the combined data from 30 Australian Unity Projects (2001 to 2013); the sample means were plotted against the ranges in Figure 3 below. The cross indicates the strength of satisfaction in the AUS sample that was extracted from Survey 23 of the Australian Unity Wellbeing Index.

It can be seen that while the PWI and four domains approximated their normal ranges, Health, Achieving, and Personal Relationships lied below.

As an explanation for these low scores, descriptive data for the normative sample (Survey 23) revealed that the distribution of values for the domains Health, Achieving and Personal Relationships were of an inverted bell shape curve. Data showed that participants aged 46 to 55 scored the lowest across all three domains (Health, $M=68.24$, $SD=20.21$; Achieving, $M=65.44$, $SD=21.21$; Personal Relationships, $M=72.02$, $SD=24.04$). This may explain the relatively lower means scores of the AUS sample as participants aged 46-55 were the largest group (30.58%) in the AUS sample while the same age group constituted 20.1% of the normative sample.

The domains lying below their normal means were then compared to random sample from the 23th survey. The AUS comprised of 376 participants, which approximately equates
to 40% of the normative sample. Hence, a random sample comprising 40% (n=383) of participants from the normative sample was selected using SPSS. Results of the independent t-tests revealed that there were no significant differences between the AUS sample and the random sample for all domains measured, PWI \( t(749) = -1.44, p=.15 \), Health \( t(767) = -1.18, p=.24 \), Achieving \( t(766) = -.57, p=.57 \), and Personal Relationships \( t(766) = 1.73, p=.08 \).

In summary, while the proportion of participants within the AUS sample across age groups differed from that of the normative sample, results revealed that there were no significant differences in domain scores. Hence, the AUS sample was used for all further analyses.

### 8.2 Materials

The 70-item Wellbeing Questionnaire included scales to measure subjective wellbeing (SWB), depression and stress. The questionnaire also comprised nine items enquiring about gender, age, marital status, household structure, work-status, income and ethnic background. The questionnaire was completed online.

#### 8.2.1 Subjective Wellbeing

The Personal Wellbeing Index was employed to measure SWB. As this is the same scale used in the first study, full details of this scale can be found in the Method section of Study One.
8.2.2 Depression and Stress

Depression and stress levels were measured using two subscales of the DASS 21. Each subscale comprised 7 items; each rated on the extent to which the symptom applied to them over the previous week, from a scale of 0 (not at all) to 10 (extremely). This response scale was modified from its original form where 0=Did not apply to me at all, 1=Applied to me to some degree, or some of the time, 2=Applied to me to a considerable degree, or a good part of time and 3=Applied to me very much, or most of the time. The depression subscale (DASS21-D) and stress subscale (DASS21-S) were found to be internally reliable using the original response scale, with their respective Cronbach’s α being .90 (DASS21-D) and .89 (DASS21-S) when assessed using a sample of 497 Australians (Crawford et al., 2011). A significant point to note was that the DASS21-D and DASS21-S were both found to be internally reliable for both the AUS and MIM samples using the modified scale (AUS sample- DASS21-D, Cronbach’s α=.94 and DASS21-S, Cronbach’s α=.91; MIM sample- DASS21-D, Cronbach’s α=.94 and DASS21-S, Cronbach’s α=.95).

Refer to Appendix C for MIM questionnaire and Appendix D for MIA questionnaire.

8.3 Procedure

Similar to Study One, participants were mainly associates of the researcher or recruited through snowballing and the social media network ‘Facebook’. Through snowballing, participants were encouraged to suggest other Malaysians who may be interested in participating. The Facebook advertisement was targeted at Malaysians currently living in Malaysia and Australia. Participants had to fulfil the following criteria to participate:

d) They must be at least 18 years of age,
e) They must have been born in Malaysia, but do not need to hold a Malaysian passport, and,

f) Must be residing in Malaysia or Australia.
CHAPTER 9.0

STUDY TWO: RESULTS

9.1 Data Preparation and Assumption

IBM SPSS Statistics Software (version 22) was used for data screening and analysis. All self-report data were converted to a standardized Percentage of Scale Maximum (%SM). To achieve this, all scores were simply multiplied by 10 to convert them to lie within a 0-100 range, as each item was assessed on an 11-point scale from 0-10.

The following procedures were completed for MIM and AUS only. For the data preparation process for MIA, please refer to Chapter 5.1.

Data cleaning revealed that there were less than 5% of missing cases for each variable. As the patterns of missing data seemed completely random, cases with missing values (AUS: 18 cases, 4.78%; MIM: 4 cases, 0.01%) were excluded listwise in subsequent analyses. This was based on Allison’s (2003) suggestion that listwise deletion does not introduce any bias if data are missing completely at random.

Examination of z-scores for both (MIM and AUS) samples independently revealed there were 5 univariate outliers lying 3.29 z-scores below the mean within the MIM sample. There were 20 univariate outliers lying 3.29 z-scores below the mean and 5 lying above for the AUS sample. These were all recoded to be 3.29 z-scores away from the mean.

Tests of univariate normality were conducted upon each scale, for each population independently, using the Kolmogorov-Smirnov test. Both samples violated this test of normality. A detailed examination into the descriptive statistics of these results revealed that the Personal Wellbeing Index (PWI) scores for both samples were more than 3.29 z-scores below the PWI mean while the DASS21-D and DASS21-S were more than 3.29 z-scores
above the mean. Nonetheless, as large samples would often have small standard errors, even
small deviations from normality would give rise to significant values for z-scores (Field,
2005). Following advice from Curran, West and Finch (1996), given that none of the skew
scores exceeded the value of two, they are unlikely to distort results (Curran, 1996). The
scales were retained for further analysis.

With regards to univariate kurtosis, the value for PWI within the AUS sample was
above the upper threshold of 3.29 z-scores, indicating significant kurtosis. However, given it
did not exceed the value of seven, it was unlikely to distort results (Curran, 1996).

Tests of multivariate normality showed significant skewness and kurtosis for both
AUS and MIM samples (AUS: Mardia’s coefficient= 46.23 and critical ratio= 38.80; MIM:
Mardia’s coefficient= 36.07 and critical ratio= 32.02). Consequently, a bias-corrected
bootstrapping procedure (on 2000 samples of the original data set at p<.05) was performed
to correct for multivariate non-normality.

Table 17 presents the correlations, means and standard deviations (SD) of the SWB
and PWI domains for both MIM and AUS samples.
Table 17: Correlations, means and SDs of SWB and PWI domains for the MIM = (n=397) and AUS (N=355) samples

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SWB</td>
<td>MIM</td>
<td>62.47</td>
<td>17.62</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>73.91</td>
<td>15.94</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Standard of Living</td>
<td>MIM</td>
<td>65.93</td>
<td>19.69</td>
<td>.79**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>77.47</td>
<td>16.19</td>
<td>.78**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Health</td>
<td>MIM</td>
<td>67.86</td>
<td>19.00</td>
<td>.71**</td>
<td>.57**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>70.35</td>
<td>19.31</td>
<td>.71**</td>
<td>.53**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Achieving in Life</td>
<td>MIM</td>
<td>65.34</td>
<td>20.80</td>
<td>.82**</td>
<td>.75**</td>
<td>.60**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>69.58</td>
<td>21.42</td>
<td>.84**</td>
<td>.57**</td>
<td>.60**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Relationships</td>
<td>MIM</td>
<td>67.58</td>
<td>23.67</td>
<td>.68**</td>
<td>.45**</td>
<td>.41**</td>
<td>.52**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>75.81</td>
<td>22.37</td>
<td>.77**</td>
<td>.52**</td>
<td>.44**</td>
<td>.61**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Safety</td>
<td>MIM</td>
<td>57.68</td>
<td>24.26</td>
<td>.82**</td>
<td>.56**</td>
<td>.41**</td>
<td>.58**</td>
<td>.46**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>82.88</td>
<td>14.39</td>
<td>.71**</td>
<td>.55**</td>
<td>.39**</td>
<td>.47**</td>
<td>.47**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Community</td>
<td>MIM</td>
<td>59.62</td>
<td>23.98</td>
<td>.83**</td>
<td>.53**</td>
<td>.51**</td>
<td>.56**</td>
<td>.49**</td>
<td>.69**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>71.64</td>
<td>20.58</td>
<td>.74**</td>
<td>.42**</td>
<td>.39**</td>
<td>.56**</td>
<td>.51**</td>
<td>.50**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>8. Future Security</td>
<td>MIM</td>
<td>53.30</td>
<td>25.38</td>
<td>.84**</td>
<td>.57**</td>
<td>.48**</td>
<td>.58**</td>
<td>.42**</td>
<td>.76**</td>
<td>.71**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>AUS</td>
<td>69.61</td>
<td>21.44</td>
<td>.83**</td>
<td>.67**</td>
<td>.45**</td>
<td>.64**</td>
<td>.53**</td>
<td>.57**</td>
<td>.56**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: **. Correlations is significant at .01 level (2-tailed)

The descriptive results in Table 17 show that MIM participants consistently reported lower scores compared to AUS participants across both SWB and all domains. Moreover, the SWB and PWI domain means were below the Australian normative ranges. These normative ranges can be found in Figure 3.

In terms of inter domain correlations; there were no obvious differences in the levels or patterns between samples.

Table 18 shows the correlations, means and standard deviations for Depression (average of the seven DASS21-D Items) and DASS21-D items for both MIM and AUS samples.
As shown above the MIM participants consistently reported higher means scores compared to AUS participants across all items measured- Depression and DASS21-D items.

With regards to inter-item correlations; there were no obvious differences in the levels or patterns between samples.

Table 19 shows the correlations, means and standard deviations for Stress (average of the seven DASS21-S items) and DASS21-S items for both MIM and AUS samples.
Table 19: Correlations, means and SDs of Stress and DASS21-S items for the MIM= (n=397) and AUS (N=355) samples

| Variable          | Sample | Mean  | SD   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
|-------------------|--------|-------|------|------|------|------|------|------|------|------|------|------|
| 1. Stress         | MIM    | 30.87 | 24.00|      |      |      |      |      |      |      |      |      |
|                   | AUS    | 28.72 | 21.51|      |      |      |      |      |      |      |      |      |
| 2. Hard to wind down | MIM    | 33.73 | 26.96| .83**|      |      |      |      |      |      |      |      |
|                   | AUS    | 39.72 | 29.84| .73**|      |      |      |      |      |      |      |      |
| 3. Over-reacting  | MIM    | 34.06 | 27.26| .83**| .63**|      |      |      |      |      |      |      |
|                   | AUS    | 32.28 | 24.66| .75**| .45**|      |      |      |      |      |      |      |
| 4. Nervous energy | MIM    | 31.41 | 27.59| .87**| .65**| .72**|      |      |      |      |      |      |
|                   | AUS    | 20.76 | 25.35| .76**| .45**| .51**|      |      |      |      |      |      |
| 5. Agitated       | MIM    | 30.55 | 28.32| .92**| .69**| .74**| .81**|      |      |      |      |      |
|                   | AUS    | 26.73 | 27.81| .86**| .51**| .62**| .61**|      |      |      |      |      |
| 6. Difficult to relax | MIM    | 30.00 | 28.74| .90**| .76**| .69**| .72**| .81**|      |      |      |      |
|                   | AUS    | 30.59 | 27.96| .89**| .71**| .59**| .63**| .74**|      |      |      |      |
| 7. Intolerant     | MIM    | 29.04 | 26.90| .88**| .70**| .65**| .71**| .80**| .77**|      |      |      |
|                   | AUS    | 26.00 | 25.26| .77**| .46**| .51**| .50**| .59**| .62**|      |      |      |
| 8. Rather touchy  | MIM    | 27.30 | 27.35| .85**| .62**| .63**| .69**| .75**| .74**| .73**|      |      |
|                   | AUS    | 24.99 | 27.54| .83**| .44**| .59**| .57**| .74**| .65**| .66**|      |      |

Note: **. Correlations is significant at .01 level (2-tailed)

Apart from the items “hard to wind down” and “difficult to relax”, MIM participants consistently reported higher on all other scores compared to AUS participants.

