

**Subjective Wellbeing: The Role of Resilience and the Resources
Maintaining the Homeostatic System**

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We the undersigned declare that the above-named research project has been completed as described in the Application for Ethics Approval and in accordance with the ethics guidelines of Deakin University.

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GLOSSARY

CA: Core Affect

CD-RISC: Connor Davidson Resilience Scale

DEM: Dynamic Equilibrium Model

E: Extraversion

GDP: Gross Domestic Product

GLS: Global Life Satisfaction

GR: General Resilience

HPMood: Homeostatically Protected Mood

LS: Life Satisfaction

MDT: Multiple Discrepancies Theory

N: Neuroticism

NA: Negative Affect

PA: Positive Affect

PANAS: Positive and Negative Affect Scale

PWI: Personal Wellbeing Index

QOL: Quality of Life

RS4: Four-Item Resilience Scale

SWB: Subjective Wellbeing

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**CHAPTER 1:
LITERATURE REVIEW**

ABSTRACT

Subjective Wellbeing (SWB) refers to an individual's subjective evaluation of their overall life. SWB has been found to be remarkably stable over time. In western cultures, population level SWB averages 75 points out of 100 and has an optimal set point range of 70-80 points. Although affective and cognitive evaluations of life have been proposed to drive SWB, a purely affective model utilising Homeostatically Protected Mood (HPMood) as the core determinant of SWB, explains the greatest variance in SWB. For most people, SWB is maintained at the genetically determined level of HPMood. When challenging circumstances arise, however, SWB can move out of the set point range and become determined by the emotions associated with the challenge. Over time, SWB will return to the pre-event level, given the individual has the internal resources (self esteem, perceived control and optimism) and external resources (social support and income) available to combat the challenge. Greater use of resources is proposed to increase homeostatic resilience to recover and adjust to misfortune and change. It is hypothesised that a general resilience factor (GR) will have a significant positive correlation with HPMood and that each resource contributes uniquely to GR once the variance from HPMood has been eliminated.

SUBJECTIVE WELLBEING AND RESILIENCE OF THE HOMEOSTATIC SYSTEM

Understanding quality of life (QOL) has been an endeavor for human kind since the sixth century B.C. when classic Greek philosophers examined the nature of happiness, or living well, and has continued with vigor in a number of different fields of study (Steel, Schmidt and Shultz, 2008; Kesebir and Diener, 2008). Modern day investigations aiming to understand the determinants of QOL developed the use of objective social indicators, such as Gross Domestic Product (GDP).

Economists used data on GDP to propose a positive correlation between income and QOL. They made the assumption that increasing an individual's or community's income, would lead to increases in QOL (Wilson, 1972). Although this theory is supported for individuals with lower incomes, once a decent standard of living is reached, additional income fails to continue increasing QOL (Diener and Diener, 1995).

As GDP was unable to adequately account for the differences in QOL experienced by people who had a sufficient standard of living, various other social indicators were developed in the hope of gaining greater understanding of what influences QOL (Land, Michalos and Sirgy, 2012). At the beginning of this endeavour in the 1960's, indicators were predominantly objective, including age, gender, health, education, crime rate and marital status (Campbell, 1976; Andrews and Withey, 1976).

Although these indicators are easily and accurately measured, they tend to correlate poorly with QOL measures because they fail to indicate how people feel about their lives (Andrews and Withey, 1976; Campbell, Converse and Rodgers, 1976; Diener, Oishi and Lucas, 2003). A shift in focus from objective to subjective measures in the 1970's, permitted researchers to investigate individuals' views of their own wellbeing, and the determinants influencing subjective life experience (Campbell, 1976; Andrews and Withey, 1976).

This literature review will examine the developing theory and research findings of subjective wellbeing (SWB) to date. Cummins' homeostatic theory of SWB will be explained in greater depth, as are the components suggested to determine the resilience and maintenance of the homeostatic system.

2. Subjective Wellbeing

Subjective Wellbeing literature is plagued by inconsistencies in terminology. Terms such as happiness, Quality of Life, Personal Wellbeing and Life Satisfaction are used interchangeably, despite definitional and measurement differences. Subjective Wellbeing (SWB) refers to an individual's subjective evaluation of their overall life and will be used herein.

2.1 Measurement of SWB: Global and Specific Domains

SWB can be measured overall using a single item scale known as Global Life Satisfaction (GLS), in which people are asked a single question "How satisfied are you with your life as a whole?" (Campbell et al, 1976). Alternatively, multi-item scales can be used, which measure satisfaction in relation to specific life domains and include questions such as "How satisfied are you with your standard of living?" (International Wellbeing Group, 2013).