Similar to SWB and Depression, there were no obvious inter domain correlation differences in the levels or patterns between samples for Stress.

The next section addresses the aims of Study Two.
9.2 First Aim of Study Two

The first aim of Study Two was to examine measurement invariance of the PWI across the MIM, MIA and AUS samples. Due to the small number of MIA participants recruited for Study Two, the MIA data obtained for Study One (N=154) was used in the assessment of measurement invariance of the PWI across the three samples.

A multi-group confirmatory factor analysis (CFA) was performed using AMOS version 21 to test whether the PWI functioned differently across MIM, MIA and AUS samples (measurement invariance). Prior to proceeding with the multiple group analysis, preliminary single-group analyses were performed to establish adequate model fit for each group separately.

9.2.1 Baseline Models

The PWI domains were modelled as a unidimensional construct, consistent with prior research for MIM, MIA and AUS separately. While the most commonly used indicator of global model fit is the Chi Square $\chi^2$ test, it may not be the most suitable here as it is dependent on sample size. It was reported to almost always reject reasonable models with large samples (N>200) and may fail to reject poor models with small samples (Kline, 2010). Therefore, the Chi Square test was used for descriptive purposes only. The adequacy of model fit was then assessed with the following criteria: Comparative Fit Index (CFI) and Bentler-Bonett normed fit index (NFI) values $>.90$ are considered acceptable, better if they are $>.95$; Root Mean Square Error of Approximation (RMSEA) score $\leq .08$ is considered adequate fit and scores $\leq .50$ for good fit; and Standardised Root Mean Square Residual (SRMR) score $\leq .05$ for good fit (Kline, 2010, Byrne 2010).

Table 20 shows the fit indices for the single-factor model of the SWB for MIM, MIA and AUS samples. The models were numbered to serve as a reference point.
Table 20: Baseline model fit summary for PWI

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>NFI</th>
<th>SRMR</th>
<th>RMSEA (90% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. MIM</td>
<td>205.22**</td>
<td>14</td>
<td>14.66</td>
<td>.88</td>
<td>.87</td>
<td>.06</td>
<td>.19 (.16-.21)</td>
</tr>
<tr>
<td>2. (respecified)</td>
<td>55.54**</td>
<td>11</td>
<td>5.05</td>
<td>.97</td>
<td>.97</td>
<td>.04</td>
<td>.10 (.08-.13)</td>
</tr>
<tr>
<td>3. MIA</td>
<td>30.71*</td>
<td>14</td>
<td>2.19</td>
<td>.96</td>
<td>.94</td>
<td>.04</td>
<td>.09 (.05-.13)</td>
</tr>
<tr>
<td>4. MIA (respecified)</td>
<td>19.40</td>
<td>13</td>
<td>1.49</td>
<td>.99</td>
<td>.96</td>
<td>.04</td>
<td>.06 (.00-.11)</td>
</tr>
<tr>
<td>5. AUS</td>
<td>78.62**</td>
<td>14</td>
<td>5.62</td>
<td>.95</td>
<td>.93</td>
<td>.04</td>
<td>.11 (.09-.14)</td>
</tr>
<tr>
<td>6. AUS (respecified)</td>
<td>25.23**</td>
<td>11</td>
<td>2.29</td>
<td>.99</td>
<td>.98</td>
<td>.02</td>
<td>.06 (.03-.09)</td>
</tr>
</tbody>
</table>

Note: *p<.05, **p<.001 level, **Bold fonts indicate poor fit**

With regards to the MIM sample, Table 20 reveals that the single factor model (model 1) provided poor fit as indicated by all model fit statistics. Inspection of the modification indices suggested evidence of correlated residuals between three pairs of items: ‘standard of living’ and ‘achieving in life’; ‘health’ and ‘safety’; and ‘health’ and ‘future security’. Correlating these pairs of items resulted in modest improvement in model fit (see model 2). Despite these model re-specifications, the RMSEA value remained above .05, which indicates that the single factor PWI model is of a rather poor fit to the data in MIM sample. Refer to Figure 4 for the respecified model for the MIM sample.

Table 20 reveals that the single factor model provided poor fit for MIA as indicated by the RMSEA value (see model 3). Inspection of the modification indices suggested evidence of correlated residuals between ‘Achieving in Life’ and ‘Safety’. Correlating these pairs of items results in improved model fit (see model 4). Refer to Figure 5 for the respecified model of the MIA sample.

For the AUS sample, results from Table 20 indicate that the single factor model of the PWI is also of poor fit (see model 5). As expected, the $\chi^2$ value for the AUS sample was significant, likely due to the relatively large sample size. While the CFI and NFI values suggested acceptable fit, the RMSEA value indicated poor fit. Inspection of the modification
indices suggested evidence of correlated residuals between three pairs of items: ‘standard of living’ and ‘community’; ‘health’ and “achieving in life”; and “achieving in life’ and ‘personal relationships’. Allowing the residuals between these pairs of items to correlate results in good model fit over the single-factor model (see model 6). Refer to Figure 6 for the respecified model for the AUS sample.

Figure 4 shows the standardised estimates of the respecified single factor PWI models for MIM.

Figure 4 reveals that all seven factors loaded on the latent variable (PWI) with standardised factor loadings ranging from .54 (Personal Relationships) to .87 (Future Security) for the MIM sample.

Figure 5 shows the standardised estimates of the respecified single factor PWI models for MIA.
Figure 5 reveals that all seven factors loaded on the latent variable (PWI) with standardised factor loadings ranging from .54 (Health) to .81 (Community) for the MIA.

Figure 6 shows the standardised estimates of the respecified single factor PWI models for AUS.
Figure 6 reveals that all seven factors loaded on the latent variable (PWI) with standardised factor loadings ranging from .60 (Health) to .82 (Future Security) for AUS.

Given the rather poor fit of the single factor PWI model for the MIM sample, the measurement invariance analysis of the 7-item PWI could not be performed. As an alternative approach, the possibility of working with a reduced version of the PWI was considered.

9.2.2 A reduced MIM Baseline Model

The first step in examining the possibility of a reduced model was to concentrate on MIM. An examination of the standardised residual covariance matrix did not reveal any specific variable that may explain the data misfit. Additionally, as there is no known prior empirical evidence indicating an alternative PWI model for MIM, a systematic approach was used to assess for the best fitting version of the PWI for this group.

Seven confirmatory factor analyses were conducted, each using six domains. Table 21 shows the fit indices for the 6-item single-factor PWI models for MIM.
Table 21: Model Fit Summary of the 6-item PWI models for MIM

<table>
<thead>
<tr>
<th>Model (Variable Excluded)</th>
<th>( \chi^2 )</th>
<th>df</th>
<th>( \chi^2/df )</th>
<th>CFI</th>
<th>NFI</th>
<th>SRMR</th>
<th>RMSEA (90% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. (Standard of Living)</td>
<td>98.29**</td>
<td>9</td>
<td>10.92</td>
<td>.93</td>
<td>.92</td>
<td>.056</td>
<td>.16 (.13-.19)</td>
</tr>
<tr>
<td>8. (Health)</td>
<td>155.75**</td>
<td>9</td>
<td>17.31</td>
<td>.89</td>
<td>.89</td>
<td>.061</td>
<td>.20 (.18-.23)</td>
</tr>
<tr>
<td>9. (Achieving)</td>
<td>83.74**</td>
<td>9</td>
<td>9.30</td>
<td>.94</td>
<td>.93</td>
<td>.053</td>
<td>.15 (.12-.17)</td>
</tr>
<tr>
<td>10. (Personal Relationships)</td>
<td>188.74**</td>
<td>9</td>
<td>20.97</td>
<td>.88</td>
<td>.87</td>
<td>.068</td>
<td>.23 (.20-.25)</td>
</tr>
<tr>
<td>11. (Safety)</td>
<td>109.46**</td>
<td>9</td>
<td>12.16</td>
<td>.92</td>
<td>.91</td>
<td>.049</td>
<td>.17 (.14-.20)</td>
</tr>
<tr>
<td>12. Safety <strong>Respecified</strong></td>
<td>24.82*</td>
<td>8</td>
<td>3.10</td>
<td>.99</td>
<td>.98</td>
<td>.029</td>
<td>.07 (.04-.11)</td>
</tr>
<tr>
<td>13. (Community)</td>
<td>147.52**</td>
<td>9</td>
<td>16.39</td>
<td>.89</td>
<td>.88</td>
<td>.057</td>
<td>.20 (.17-.23)</td>
</tr>
<tr>
<td>14. (Future Security)</td>
<td>102.68**</td>
<td>9</td>
<td>11.41</td>
<td>.92</td>
<td>.91</td>
<td>.051</td>
<td>.16 (.14-.19)</td>
</tr>
</tbody>
</table>

Note: ** \( p<.001 \) level, * \( p<.05 \), Bold fonts indicate poor fit

Table 21 shows that all 6-item PWI models, except for Model 11, had poor fit as indicated by two or more fit indices. The best performing Model is 11 (Safety) where only RMSEA showed poor fit.

An inspection of the modification indices for Model 11 suggested evidence of correlated residuals between items ‘Community’ and ‘Future Security’. Correlating these two items further improved model fit (Model 12), such that the RMSEA indicated adequate fit while CFI, NFI and SRMR indicated good fit. This respecified model 12 was used as the PWI baseline model for MIM for the purpose of between country comparisons (see Figure 7).

9.2.3 The reduced MIA and AUS Baseline Models

The item Safety has been reported to never make a unique contribution to “satisfaction with life as a whole” in Australia (International Wellbeing Group, 2013). Additionally, results of multiple regression analyses of the MIA and AUS samples, which
examined the contributions of the seven PWI domains in predicting “satisfaction with life as a whole” revealed that Safety was not a significant predictor in both samples (MIA: $\beta=.002$, $p=.68$, $sr^2=.000$; AUS: $\beta=.01$, $p=.89$, $sr^2=.000$). Hence, it was decided that the item could be excluded from the MIA and AUS sample. Confirmatory factor analyses were then conducted to examine the fit of the PWI-6 model (excluding Safety) for AUS.

Table 22 shows the fit indices for the 6-item single-factor PWI model for MIA and AUS.

### Table 22: Model Fit Summary of the 6-item PWI models for MIA and AUS

<table>
<thead>
<tr>
<th>Model (Variable Excluded)</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>NFI</th>
<th>SRMR</th>
<th>RMSEA (90% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. MIA (Excluding Safety)</td>
<td>12.36</td>
<td>9</td>
<td>1.37</td>
<td>.99</td>
<td>.97</td>
<td>.03</td>
<td>.05 (.00-.11)</td>
</tr>
<tr>
<td>16. AUS (Excluding Safety)</td>
<td>60.02**</td>
<td>9</td>
<td>6.67</td>
<td>.95</td>
<td>.94</td>
<td>.039</td>
<td><strong>13 (.10-.16)</strong></td>
</tr>
<tr>
<td>17. AUS (excluding Safety Respecified)</td>
<td>23.96*</td>
<td>9</td>
<td>3.42</td>
<td>.98</td>
<td>.98</td>
<td>.026</td>
<td>.08 (.05-.12)</td>
</tr>
</tbody>
</table>

Note: ** $p<.001$ level, * $p<.05$, **Bold fonts indicate poor fit**

Table 22 shows that the single factor 6-item PWI model excluding the item Safety (Model 15) provided good fit for the MIA data.

For AUS, results revealed that the single factor 6-item PWI model omitting safety (Model 16) was of poor fit for the AUS sample as indicated by the RMSEA value. An inspection of the modification indices for model 16 suggested evidence of correlated residuals between two pairs of items: ‘standard and living and Future Security’ and ‘Community and Future Security’. Correlating these two pairs improved model fit (Model 17).

Figure 7 shows the standardised estimates of the respecified single factor PWI-6 models for MIM, MIA and AUS.
Figure 7: Standardised Estimate of the PWI-6 for MIM, MIA and AUS
Figure 7 reveals that all six factors loaded on the latent variable (PWI) with standardised factor loadings ranging from .58 (Personal Relationships) to .88 (Achieving) for the MIM, .54 (Health) to .83 (Achieving) for MIA, and .64 (Community) to .86 (Achieving) for AUS.

9.2.3 Issues to Consider

As excluding the item Safety domain from the PWI may affect the comparison analysis of SWB (average of PWI domain scores), t-tests were performed to investigate whether the exclusion of Safety resulted in a significant change in SWB.

Table 23 shows the means, standard deviations and t-test results for MIM, MIA and AUS.

Table 23: Means, Standard Deviations and T-Tests results

<table>
<thead>
<tr>
<th></th>
<th>MIM</th>
<th>MIA</th>
<th>AUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td>PWI-7</td>
<td>62.47 (17.62)</td>
<td>70.17 (15.62)</td>
<td>73.91 (14.94)</td>
</tr>
<tr>
<td>PWI-6</td>
<td>63.27 (17.37)</td>
<td>68.84 (15.96)</td>
<td>72.41 (15.83)</td>
</tr>
<tr>
<td>T-test</td>
<td>(t(396)=6.85, p=.000,) (d=.05)</td>
<td>(t(151)=7.37, p=.000,) (d=.08)</td>
<td>(t(354)=15.04, p=.000,) (d=.10)</td>
</tr>
</tbody>
</table>

Table 23 reveals that the SWB of MIM was significantly higher for PWI-6 compared to PWI-7 for MIM with very small effect size. On the other hand, the SWB of MIA and AUS were significantly lower for PWI-6 compared to PWI-7, also with very small effect sizes. Given the very small effect sizes, these differences are considered trivial.

With regards to the differing baseline models between MIM, MIA and AUS due to the additional error covariance (see Figure 7), Byrne (2010) reported that multi-group invariance analyses can still proceed with the implementation of a condition of partial measurement invariance. In other words, the invariance analysis can proceed in
circumstances where the error covariance specified in each of the two groups is different. The error covariance that is specified in one group but not in the other will not be constrained equal across groups. More importantly, as error terms are not assumed to be equal across groups to establish scalar invariance, invariance analysis can proceed.

9.2.4 Measurement Invariance

Measurement invariance of the PWI-6 for MIM and AUS was assessed incorporating the correlated residuals shown in Figure 7. Invariance was evaluated by calculating the fit indices between a reference and comparison model, with each successive analysis assessing increasingly restrictive models. Three levels of measurement invariance are usually distinguished as: (a) the configural model; (b) the metric (weak) model; and (c) the scalar (strong) model (Milfont & Fischer, 2010; van de Schoot, Lugtig, & Hox, 2012).

Table 24 shows the three levels of measurement invariance with a brief description of what is required by each level.

Table 24: Description of the three levels of Measurement Invariance

<table>
<thead>
<tr>
<th>Levels</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configural</td>
<td>It requires that all items load onto the same factor across samples. Nonetheless, variation in item parameters (factor loadings, residual variances and intercepts), factor variances and latent means are allowed.</td>
</tr>
<tr>
<td>Metric (Weak)</td>
<td>Factor loadings are required to be equivalent across samples</td>
</tr>
<tr>
<td>Scalar (Strong)</td>
<td>Equality constraints across samples are applied to item intercepts.</td>
</tr>
</tbody>
</table>

Configural invariance means that the scale has the same number of underlying factors across groups. Establishing metric invariance ensures that the factor PWI has the same meaning across samples (van de Schoot et al., 2012). Scalar invariance measures whether the manner in which participants respond (response style) to an item is systemically influenced by forces unrelated to the common factors, to be higher or lower and whether this influence
differs between groups (Gregorich, 2006). If response styles are found to differ, the observed means will not be readily interpretable. For example, if participants from one sample exhibited acquiescent response styles on one item that is not found in the same item of the other sample, the item mean is not readily comparable.

In the event that metric or scalar invariance (as described above) is not established, both forms of invariance can be relaxed to obtain partial invariance (Gregorich, 2006). Partial invariance is assessed by removing the constraints on specific parameters that are suspected to be non-invariant across samples. These specific parameters can be identified by examining the modification indices. If partial scalar invariance is established, only items that meet scalar invariance (constrained equal across groups) are included for comparison analyses.

Measurement invariance of the PWI-6 across the three samples was examined using the difference in CFI and RMSEA values. This study used the cut offs .01 for ΔCFI and .015 for ΔRMSEA to indicate change in fit from one model to another as recommended by Chen (2007). For example, if ΔCFI is found to be ≤.01 and RMSEA ≤.015 invariance has been demonstrated.

Measurement invariance of the PWI-6 across the three samples was examined as follows: MIM and AUS; MIM and MIA; and MIA and AUS.

Table 25 shows the evaluations of measurement invariance models for MIM and AUS. The models were numbered to serve as a reference point.

Table 25: Baseline model fit summary for MIM and AUS

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>Reference Model</th>
<th>ΔCFI</th>
<th>CFI</th>
<th>ΔRMSEA (90% CI)</th>
<th>RMSEA (90% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Configural</td>
<td>48.78**</td>
<td>15</td>
<td>3.25</td>
<td>-</td>
<td>.98</td>
<td>-</td>
<td>.06 (.04-.07)</td>
<td></td>
</tr>
<tr>
<td>19. Metric</td>
<td>81.16**</td>
<td>20</td>
<td>4.06</td>
<td>11</td>
<td>.01</td>
<td>.97</td>
<td>&lt;.01</td>
<td>.06 (.05-.08)</td>
</tr>
<tr>
<td>20. Scalar</td>
<td>228.85**</td>
<td>26</td>
<td>8.80</td>
<td>12</td>
<td>.06</td>
<td>.91</td>
<td>.04</td>
<td>.10 (.09-.11)</td>
</tr>
<tr>
<td>21. Partial Scalar</td>
<td>104.87**</td>
<td>23</td>
<td>4.56</td>
<td>12</td>
<td>.01</td>
<td>.96</td>
<td>.01</td>
<td>.07 (.06-.08)</td>
</tr>
</tbody>
</table>

Note: ** $p<.001$ level, Bold fonts indicate value is above cut off values
As shown in Table 25, the configural model (Model 18) resulted in an acceptable fit to the data. Metric invariance was also established (Model 19). Nonetheless, the ΔCFI and ΔRMSEA values of Model 20 did not support scalar invariance.

An inspection of the modification indices suggest that scalar invariance did not hold for items ‘standard of living’, ‘community’ and ‘future security’. Hence, to assess partial scalar invariance (model 21), the constraints on these intercepts for these items were removed. Now (Model 21) the ΔCFI and ΔRMSEA values support partial scalar invariance for the 6-item PWI between MIM and AUS. Next, the measurement invariance of the PWI between MIM and MIA was assessed.

Table 26 shows the evaluations of measurement invariance models for MIM and MIA.

Table 26: PWI-6 Baseline model fit summary for MIM and MIA

<table>
<thead>
<tr>
<th>Model</th>
<th>χ²</th>
<th>df</th>
<th>χ²/df</th>
<th>Reference Model</th>
<th>Δ CFI</th>
<th>CFI</th>
<th>Δ RMSEA</th>
<th>RMSEA (90% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. Configural</td>
<td>37.19*</td>
<td>17</td>
<td>2.18</td>
<td>-</td>
<td>.99</td>
<td>-</td>
<td>.05 (.03-.07)</td>
<td></td>
</tr>
<tr>
<td>23. Metric</td>
<td>49.73**</td>
<td>22</td>
<td>2.26</td>
<td>22</td>
<td>.01</td>
<td>.98</td>
<td>&lt;.01</td>
<td>.05 (.03-.07)</td>
</tr>
<tr>
<td>24. Scalar</td>
<td>130.93**</td>
<td>28</td>
<td>4.68</td>
<td>23</td>
<td>.04</td>
<td>.94</td>
<td>.03</td>
<td>.08 (.09-.11)</td>
</tr>
<tr>
<td>25. Partial Scalar</td>
<td>74.34**</td>
<td>26</td>
<td>2.86</td>
<td>23</td>
<td>.01</td>
<td>.97</td>
<td>.01</td>
<td>.06 (.04-.07)</td>
</tr>
</tbody>
</table>

Note: * p<.05, ** p<.001 level, Bold fonts indicate value is above cut off values

Table 26 reveals that both Configural and Metric invariance were also established (Model 22 and 23). Nonetheless, the ΔCFI and ΔRMSEA values of Model 24 did not support scalar invariance.

An inspection of the modification indices suggested that scalar invariance did not hold for items ‘achieving in life’ and ‘future security’. Hence, to assess partial scalar invariance (model 25), the constraints on these intercepts for these items were removed. The ΔCFI and ΔRMSEA values for Model 25 support partial scalar invariance for the 6-item PWI.
Lastly, the following section assessed the measurement invariance of the PWI between MIA and AUS. Table 27 shows the evaluations of measurement invariance models for MIA and AUS.

Table 27: PWI-6 Baseline model fit summary for MIA and AUS

<table>
<thead>
<tr>
<th>Model</th>
<th>(\chi^2)</th>
<th>df</th>
<th>(\chi^2/df)</th>
<th>Reference Model</th>
<th>(\Delta) CFI</th>
<th>CFI</th>
<th>(\Delta) RMSEA</th>
<th>RMSEA (90% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26. Configural</td>
<td>48.82**</td>
<td>17</td>
<td>2.87</td>
<td>-</td>
<td>.97</td>
<td>-</td>
<td>.06 (.04-.08)</td>
<td></td>
</tr>
<tr>
<td>27. Metric</td>
<td>73.06**</td>
<td>22</td>
<td>3.32</td>
<td>26</td>
<td>.01</td>
<td>.96</td>
<td>.01 (.05-.09)</td>
<td></td>
</tr>
<tr>
<td>28. Scalar</td>
<td>92.55**</td>
<td>28</td>
<td>3.31</td>
<td>27</td>
<td>.01</td>
<td>.95</td>
<td>&lt;.01</td>
<td>.07 (.05-.09)</td>
</tr>
</tbody>
</table>

Note: ** \(p<.001\) level

Table 27 shows that the configural model (Model 26) resulted in an acceptable fit to the data. Metric invariance was also established (Model 27). Results also supported the scalar invariance (Model 28) of the PWI-6 between MIA and AUS, which allows for a valid comparison of the PWI-6 mean across MIA and AUS.

In summary, the partial scalar invariance of the 6-item PWI between MIM and AUS was established. This allows for a valid comparison of means across the two samples only for items Health, Achieving in Life and Personal Relationships. For the SWB between MIM and MIA, a comparison of means was only valid for items ‘Standard of Living’, ‘Health’, ‘Personal Relationships’ and ‘Community’. Importantly, the scalar invariance of the PWI-6 between MIA and AUS allows for a valid comparison of the mean of all six items.

9.2.5 Exploratory Analyses

The scalar non-invariance found for items ‘standard of living’, ‘community’ and ‘future security’ suggests that response styles vary between MIM and AUS for these items. Given that Asians have been reported to have an inclination to avoid extreme ends of a scale, the following analysis was conducted to examine the means and standard deviations of these
domains (VanHerk, Poortinga, & Verhallen, 2004; Lee & Wu, 2008). Essentially, the lower the mean, the higher the standard deviation, and the more platykurtic the distribution means the fewer people scoring 9 and 10. All this would be consistent with a middle-response bias. However, these characteristics would also likely be shown by people with low income. Hence, only participants with household incomes more than 100,000AUD/RM6,500 were employed. This income cut off point was selected based on findings that showed SWB does not rise with income above this threshold for AUS (Cummins et al. 2009). Exploratory analyses showed a similar trend for MIM participants. Figure 8 shows the SWB of MIM at each income group.

Figure 8: SWB scores at each income group for MIM

Figure 8 shows that there is only a slight increase in SWB with income above the RM6500 threshold.

Table 28 shows the means and standard deviations for the items Standard of Living, Community and Future Security of MIM and AUS participants with household incomes above 100,000AUD/RM6,500.
Table 28: Means and Standard Deviations for MIM and AUS

<table>
<thead>
<tr>
<th></th>
<th>MIM (n=193)</th>
<th>AUS (n=170)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Standard of Living</td>
<td>70.89</td>
<td>17.20</td>
</tr>
<tr>
<td>Community</td>
<td>63.06</td>
<td>21.18</td>
</tr>
<tr>
<td>Future Security</td>
<td>56.27</td>
<td>25.24</td>
</tr>
</tbody>
</table>

Table 28 shows that the MIM reported significantly lower scores compared to AUS on all three domains—Standard of living, \( F(1, 362) = 49.31, p<.000, d=.75 \); Community, \( F(1, 362) = 23.32, p<.000, d=.51 \); and Future Security, \( F(1, 362) = 56.98, p<.000, d=.80 \). It also revealed that the standard deviations for MIM across all domains appear larger than that of AUS.

Similarly, the scalar non-invariance found for items ‘Achieving in Life’ and ‘Future Security’ suggests that response styles vary between MIM and AUS. Table 29 shows the means and standard deviations for the items Achieving in Life and Future Security of MIM and MIA participants with household incomes above 100,000AUD/RM6,500.

Table 29: Means and Standard Deviations for MIM and MIA

<table>
<thead>
<tr>
<th></th>
<th>MIM (n=193)</th>
<th>MIA (n=26)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Achieving in Life</td>
<td>70.05</td>
<td>18.66</td>
</tr>
<tr>
<td>Future Security</td>
<td>56.27</td>
<td>25.24</td>
</tr>
</tbody>
</table>

Results revealed that MIM reported significantly lower scores for Future Security \( F(1, 217) = 3.97, p<.000, d=.81 \). No significant difference was found for Achieving in Life scores between MIM and MIA, \( F(1, 217) = 1.56, p=.058 \). Nonetheless, the standard deviations for MIM across both domains seem larger than that of MIA.
9.2.6 Differences in SWB between MIM, MIA and AUS

An independent t-test was performed to examine whether there were significant differences in SWB between MIM and AUS. The SWB of participants were calculated using the combined three PWI domains (Health, Achieving in Life and Personal Relationships). Results revealed that AUS ($M=71.91, SD=17.60$) reported significantly higher SWB than MIM ($M=66.93, SD=17.33$), $t(750) = 3.91, p<.001, d=.29$. The small effect size was noted.

To compare the SWB between MIM and MIA, the average of four PWI domains (‘Standard of Living’, ‘Health’, ‘Personal Relationships’ and ‘Community’) found to be comparable between samples was calculated. Results revealed that MIA ($M=70.66, SD=15.57$) reported significantly higher SWB than MIM ($M=65.25, SD=16.99$), $t(547) = 3.41, p=.001, d=.33$. The small effect size was noted.

Lastly, a comparison of SWB between MIA and AUS was made using the average of the six PWI domains (excluding Safety). The SWB of AUS ($M=72.41, SD=15.83$) was significantly higher than that of MIA ($M=68.84, SD=15.96$) with a small effect size, $t(505) = 2.32, p=.021, d=.22$.

9.2.7 SWB Below 50

As the participants reporting SWB scores under 50 were of particular interest in Study 2 due to its association with depression, the frequency distribution of SWB scores were examined. Given the depression scores for MIA were not available for both studies, the following analyses focused on MIM and AUS. An inspection of the distribution tables revealed that 13.9% (n=55) of MIM and 11.0% (n=39) of AUS participants reported SWB scores <50 points.

It was noted that the percentages of participants reporting SWB <50 for both MIM and AUS in this study differed from Study 1. Results from study 1 revealed that 21.8% of
MIM reported SWB <50 compared to only 4% of 60,000 Australians. The discrepancies in percentages may be due to the fact that SWB in Study 2 was the average of three PWI domains instead of seven in Study 1. Hence, as an attempt to explain the discrepancy, the frequency distributions of the PWI-7 and PWI-3 <50 was assessed for the following samples: a) 23rd Survey of the Australian Unity Wellbeing Index (23rd AUWI); b) AUS sample of Study 2 and c) MIM sample of Study 2.

Table 30 shows the percentage of PWI7 and PWI3 <50 for 23rd AUWI sample, MIM and AUS.

Table 30: Frequency Distributions of PWI-7 and PWI-3 <50

<table>
<thead>
<tr>
<th></th>
<th>Study 1</th>
<th></th>
<th>Study 2</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>PWI-7</td>
<td>N</td>
<td>PWI-7</td>
</tr>
<tr>
<td>23rd AUWI</td>
<td>-</td>
<td>-</td>
<td>2090</td>
<td>7.6% (n=155)</td>
</tr>
<tr>
<td>AUS</td>
<td>-</td>
<td>-</td>
<td>355</td>
<td>8.2% (n=29)</td>
</tr>
<tr>
<td>MIM</td>
<td>344</td>
<td>21.8% (n= 75)</td>
<td>397</td>
<td>21.7% (n=86)</td>
</tr>
</tbody>
</table>

Table 30 reveals that when SWB was the average of the seven PWI domains (PWI7), a lower percentage of Australians (both 23rd AUWI and AUS samples) report SWB <50 compared to the average of three items (PWI3). However, the opposite was true for MIM. A higher percentage of MIM reported SWB <50 when SWB was the average of seven domains (PWI7) compared to three (PWI3).

Additionally, the original sample (23rd AUWI) from which AUS was extracted consisted of a higher percentage of participants (7.6%) with PWI-7<50 compared to the 4% reported by Cummins and colleagues (2013). Therefore, it is not surprising that the AUS sample also comprised similar higher percentages of participants with PWI-7 <50.

The percentages of MIM reporting PWI-7 <50 in study 1 and 2 were nearly identical. In summary, it appears that the manner in which SWB is calculated affects the percentages of participants reporting scores <50.
9.2.7 Summary

This section aimed to establish the measurement invariance of the PWI.

When the baseline models of the PWI for MIM, MIA and AUS were assessed, it was found that the seven-item PWI did not provide good fit for the MIM data. Hence, a systematic approach was used to determine the best fitting model for MIM. Removing the item Safety and correlating two pair of items created an acceptable model fit for MIM.

Measurement invariance of the PWI was then performed between MIM and AUS, MIM and MIA, and MIA and AUS, based on the 6-item model. Results showed that the items Standard of Living, Community and Future Security did not achieve scalar invariance between MIM and AUS. Achieving in Life and Future Security were not comparable between MIM and MIA while all six PWI domains (excluding safety) were comparable between MIA and AUS. Therefore, valid comparisons of SWB between MIM, MIA and AUS were performed based on the averages of the items found to be scalar invariant between the respective groups.

When the SWB of MIM, MIA and AUS were compared, significant differences were found with AUS reporting higher scores than both MIM and MIA. MIA reported significantly higher SWB than MIM. All the differences found were of small effect size.

As the participants reporting SWB scores under 50 were of particular interest in Study 2, the frequency distribution of SWB scores for MIM and AUS were examined. Data on depression levels for MIA were not available due to the small number of participants recruited. An inspection of the frequency distribution tables revealed that 13.9% (n=55) of MIM and 11.0% (n=39) of AUS participants reported SWB scores <50 points. Discrepancies between these percentages found in Study 2 compared to those reported in Study 1 were noted. Further analyses suggest that the discrepancy is due to the differential retention of PWI domains from which SWB was measured.
The following section investigated the depression and stress levels of MIM with SWB using scores below or above 50. This value was chosen because SWB below 50 points is likely to represent homeostatic failure, and that individuals within this category are at high risk of depression (Cummins, 2010).

Prior to investigating these associations, the measurement invariance of the depression and stress scales across the two countries were assessed.
9.3 Second Aim of Study Two

The second aim of Study Two was to investigate the depression and stress levels of Malaysians who reported SWB scores above and below 50. There were three parts to the analyses.

First, the measurement invariance of the DASS21-D and DASS21-S across both MIM and AUS samples were assessed. Next, the effects of country of residence and SWB on depression and stress were examined using a two-way independent MANOVA. It was hypothesized that depression and stress levels would not differ across country. It was expected to differ between participants who reported SWB scores above and below 50. Lastly, multiple regression analyses were used to determine the proportion of variance in SWB accounted for by depression and stress. Multiple regressions were performed for each sample (MIM and AUS) as a whole, and for split samples with SWB scores above and below 50.

9.3.1 Baseline Models

As this study only involved Depression and Stress as measured by the DASS, the items were modelled as a two-factor model. The baseline model that best fitted the data for MIM and AUS were analysed separately.

Table 31 shows the fit indices for the two-factor model of the DASS21-DS for both MIM and AUS samples.
Table 31: DASS21-DS Baseline model fit summary for MIM and AUS

<table>
<thead>
<tr>
<th>Model</th>
<th>χ²</th>
<th>df</th>
<th>χ²/df</th>
<th>CFI</th>
<th>NFI</th>
<th>SRMR</th>
<th>RMSEA (90% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>29. (MIM)</td>
<td>591.05**</td>
<td>76</td>
<td>7.78</td>
<td>.91</td>
<td>.90</td>
<td>.04</td>
<td>.13 (.12-.14)</td>
</tr>
<tr>
<td>30. (Respecified)</td>
<td>326.23**</td>
<td>68</td>
<td>4.80</td>
<td>.96</td>
<td>.95</td>
<td>.03</td>
<td>.10 (.09-.11)</td>
</tr>
<tr>
<td>31. (AUS)</td>
<td>317.62**</td>
<td>76</td>
<td>4.18</td>
<td>.94</td>
<td>.92</td>
<td>.04</td>
<td>.10 (.08-.11)</td>
</tr>
<tr>
<td>32. (respecified)</td>
<td>211.93**</td>
<td>74</td>
<td>2.86</td>
<td>.96</td>
<td>.95</td>
<td>.03</td>
<td>.07 (.06-.08)</td>
</tr>
</tbody>
</table>

Note: ** p<.001 level, Bold fonts indicate poor fit

With regards to the MIM sample, Table 31 reveals that the two-factor model provided poor fit as indicated by the RMSEA value (model 29). Inspection of the modification indices suggested evidence of correlated residuals between eight pairs of items (refer to 8). Correlating these pairs of items resulted in modest improvement in model fit (see Model 30). Despite these model re-specifications, the RMSEA value remained above .08, which indicated that the two-factor DASS21-DS model was of a rather poor fit to the MIM data. Refer to Figure 8 for the respecified model for the MIM sample.

For the AUS sample, results from Table 31 indicate that the two-factor model of the DASS21-DS was also of poor fit (model 31) as indicated by the RMSEA. An inspection of the modification indices suggested evidence of correlated residuals between two pairs of items (refer to Figure 8). Allowing the residuals between these pairs of items to correlate resulted in good model fit over the two-factor model (see model 32). Refer to Figure 8 for the respecified model for the AUS sample.

Figure 8 shows the standardised estimates of the respecified two-factor DASS21-DS models for both MIM and AUS.
Figure 8 reveals that all fourteen items loaded onto two latent variables (Depression and Stress). For MIM, depression factor loadings ranged from .76 (D7) to .91 (D4) while stress factor loadings ranged from .77 (S2) to .90 (S4 and S5). For AUS, depression factor loadings ranged from .72 (D7) to .90 (D4) while stress factor loadings ranged from .58 (S1) to .87 (S4 and S5).

It was noted that Depression and Stress highly correlated with each other across both samples (MIM, $r=.96$; AUS, $r=.88$). This suggested that there was a considerable lack of discriminant validity. This meant that there was a lack of differentiation between the constructs measured.

As the two-factor DASS21-DS model provided a poor fit for the MIM data, measurement invariance analysis of the two-factor DASS21-DS model could not be performed. Additionally, due to the lack of discriminant validity between the two constructs,
it was decided that further analyses from this point would only focus on Depression as Depression is the main construct of interest in Study Two. Hence, the following analyses assessed for the fit of the one-factor DASS21-D model for MIM and AUS.

9.3.2 Reduced Baseline Models for MIM and AUS

A confirmatory factor analysis was performed to assess the fit of the one factor DASS21-D (Depression) for MIM and AUS.

Table 32 shows the fit indices for the one-factor model of the DASS21-D for both MIM and AUS samples.

**Table 32: DASS21-D Baseline model fit summary for MIM and AUS**

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>CFI</th>
<th>NFI</th>
<th>SRMR</th>
<th>RMSEA (90% Confidence Interval)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. (MIM)</td>
<td>197.72**</td>
<td>14</td>
<td>14.12</td>
<td>.93</td>
<td>.93</td>
<td>.04</td>
<td>**.18 (.16-.21)</td>
</tr>
<tr>
<td>34. (MIM Respecified)</td>
<td>31.61**</td>
<td>10</td>
<td>3.16</td>
<td>.99</td>
<td>.98</td>
<td>.02</td>
<td>**.08 (.05-.11)</td>
</tr>
<tr>
<td>35. (AUS)</td>
<td>54.06**</td>
<td>14</td>
<td>3.90</td>
<td>.98</td>
<td>.97</td>
<td>.03</td>
<td>**.09 (.08-.11)</td>
</tr>
<tr>
<td>36. (AUS Respecified)</td>
<td>35.39**</td>
<td>13</td>
<td>2.72</td>
<td>.99</td>
<td>.98</td>
<td>.02</td>
<td>**.07 (.04-.10)</td>
</tr>
</tbody>
</table>

Note: ** $p < .001$ level, **Bold fonts indicate poor fit**

For the MIM sample, Table 32 shows that the one factor DASS21-D model was of poor fit as indicated by the RMSEA value (Model 33). Inspection of the modification indices suggested evidence of correlated residuals between 4 pairs of items (D6-D7, D2-D6, D4-D6 and D1-D2). Correlating these pairs of items improved model fit (see Model 34 respecified). This respecified model 34 (see figure 9) was used as the DASS21-D baseline model for MIM for the following measurement invariance analyses.
As for the AUS sample, Table 32 reveals that the one factor model provided poor fit as indicated by the RMSEA value (Model 35). An inspection of the modification indices suggested the correlating items D6 and D7 would improve model fit. When these items were allowed to correlate, model fit improved (Model 36 respecified). Refer to figure 9 for the respecified DASS21-D model for AUS.

Figure 9 shows the standardised estimates of the respecified single factor DASS21-D models for both MIM and AUS.

![Figure 9: Standardised estimates of the DASS21-D for both MIM and AUS samples.](image)

Figure 9 reveals that all seven items loaded on the latent variable (Depression) with standardised factor loadings ranging from .77 (D2) to .91 (D5) for the MIM sample and .72 (D2) to .89 (D5) for AUS.
9.3.3 Measurement Invariance

Measurement invariance of the DASS21-D for MIM and AUS were assessed incorporating the correlated residuals shown in Figure 9.

Measurement invariance of the DASS21-D between MIM and AUS was examined using the difference in CFI and RMSEA values. This study used the cut offs .01 for ΔCFI and .015 for ΔRMSEA to indicate change in fit from one model to another as recommended by Chen (2007). For example, if ΔCFI is found to be ≤.01 and RMSEA ≤.015, invariance has been demonstrated.

Table 33 shows the evaluations of measurement invariance models.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$\chi^2$/df</th>
<th>Reference Model</th>
<th>ΔCFI</th>
<th>CFI</th>
<th>ΔRMSEA (90% CI)</th>
<th>RMSEA (90% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. Configural</td>
<td>73.43**</td>
<td>23</td>
<td>3.19</td>
<td>-</td>
<td>.99</td>
<td>-</td>
<td>.05 (.04-.07)</td>
<td></td>
</tr>
<tr>
<td>38. Metric</td>
<td>115.15**</td>
<td>29</td>
<td>3.97</td>
<td>21</td>
<td>.01</td>
<td>.98</td>
<td>.06 (.05-.08)</td>
<td></td>
</tr>
<tr>
<td>39. Scalar</td>
<td>144.41**</td>
<td>36</td>
<td>4.01</td>
<td>22</td>
<td>&lt;.01</td>
<td>.98</td>
<td>&lt;.01</td>
<td>.06 (.05-.07)</td>
</tr>
</tbody>
</table>

Note: ** $p<.001$ level

As shown in Table 33, the configural model (Model 37) resulted in an acceptable fit to the data. Metric (Model 38) and scalar (Model 39) invariance were also established.

In summary, scalar invariance of the DASS21-D was established. This allowed for a valid comparison of depression means across the two samples.
9.3.4 Two-Way ANOVA

To examine the effects of country of residence and level of SWB on depression, a two-way ANOVA was performed. Levels of SWB were categorised into two groups: SWB<50 and SWB≥50. It was hypothesized that depression did not differ across country. It was expected to differ between participants who reported SWB score above and below 50. It was hypothesized that the effects of SWB levels on depression did not differ between countries.

An examination of homogeneity of variance using the Levene’s test showed that the variance was unequal for MIM and AUS, $F(1,750) = 4.25, p=.04$. Results also showed that the variances were significantly different between the groups SWB<50 and SWB≥50, $F(1,750) = 4.39, p=.04$. Given the violation of the assumption of homogeneity of variance, a bias correcting bootstrapping procedure (on 2000 samples of the original data set at $p<.05$) was used to correct for heterogeneity of variance across groups.

Table 34 shows the means and standard deviations of depression across country and SWB level.

<table>
<thead>
<tr>
<th></th>
<th>SWB &lt;50</th>
<th></th>
<th>SWB≥50</th>
<th></th>
<th>Country Whole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$n$</td>
<td>$M$</td>
</tr>
<tr>
<td>MIM</td>
<td>55</td>
<td>53.09</td>
<td>24.07</td>
<td>342</td>
<td>22.11</td>
</tr>
<tr>
<td>AUS</td>
<td>39</td>
<td>56.69</td>
<td>20.89</td>
<td>316</td>
<td>16.71</td>
</tr>
<tr>
<td>SWB Whole</td>
<td>$M= 54.89 (22.76)$</td>
<td></td>
<td>$M=19.51 (19.73)$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results from the Two-Way ANOVA revealed that there was a significant main effect of the level of SWB on depression, $F(1,752)=252.60, p=.000, \eta^2=.25$. The depression levels of participants with SWB<50 was significantly higher than those with SWB≥50.

No significant main effect of country of residence on depression was found, $F(1,752)=.161, p=.69$. 

A significant interaction effect between country of residence and SWB levels on depression was found, $F(1,752)=4.06$, $p=.044$, $\eta^2=.005$. This indicated that while AUS with SWB<50 reported higher levels of depression compared to MIM with SWB<50, AUS with SWB≥50 reported lower levels of depression compared to MIM with similar levels of SWB. Nonetheless, it was noted that the interaction was of very small effect size.

9.3.5 Regression

Linear regression analyses were used to determine the amount of variance depression accounts for in SWB. Regressions were performed for each sample (MIM and AUS) as a whole and for split samples with SWB scores above and below 50.

Table 35 shows the results of linear regressions examining the contribution of depression in predicting SWB of MIM and AUS as a whole, and for split samples with SWB scores above and below 50.

Table 35: Linear Regressions

<table>
<thead>
<tr>
<th></th>
<th>$\beta$</th>
<th>$F(df)$</th>
<th>$p$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIM</td>
<td>-.60</td>
<td>219.37 (1,396)</td>
<td>.000</td>
<td>.36</td>
</tr>
<tr>
<td>MIM SWB ≥50</td>
<td>-.42</td>
<td>72.22 (1,341)</td>
<td>.000</td>
<td>.18</td>
</tr>
<tr>
<td>MIM SWB &lt;50</td>
<td>-.62</td>
<td>32.64 (1,54)</td>
<td>.000</td>
<td>.38</td>
</tr>
<tr>
<td>AUS</td>
<td>-.72</td>
<td>378.68 (1,354)</td>
<td>.000</td>
<td>.52</td>
</tr>
<tr>
<td>AUS SWB ≥50</td>
<td>-.55</td>
<td>133.32 (1,315)</td>
<td>.000</td>
<td>.30</td>
</tr>
<tr>
<td>AUS SWB &lt;50</td>
<td>-.50</td>
<td>12.53 (1,38)</td>
<td>.001</td>
<td>.25</td>
</tr>
</tbody>
</table>

Table 35 shows that depression was a significant predictor of SWB in both countries (MIM and AUS) when the samples were analysed as a whole, and that the variance accounted for was higher in AUS. When the samples were split, it was expected that variance accounted for would be less due to range restrictions. And, indeed, this was found in the AUS samples, where both split groups decreased to about the same level.
However, for MIM, this pattern only applied for participants with SWB ≥50. For the split group <50, depression accounted nearly the same amount of variance as when the group was analysed as a whole.

9.3.6 Summary

This section aimed to investigate the relationship between depression, stress, SWB and country of residence. However, a lack of discriminant validity between depression and stress was found, which suggested that the two constructs were measuring the same thing. Hence, it was decided that further analyses from that point only focused on Depression.

When the measurement invariance of the DASS21-D was examined, the one factor model that incorporated several correlated items (see Figure 9) provided acceptable fit for both MIM and AUS data. More importantly, scalar invariance was established which allowed for a valid comparison of means across groups.

As expected, participants (both MIM and AUS) with SWB <50 reported significantly higher levels of depression than those with SWB ≥50. Depression levels did not differ across countries. Although the effect of SWB levels on depression depended on country of residence, this significant interaction found was trivial as indicated by the very small effect size.

Depression was found to be a significant predictor of SWB in both countries, however, the amount of SWB variance explained varied between countries and SWB levels. While less SWB variance was accounted for by depression when the AUS sample was split according to their SWB levels (<50 and ≥50), the pattern only applied for MIM with SWB ≥50.
CHAPTER 10.0

STUDY TWO: DISCUSSION

The Subjective Wellbeing (SWB) of Malaysians was found in Study One to be significantly lower than that of Australians. Nonetheless, it was premature to conclude that this difference was a reliable and valid reflection of SWB. There remained the possibility of response style contaminating mean differences. Study Two aimed to eliminate this possibility, initially by establishing measurement invariance of the Personal Wellbeing Index (PWI). It also assessed the measurement invariance of the Depression Anxiety and Stress Scale-21 Depression and Stress scales (DASS21-D and DASS21-S), as the association between these constructs and SWB are also of interest. As individuals with SWB below 50 had been suggested to be at higher risk of depression (Cummins, 2010), depression levels were expected to differ between participants who reported SWB score above and below 50. Nonetheless, previous findings show Malaysians (8.3% to 12.3%) and Australians (14.2%) having similar depression prevalence rates (Australian Institute of Health and Welfare, 2007; Maideen et al., 2014; Ng, 2014). Thus, it was hypothesized that that depression and stress levels would not differ across country.

The initial design of this study involved three samples- Malaysians in Malaysia (MIM), Malaysians in Australia (MIA) and Australians (AUS). However, as only small numbers of MIA participants were recruited in study two, MIA data from Study One were used to examine the PWI factorial invariance of this group. It was not possible to do this substitution for the DASS21-D and DASS21-S since these were not measured in Study One. Hence, the examination of measurement invariance for these two scales was confined to the MIM and AUS groups only.
The single factor seven-item PWI (PWI-7) was found to only provide adequate data fit for the MIA and AUS data but not MIM. This indicated that the PWI-7 model was not comparable between the three countries. Instead, the single-factor six-item PWI model (PWI-6), excluding the item Safety, was found to provide adequate fit for MIM, MIA and AUS data. The reason the item Safety resulted in model-data misfit for MIM is not clear. A possible explanation could lie with the fit statistic itself. RMSEA has been recently reported to be problematic when degrees of freedom are small (Kenny et al., 2015). It has also been suggested to falsely indicate poor fit when data are non-normal, which is the case for both MIM and AUS (Kenny et al., 2015). Nonetheless, their findings have yet to be replicated by other researchers. This possibility could not be confirmed using the current data. Hence, the measurement invariance test of the PWI-6 between MIM and AUS proceeded.

Results revealed that the PWI-6 has partial scalar invariance between MIM and MIA, and MIM and AUS. This demonstrates that not all of the PWI-6 items operated similarly. The direct comparison of SWB means is found to be valid only for the items Health, Achieving in Life and Personal Relationships (PWI-3) between MIM and AUS. On the other hand, a comparison of SWB between MIM and MIA is valid for four of the six the domains (‘Standard of Living’, ‘Health’, ‘Personal Relationships” and ‘Community’). This finding is consistent with that reported by Torsheim and colleagues (2012), and Fuller-Tyszkiewicz, (2012), who both found that while a certain response style may be present in an item, the same response style may not be present in the others. It also challenges the generally assumption that a population exhibiting a certain response style would exhibit the same response style consistently across all items measured. Some have made this conclusion based on results focused on overall construct statistics rather than examining individual item statistics (e.g. Lai et al., 2013). The partial invariance findings of the PWI suggests otherwise.
One suggestion that has been made to supposedly explain the varying response styles of items within a scale is the level of ambiguity in wording (Torsheim et al., 2012). These authors propose that participants have a higher tendency of exhibiting their preferred unconscious response style when items are less concrete. However, all PWI items are designed to be ambiguous in nature. For example, Future Security could be interpreted as future physical safety, future income, or even national security; Health could have referred to physical and or mental health; Achieving in Life may mean academic achievements, career achievements or even general life goals such as travelling the world. Hence, it is unlikely that ambiguity in wording explained the scalar non-invariance found. Further research into other possible reasons for partial scalar non-invariance is needed to better understand this occurrence, which will assist researchers in developing and selecting measures less likely affected by varying response styles.

Apart from response style varying across items, the partial scalar invariance finding also indicates that response style varied between MIM and AUS, and MIM and MIA. The difference in response styles between MIM and AUS is not surprising given Asians have been reported to have an inclination to avoid extreme ends of a scale while Westerners have a tendency for Extreme Response Style (Si & Cullen, 1998; VanHerk, Poortinga, & Verhallen, 2004; Lee & Wu, 2008; Dolnicar & Grun, 2007). Nonetheless, MIMs’ response pattern also varied from that of MIAs’ on two of the six domains examined. The analyses may have detected that MIM were exhibiting Middle Response Style, which was not exhibited by MIA and AUS. Given there is no apparent difference in response styles between MIA and AUS, these results indicate that perhaps as Asians migrate to a western country, the tendency for middle response style diminishes.
Further investigations into the means and standard deviations of the domains found to vary in response style between the three samples concerned differences in household income. A cut off point of more than 100,000AUD/RM6,500 was selected based on findings that shows SWB does not rise with income above this threshold (Cummins et al. 2009). Results revealed that MIM report significantly lower domain scores (medium to large effect sizes) with higher standard deviations compared to MIA and AUS. The lower means and higher standard deviations indicate a more platykurtic distribution of scores with fewer people scoring 90 or 100, which is consistent with middle response style. Hence, it is important that items found to vary in response patterns are not included in between-country comparisons, as the non-equivalent response styles will contaminate SWB mean differences.

With response styles variation in the PWI impacting SWB scores ruled out, it is fairly certain that any discrepancy found is a reliable and valid reflection of participants’ actual level of satisfaction with life. However, despite this, the SWB of MIM remained significantly lower than that of MIA and AUS, with a small effect sizes. This is expected given the very recent implementation of the Goods and Services Tax in Malaysia, discrepancy in national wealth and political instability. Interestingly, although significantly higher that MIM, the SWB of MIA was found to be lower than that of AUS. This result is consistent with Lai and colleagues (2013) findings that first generation immigrants reported significantly lower SWB than that of Australians. However, given MIA and AUS was found to not vary in response style, results from this study does not support their suggestion that the difference in SWB between migrants and individuals of the host country is largely explained through variation in response style. Instead, the difference between MIA and AUS is likely a reflection of the acculturation stress MIA experiences when learning to live within, comprehend and adapt to a new culture.
While it is not surprising that the SWB of MIM is significantly lower than that of MIA and AUS, it should be noted that the SWB levels of MIM found in this study ($M=66.93$, $SD=17.33$) is also significantly lower than the SWB of MIM ($M=71.10$, $SD=13.10$) reported by Mahpul, Hamid and Shafiai (2014) who also used the PWI. One possible explanation for this discrepancy is that participants from their study were recruited before the implementation of the Goods and Services Tax in Malaysia, while participants from this study were recruited just two months after its implementation. Moreover, it is also uncertain whether the SWB score reported in Mahpul and colleagues’ (2014) study is a valid reflection of the construct measured for their sample. This is because; a confirmatory factor analysis was not performed to ensure that the model used (all eight items used) provided good fit for their data.

Finally, as the participants reporting SWB scores under 50 are of particular interest in Study 2, the frequency distribution of SWB scores for both groups were examined. It was found that the percentage of MIM (13.9%) reporting SWB below 50 points is fairly similar to that of AUS (11.0%), when items contaminated by varying response styles were excluded. These percentages varies from those of Study 1, which found that 21.8% of MIM reported SWB $<50$ compared to only 4% of 60,000 Australians. Further analyses suggest that the discrepancy is due to the differential retention of PWI domains from which SWB is measured (seven domains for Study 1 versus three for Study 2). Such results indicate that the relatively large differences in percentages found in Study 1 were likely contaminated by response style.

In summary, the partial scalar invariance of the PWI was established. While response style varies on several PWI domains between MIM and MIA, and MIM and AUS, the SWB of participants are comparable based on the remaining domains found to be invariant. It was found that MIA reported significantly lower SWB than AUS, possibly due to the acculturation stress experienced by migrants. The SWB of MIM remained significantly lower than that of MIA and AUS, which is likely a true reflection of the discrepancies in national
wealth and political stability across countries. More importantly, the percentage of MIM reporting SWB below 50 points are fairly similar to that of AUS when contamination from differing responses styles is eliminated.

The second aim of the study examined the depression and stress levels of MIM and AUS, using SWB scores above and below 50 points. This value is chosen based on the suggestion that SWB below 50 points is likely to represent homeostatic failure and that individuals falling within this category are at high risk of depression (Cummins, 2010). In order to examine these associations, the measurement invariance of the DASS21-D and DASS21-S had first to be established.

Results revealed that the two-factor (Depression and Stress) model provided adequate fit for the AUS data but not MIM, suggesting that the two-factor model is not comparable. Very high latent factor correlations were observed. This indicates that the scales have considerable poor discriminant validity, which is consistent with Hashim, Golok and Ali’s (2011) and Mellor and colleagues’ (2015) findings. Given the items measuring stress and depression were likely measuring the same construct, it was decided to limit further analyses to the items measuring Depression.

The comparability of the depression scale was established, with results showing the scale was scalar invariant between MIM and AUS. This allowed for a valid comparison of depression across countries. The comparison analysis supported the hypothesis that depression levels are significantly higher for individuals with SWB below 50 compared to those with SWB above 50. This finding provides further support for Cummins’s (2010) suggestion that individuals experiencing homeostatic defeat, as indicated by their low SWB score, are at higher risk of depression.

Although the effect of SWB levels on depression appeared to be dependent on country of residence, this significant interaction found is trivial as indicated by the very small
effect size. In fact, as expected, depression levels do not differ between countries. This is consistent with reports showing that depression prevalence rates are comparable between Malaysia and Australia (Australian Institute of Health and Welfare, 2007; Maideen et al., 2014; Ng, 2014). The similar depression levels between MIM and AUS, along with the small difference in SWB, suggest that the homeostatic system is still in control of SWB in MIM generally and that these people have adapted to the relatively poor living conditions.

Depression was found to be a significant predictor of SWB in both countries (MIM and AUS). This finding is entirely consistent with the results reported by Van Hemert (2002). Nonetheless, depression appears to be a better predictor of SWB in AUS compared to MIM, when the samples were analysed as a whole. One possible explanation for this difference could lie in the manner to which depression is exhibited across cultures. For example, Americans (like Australians) appear to emphasize the affective aspects of depression compared to Asians (Ryder, Yang, & Zhu, 2008). In contrast, Asians have been found to be more likely to exhibit the somatic complaints of depression compared to Americans. In Asia, it is more socially acceptable to express physiological symptoms rather than affective ones (Chang, 1985; Gaw, 1993; Hsu & Folstein, 1997; Kleinman, 2004). Hence, as the DASS21-D comprises mainly affective items, rather than somatic, the scale may have missed the variance from somatic depressive symptoms in MIM.

10.1 Limitations

The first limitation to the generalization of results from this study is that the questionnaire was only made available online. Moreover, this project relied heavily on Facebook advertising to recruit participants. While a considerable proportion of Malaysians have access to the Internet and Facebook, generalizability to the wider Malaysian population is clearly limited.
A second limitation is that the study failed to generate enough data for measurement invariance testing with MIA for the DASS21-D and DASS21-S. As such, it could not be determined whether the difference in SWB between MIA and AUS found in Study One and Two is a reflection of their depression and stress levels.

10.2 Conclusion

The aims of Study Two were to establish the comparability of the Personal Wellbeing Index (PWI) and the DASS21-Depression and Stress scales before investigating the association these constructs have with SWB. The data for MIM and MIA were collected over a period of 4 months in 2015 via the social media platform, Facebook, while data for the AUS sample were obtained from the 23rd Survey of the Australian Unity Wellbeing Index.

Due to the small numbers of MIA participants recruited, MIA data from Study One were used to complete analyses involving the PWI. Nonetheless, as MIA participants from Study One did not complete the DASS21-D and DASS21-S, the second aim on Study Two was modified to focus only on MIM and AUS.

Results revealed that only three of the seven PWI domains were comparable between MIM and AUS, and four PWI domains invariant between MIM and MIA. These findings indicate that response style varied both across items and country. Further investigation revealed that the response pattern of MIM were consistent with that of Middle Response Style. With regards to the DASS21- depression and stress scales, very high correlations were found between these scales, which suggests poor discriminant validity. Therefore, it was decided to focus on depression only. The DASS21-D was found to be comparable across MIM and AUS.

It was found that even with variation of response style eliminated, the SWB of MIM remained significantly lower than that of MIA and AUS, with a small effect size. This is
expected given the very recent implementation of the Goods and Services Tax in Malaysia, discrepancy in national wealth and political instability. With regards to the lowered SWB of MIA compared to AUS, this difference is likely explained by the acculturation stress MIA experience when living within a new culture. Importantly, the percentage of MIM (13.9%) reporting SWB below 50 points was found to be fairly similar to that of AUS (11.0%), which appear to be due to the differential retention of PWI domains. Similarly, results supported the hypotheses that depression does not differ between MIM and AUS and that individuals with SWB below 50 are at higher risk of depression.

With response style contamination eliminated, there is only a small between-country difference in SWB considering similar depression levels. This suggests the homeostatic system is still in control of SWB in MIM and that MIM may have adapted to their relatively poor living conditions.
CHAPTER 11.0

GENERAL DISCUSSION

The aim of this thesis was to compare the SWB of Malaysians in Malaysia (MIM), Malaysians in Australia (MIA) and Australians (AUS). It also aimed to understand the interaction of religious teachings (Confucian, Taoism and Buddhism), acculturation and subjective wellbeing (SWB), to assist valid SWB comparisons between the three samples.

The initial design of both Study One and Study Two involved all three samples—MIM, MIA and AUS. However, as only small numbers of MIA participants were recruited for Study Two, MIA data from Study One was incorporated within Study Two analyses.

12.1 Subjective Wellbeing Across Countries

The SWB of Malaysians in Malaysia has been consistently shown to be lower than that of both Malaysians in Australia and Australians across both studies. However, when the possibility of response style contamination is eliminated, the difference in SWB is small and likely to be a reflection of the discrepancies in national wealth and political stability across countries. Importantly, this small difference in SWB between MIM and AUS is not reflected in their depression levels. Thus, the comparable percentages of participants reporting SWB below 50, together with similar depression levels between countries found in Study Two, suggests that MIM are functioning as well homeostatically as AUS despite the demographic differences mentioned.
It has also been demonstrated that MIM exhibit a pattern of responses consistent with Middle Response Style. This finding is in line with the suggestion that Asians in general have a tendency to avoid extreme scores (Lee et al., 2002; Lee & Wu, 2008). However, the exhibition of Middle Response Style was not consistent across all items of the PWI. This finding is important because it is generally assumed that response style occurs consistently across all items measured. Several researchers have made this assumption, based on results focused on overall construct statistics, rather than through examining individual item statistics (e.g. Lai et al., 2013). Results from this study suggest otherwise.

Additionally, while Middle Response Style has been suggested to be associated with Confucian, Buddhism and Taoism teachings (Lau et al., 2005), which emphasis modesty, results did not support this notion. Religious teachings does not predict the SWB of Malaysians (MIM and MIA) and do not appear to be related to the tendency of Malaysians’ avoiding extreme scores.

12.2 SWB between Cultures of the Same Country

Results from both Study One and Two revealed that, even with response style contamination eliminated, the SWB of MIA remained significantly lower than that of AUS, with small effect sizes. This suggests that the difference in SWB level is possibly a reflection of the acculturation stress migrants experience when learning, living and adapting to a new culture. Hence, it is not surprising that Malaysian migrants low on cultural resources are found to be the lowest functioning group. Those with mono-cultural (Malaysian or Australia) and bi-cultural (Malaysians and Australian cultural resources) were shown to have an advantage over those with no cultural resources, as the latter group reported significantly lower SWB. Nonetheless, migrants do not appear to benefit more from possessing bi-cultural
resources compared to mono-cultural resources if they have similar levels of perceived English fluency. This result is surprising given Chinese migrants to Australia with bi-cultural resources have been reported to have an advantage over those with mono or low cultural resources (Zheng et al., 2004).

It should also be noted that this study adopted a bi-dimensional model of acculturation as this is considered superior over unidimensional of models in its predictive power for quality of life (Lieber et al., 2001). However, the correlation between variables revealed that acculturation toward culture of origin and mainstream culture are negatively correlated, indicating that the two orientations are non-independent and violate an essential tenet of the bi-dimensional model. Nonetheless, the correlation is also not perfectly negative as the unidimensional models suggest (Nguyen, Messé, and Stollak, 1999). Such results indicate that the bi-dimensional model insufficiently covers the entire acculturation process and that the inclusion of a third dimension looking at the “emergent ethnic identity” may possibly be necessary (Mendoza, 1989; Cuéllar, Arnold, & Maldonado, 1995).

12.3 The SWB Homeostasis Model and Cross Cultural Differences Found

Lastly, while findings of this study show that MIM and MIA reported SWB slightly below 70, it does not present as a challenge against the basic tenet of the Homeostatic Model. This is because, it was shown that individual set points lie between 71-90 points, with an average set point range of 18-20 points for each individual (Cummins, Li, Wooden & Stokes, 2013). This means that individuals with a lower SWB set point of 72, could have their SWB fluctuating between 62 and 82. Instead, findings of this study infer that perhaps the SWB set points for Malaysians are on the lower end of the set point range (71-90) proposed by Cummins and colleagues (2013).
12.4 Limitations

One major limitation to the generalization of results consistent across both studies is that the questionnaires were only made available in English and the recruitment of participants relied heavily on the snowball sampling process along with paid Facebook advertising. While a considerable proportion of Malaysians possess a fairly good level of English competency and have access to the Internet, generalizability to the wider Malaysian population is clearly limited.

12.5 Conclusion

There are significant differences in SWB between MIM, MIA and AUS, with MIM reporting the lowest levels, followed by MIA then AUS. While religious teachings do not explain any of these differences, acculturation and perceived English fluency do explain some variance between cultures. Perceived English fluency seem to be better predictor of SWB than acculturation.

This study also highlights the importance of establishing the comparability of scales between countries to eliminate the possibility response style contaminating comparison analyses. Variation in response styles was found both between countries and across items, with MIM exhibiting response patterns consistent with that of Middle Response Style.

With response style contamination eliminated, the small difference in SWB, along with the similar depression levels reported between countries, indicate that the homeostatic system is still in control of SWB in MIM. This suggests that MIM have adapted to their relatively poor living conditions.
12.6 Future Directions

Findings from Study One eliminated Confucian, Buddhism and Taoism as possible explanations for the exhibition of Middle Response Style amongst Malaysians. However, other theoretical explanations for this phenomenon such as collectivism, masculinity, power distance, uncertainty avoidance, dialecticism (Hofstde, 2001; Choi & Choi, 2002) would be worth exploring in future studies.

Next, as the response patterns MIM were found to vary across items of the same scale, future studies into other possible explanations for this inconsistency is needed. Such understanding will assist researchers in developing and selecting measures less likely affected by varying response styles.

Findings of this study on the acculturation and SWB of migrants suggest that policies aiming to assist migrants (including asylum seekers and refugees) should focus on methods to increase the levels of English fluency rather than focusing on orientating migrants towards the culture of the host country. This is because, an increased level of perceived English fluency is likely to have a greater impact on the newcomers’ wellbeing as it a cultural resource that would likely decrease the level of acculturation stress experienced.

Lastly, only three of the seven PWI domains were found to be comparable across MIM and AUS. This suggested that the meaning of SWB is arguably quite different across different cultures. Therefore, it would be of great benefit to explore the constructs and determinants of SWB that are culturally specific, which best captures of general idea about happiness and the “good life”.

CHAPTER 12.0

References


Doi:10.1177/0729986303025002001


Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin
University. Retrieved from
http://www.deakin.edu.au/research/acqol/auwbi/survey-reports/survey-021-
report-part-a.pdf

Australians - Two extra hours, mothers and mothers-in-law.* Melbourne: Australian
Centre on Quality of Life, School of Psychology, Deakin University. Retrieved from:
http://www.deakin.edu.au/research/acqol/auwbi/survey-reports/survey-029-
report-part-a.pdf

Cummins, R.A., Capic, T., Hutchinson, D., Richardson, B., Fuller- Tyszkiewicz, M., &
of Australians: Housing affordability.* Melbourne: Australian Centre on Quality of
Life, School of Psychology, Deakin University. Retrieved from:

nonnormality and specification error in confirmatory factor analysis. *Psychological
Methods, 1*, 16–29.

Davern, M.T., Cummins, R.A., & Stokes, M.A. (2007). Subjective wellbeing as an affective-
cognitive construct. *Journal of Happiness Studies, 8*, 429-449. doi: 10/1007/s10902-
007-9066-1


Doi:10.1080/13676261.2012.725838


APPENDIX A

Study One

Questionnaire for Malaysians in Malaysia

Thank you for your involvement in this survey. This is a confidential questionnaire so please ensure that you do not write your name, or any other comments that will make you identifiable. By completing the questionnaire you are consenting to take part in this research as explained in the Plain Language Statement enclosed. The intention of this project is to investigate general wellbeing.

Please read each question and response option carefully before answering the questions and make sure that you have provided an answer for every question.

Personal Wellbeing
Thinking about your own life and personal circumstances, please circle the number that best represents how satisfied you feel with your life.

How satisfied are you with…
1. Your life as a whole?
2. Your standard of living?
3. Your health?
4. What you are currently achieving in life?
5. Your personal relationships?
6. How safe you feel?
7. Feeling part of your community?
8. Your future security?
9a. Do you have spiritual or religious beliefs? Y/N If ‘Yes’ go to 9b
   If ‘No’ go to 10.
9b. How satisfied are you your spirituality or religion?

Scale = 0 – 10.
Anchors: 0 – “Not at all satisfied”; 10 – “Completely satisfied”

How you generally feel
Please indicate how each of the following describes your feelings when you think about your life in general.

10. Thinking about my life in general, I feel…happy
11. Thinking about my life in general, I feel…content
12. Thinking about my life in general, I feel…tired
13. Thinking about my life in general, I feel…active
14. Thinking about my life in general, I feel…miserable
15. Thinking about my life in general, I feel…alert
16. Thinking about my life in general, I feel…enthusiastic
17. Thinking about my life in general, I feel…sad
18. Thinking about my life in general, I feel…distressed
What you expect to happen

*How much do you agree with the following statements?*

19. In uncertain times, I usually expect the best
20. I'm always optimistic about my future
21. Overall, I expect more good things to happen to me than bad

Coping with problems

*When something bad happens to you, how often do you do the following?*

22. I work hard to overcome it
23. I ignore it by thinking about other things
24. I look for different ways to achieve the goal
25. I put lots of time into overcoming it
26. I relax and do not think about it
27. I work out what caused it
28. I realize I did not need to control it anyway
29. I tell myself it doesn’t matter
30. I learn the skills to overcome it
31. I do not feel disappointed because I knew it might happen
32. I make an effort to make good things happen

More about yourself

*How much do you agree with the following statements?*

33. I feel I am a person of worth, at least on an equal plane with others
34. I feel I have a number of good qualities
35. I am able to do things as well as most other people
36. I take a positive attitude toward myself
37. On the whole, I am satisfied with myself

Demographic questions

38. *Gender*
   Male/Female

39. *Age*
40. Marital status
Which of the following categories apply to you at the present time: never married, de facto or living together, married, separated but not divorced, divorced, widowed

41. Household structure
Please indicate from the list who lives with you: live alone, live with partner, live with one or more children, live with parents, live with another adult who is neither your partner nor your parent.

Below is a list of beliefs/teachings. For each one please:
(a) Respond either ‘yes’ or ‘no’ to indicate whether you have been exposed to each one, then;
(b) If you answer ‘yes’, indicate how much that particular belief/teaching has influenced your life?

42. Confucius
   Yes
   No
43. Taoism
   Yes
   No
44. Buddhism
   Yes
   No
45. Islam
   Yes
   No
46. Hinduism
   Yes
   No
47. Christianity
   Yes
   No

Scale = 0-10
Anchors: 0 – “no influence at all”; 10 – “completely influenced”

48. Command of English
How fluent are you in English?

Scale = 0-10
Anchors: 0 – “not at all fluent”; 10 – “completely Fluent”

49. Work status
Which of the following categories apply to you at the present time?
Full time paid employment, part-time paid employment, casually employed, unemployed.
50. Income
What is your monthly household income before tax?
Less than RM1,000, RM1,000-RM2,000, RM2,001-RM4,000, RM4,001-RM6,500, RM6,501-RM9,500, RM9,501-RM15,500, RM15,501-RM30,000, more than RM30,000

Rationale for the Construction of the Income Groups

While Australians typically discuss income in terms of how much is earned annually, Malaysians on the other hand, discuss income in months. For instance, when asked, “how much do you earn?”, a typical response would be “approximately RM2000 a month”. Hence, the income groups for MIM were listed as monthly income instead of annual.

The construction of the income groups for MIM was based on the ratio of the median annual household income of Malaysians in 2012 (RM43,512; Department of Statistics Malaysia, 2014) and Australians in 2011 (64,168AUD; Australian Bureau of Statistics, 2013). For example, an annual income of 15,000AUD would mean MIM would likely be getting RM8,400 annually based on the ratio of 1.4, which equates to RM961 a month. Hence, the first income bracket for Malaysians was <RM1000. The remaining income brackets were obtained using the method explained.
APPENDIX B

Study One

Questionnaire for Malaysians In Australia

Thank you for your involvement in this survey. This is a confidential questionnaire so please ensure that you do not write your name, or any other comments that will make you identifiable. By completing the questionnaire you are consenting to take part in this research as explained in the Plain Language Statement enclosed. The intention of this project is to investigate general wellbeing.

Please read each question and response option carefully before answering the questions and make sure that you have provided an answer for every question.

Personal Wellbeing
Thinking about your own life and personal circumstances, please circle the number that best represents how satisfied you feel with your life.

How satisfies are you with…
1. Your life as a whole?
2. Your standard of living?
3. Your health?
4. What you are currently achieving in life?
5. Your personal relationships?
6. How safe you feel?
7. Feeling part of your community?
8. Your future security?
9a. Do you have spiritual or religious beliefs? Y/N If ‘Yes’ go to 9b
   If ‘No’ go to 10.
9b. How satisfied are you your spirituality or religion?

Scale = 0 – 10.
Anchors: 0 – “Not at all satisfied”; 10 – “Completely satisfied”

How you generally feel
Please indicate how each of the following describes your feelings when you think about your life in general.

10. Thinking about my life in general, I feel…happy
11. Thinking about my life in general, I feel…content
12. Thinking about my life in general, I feel…tired
13. Thinking about my life in general, I feel…active
14. Thinking about my life in general, I feel…miserable
15. Thinking about my life in general, I feel…alert
16. Thinking about my life in general, I feel…enthusiastic
17. Thinking about my life in general, I feel…sad
18. Thinking about my life in general, I feel…distressed
What you expect to happen

*How much do you agree with the following statements?*

19. In uncertain times, I usually expect the best
20. I’m always optimistic about my future
21. Overall, I expect more good things to happen to me than bad

Coping with problems

*When something bad happens to you, how often do you do the following?*

22. I work hard to overcome it
23. I ignore it by thinking about other things
24. I look for different ways to achieve the goal
25. I put lots of time into overcoming it
26. I relax and do not think about it
27. I work out what caused it
28. I realize I did not need to control it anyway
29. I tell myself it doesn’t matter
30. I learn the skills to overcome it
31. I do not feel disappointed because I knew it might happen
32. I make an effort to make good things happen

More about yourself

*How much do you agree with the following statements?*

33. I feel I am a person of worth, at least on an equal plane with others
34. I feel I have a number of good qualities
35. I am able to do things as well as most other people
36. I take a positive attitude toward myself
37. On the whole, I am satisfied with myself

National identification

*How much do you agree with the following statements?*

38. I think of myself as being Australian.
39. I feel good about being Australian.
40. Being Australian plays an important part in my life.
41. I think of myself as being Malaysian.
42. I feel good about being Malaysian.
43. Being Malaysian plays an important part in my life.

Proposed scale = 0=10
Anchors: 0= “Do not agree at all”; 10= “Completely agree”

**Lifestyle**
*Please indicate how similar the following are when you think about your current lifestyle.*

44. Are your experiences and behaviors similar to those of typical Australians?
45. Are your experiences and behaviors similar to those of typical Malaysians?

Scale= 0-10
Anchors: 0= not similar at all; 10= completely similar

**Demographic questions**
46. *Gender*
Male/Female

47. *Age*

48. How long have you lived in Australia?
___ years, ____ months.

49. *Marital status*
Which of the following categories apply to you at the present time: never married, de facto or living together, married, separated but not divorced, divorced, widowed

50. *Household structure*
Please indicate from the list who lives with you: live alone, live with partner, live with one or more children, live with parents, live with another adult who is neither your partner nor your parent.

51. *What is your current residential/ visa status in Australia?*
Student Visa, Temporary Resident Visa, Permanent Resident Visa, Citizenship of Australia
Below is a list of beliefs/teachings. For each one please:
(a) Respond either ‘yes’ or ‘no’ to indicate whether you have been exposed to each one, then;
(b) If you answer ‘yes’, indicate how much that particular belief/teaching has influenced your life?

52. Confucius
Yes
No
53. Taosim
Yes
No
54. Buddhism
Yes
No
55. Islam
   Yes
   No
56. Hinduism
   Yes
   No
57. Christianity
   Yes
   No

Scale = 0-10
Anchors: 0 – “no influence at all”; 10 – “completely influenced”

58. Ethnic Background
Malay, Chinese, Indian, Other (please specify)________

59. Command of English
How fluent are you in English?

Scale = 0-10
Anchors: 0 – “not at all fluent”; 10 – “completely Fluent”

60. Work status
Which of the following categories apply to you at the present time?
Full time paid employment, part-time paid employment, casually employed, unemployed.

61. Income
What is your annual household income before tax?
Less than $15,000, $15-$30,000, $31,000-$60,000, $61,000-$100,000, $101,000-$150,000, $151,000-$250,000, $251,000-$500,000, more than $500,000
APPENDIX C

Study Two

Questionnaire for Malaysians In Malaysia

Thank you for your involvement in this survey. By completing the questionnaire you are consenting to take part in this research as explained in the Plain Language Statement. The intention of this project is to investigate general wellbeing. Please read each question and response option carefully before answering the questions and make sure that you have provided an answer for every question.

Personal Wellbeing

Thinking about your own life and personal circumstances, please circle the number that best represents how satisfied you feel with your life.

How satisfied are you with…
1. Your life as a whole?
2. Your standard of living?
3. Your health?
4. What you are currently achieving in life?
5. Your personal relationships?
6. How safe you feel?
7. Feeling part of your community?
8. Your future security?
9a. Do you have spiritual or religious beliefs? Y/N If ‘Yes’ go to 9b
   If ‘No’ go to 10.
9b. How satisfied are you your spirituality or religion?

Scale = 0 – 10.
Anchors: 0 – “Not at all satisfied”; 10 – “Completely satisfied”

Over the past week

How much did these statements apply to you over the past week?

10. I found it hard to wind down
11. I couldn’t seem to experience any positive feeling at all
12. I found it difficult to work up the initiative to do things
13. I tended to over-react to situations
14. I felt that I was using a lot of nervous energy
15. I felt that I had nothing to look forward to
16. I found myself getting agitated
17. I found it difficult to relax
18. I felt down-hearted and blue
19. I was intolerant of anything that kept me from getting on with what I was doing
20. I was unable to become enthusiastic about anything
21. I felt I wasn’t worth much as a person
22. I felt that I was rather touchy
23. I felt that life was meaningless
Scale = 0-10  
Anchors: 0 – “Not at all”; 10 – “Extremely”

Demographic questions
24. Gender  
Male/Female

25. Age

26. Marital status  
Which of the following categories apply to you at the present time: never married, de facto or living together, married, separated but not divorced, divorced, widowed

27. Household structure  
Please indicate from the list who lives with you: live alone, live with partner, live with one or more children, live with parents, live with another adult who is neither your partner nor your parent.

28. Ethnic Background  
Malay, Chinese, Indian, Other (please specify)

29. Work status  
Which of the following categories apply to you at the present time?  
Full time paid employment, part-time paid employment, casually employed, unemployed.

30. Income  
What is your monthly household income before tax?  
Less than RM1,000, RM1,000-RM2,000, RM2,001-RM4,000, RM4,001-RM6,500, RM6,501-RM9,500, RM9,501-RM15,500, RM15,501-RM30,000, more than RM30,000
APPENDIX D

Study Two

Questionnaire for Malaysians In Australia

Thank you for your involvement in this survey. By completing the questionnaire you are consenting to take part in this research as explained in the Plain Language Statement. The intention of this project is to investigate general wellbeing. Please read each question and response option carefully before answering the questions and make sure that you have provided an answer for every question.

Personal Wellbeing

Thinking about your own life and personal circumstances, please circle the number that best represents how satisfied you feel with your life.

How satisfied are you with…
1. Your life as a whole?
2. Your standard of living?
3. Your health?
4. What you are currently achieving in life?
5. Your personal relationships?
6. How safe you feel?
7. Feeling part of your community?
8. Your future security?
9a. Do you have spiritual or religious beliefs? Y/N If ‘Yes’ go to 9b
   If ‘No’ go to 10.
9b. How satisfied are you your spirituality or religion?

Scale = 0 – 10.
Anchors: 0 – “Not at all satisfied”; 10 – “Completely satisfied”

Over the past week
How much did these statements apply to you over the past week?

10. I found it hard to wind down
11. I couldn’t seem to experience any positive feeling at all
12. I found it difficult to work up the initiative to do things
13. I tended to over-react to situations
14. I felt that I was using a lot of nervous energy
15. I felt that I had nothing to look forward to
16. I found myself getting agitated
17. I found it difficult to relax
18. I felt down-hearted and blue
19. I was intolerant of anything that kept me from getting on with what I was doing
20. I was unable to become enthusiastic about anything
21. I felt I wasn’t worth much as a person
22. I felt that I was rather touchy
23. I felt that life was meaningless
Scale = 0-10
Anchors: 0 – “Not at all”; 10 – “Extremely”

**Demographic questions**

24. Gender
Male/Female

25. Age

26. Marital status
Which of the following categories apply to you at the present time: never married, de facto or living together, married, separated but not divorced, divorced, widowed

27. Household structure
Please indicate from the list who lives with you: live alone, live with partner, live with one or more children, live with parents, live with another adult who is neither your partner nor your parent.

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Malay, Chinese, Indian, Other (please specify)

29. Work status
Which of the following categories apply to you at the present time?
Full time paid employment, part-time paid employment, casually employed, unemployed.

30. Income
What is your annual household income before tax?
Less than $15,000, $15-$30,000, $31-$60,000, $61-$100,000, $101-$150,000, $151-$250,000, $250-$500,000, more than $500,000