The Personal Wellbeing Index (PWI) is a multi-item measure of SWB with solid psychometric properties (International Wellbeing Group, 2013). The PWI measures satisfaction with seven quality of life domains; standard of living, personal health, achieving in life, personal relationships, personal safety, community-connectedness and future security (International Wellbeing Group, 2013). One of the unique design features of this scale is that each domain contributes unique variance to GLS. Because of this, the PWI is more reliable than GLS alone as it assesses multiple aspects of life, rather than relying on one generalised life view. In addition, the broad and abstract nature of GLS means people have less context specific information to reflect on, compared to the information available for specific life domains (Schwarz and Strack, 1999). Due to the cognitive complexity of integrating multiple aspects of life when rating GLS, people tend to rely on chronically accessible information and heuristics such as current mood (Diener, Scollon, Oishi, Dzokoto and Suh, 2000). These cognitive shortcuts associated with GLS have been proposed to allow mood to dominate reports of SWB (Schwarz and Strack, 1999). In contrast, when evaluating satisfaction with life domains, greater situational information is available for individuals to reflect on, because the evaluation is based on a discrete part of life. Thus, Schwarz and Strack (1999) suggest domain specific judgements are more reliable, show greater variation in scores and are less reliant on cognitive shortcuts than GLS.

2.2 Components of SWB

Three main theoretical perspectives have been offered to explain the dominant factors influencing SWB.

2.2.1- Affective Perspective

The first perspective suggests Affect is the dominant factor influencing SWB. The affective component of SWB is proposed to contain two independent factors; Positive Affect (PA) and Negative affect (NA; Bradburn, 1969) which can be measured using the Positive and Negative Affect Scale (PANAS; Watson, Clark and Tellegen, 1988). Within this perspective, evaluations of PA and NA reflect individual's experience of their life and form the basis of SWB (Watson & Tellegen, 1985). As independent factors, PA and NA contribute unique variance to SWB. Therefore, someone experiencing low PA does not necessarily experience high NA and vice versa. Individuals who evaluate their SWB to be positive, however, generally experience high PA and low NA. Further research in the area of Affect concerns the concept of Core Affect and is discussed in section 2.6.

2.2.2 Cognitive Perspective: Multiple Discrepancies Theory

Cognitive perspectives of SWB propose cognitive evaluations of one's life determine SWB. One such theory is Multiple Discrepancies theory (MDT; Michalos, 1985). MDT draws on other established theories such as social comparison theory (Festinger, 1954), equity theory (Adams, 1965), and cognitive dissonance (Festinger, 1957). Integrating these perspectives, Michalos (1985) proposes that SWB is determined by the cognitive discrepancies that result from cognitively comparing what individuals have with seven other comparisons; what they want; what relevant others have; the best they have had in the past; what they expected to have 3 years ago; what they expect to have after 5 years; what they think they deserve, and what they think they need. The net satisfaction resulting from these comparisons is suggested to regulate SWB. Thus, when negative life events and circumstances produce extreme discrepancies, positive levels of SWB may fail to be maintained.

2.2.3 Cognitive-Affective Perspective

A third perspective proposes both affective and cognitive evaluations of life drive SWB (Diener, et al, 2003). Building on the affective perspective of PA and NA,

Andrews and Withey (1976) theorise that the cognitive evaluation of Life Satisfaction (LS) is an additional, separate, determining factor of SWB. Subsequent research by Diener (1984) emphasises the importance of PA, NA and LS and their unique contributions to SWB. Research findings contrasting these three SWB perspectives will be discussed in section 2.7.

2.3 SWB Characteristics: Stability and the Set Point Range

SWB has demonstrated remarkable stability over time at the population level, varying within a small range of values on the dissatisfied-satisfied continuum of 0-100. Research by Cummins (1995) investigated SWB using population data from Western cultures collected from 16 different studies. The analysis showed that despite methodological differences between studies, the average SWB was 75 points out of 100 with a range of 70 – 80 points (Cummins, 1995). This stability has been supported in subsequent research, with Cummins, Okerstrom, Woerner and Tomyne (2005) finding population level SWB varied a mere 3.3% over a four-year period. The mean population score of 75 has been replicated across studies in Western cultures and has been established as the gold standard for average SWB (Cummins, Eckersley, Pallant, Van Vugt and Misajon, 2003).

Although SWB in Eastern cultures tends to be slightly lower than Western cultures, this is likely due to a cultural response bias and difference in expressed SWB rather than a difference in experienced SWB (Lau, Cummins and McPherson, 2005). Combined results from western and eastern cultures produce a global mean for SWB of 70, ranging from 60-80. Global SWB therefore suggests that at the population level, SWB is consistently positive and normally distributed within a relatively narrow range of scores (Cummins, 1998).

This range of scores has been termed the ‘set point range’ and is proposed to be a genetically determined level of SWB unique to each individual. The importance of the set point range, and its place in Cummins’ Homeostatic theory, will be discussed in section 2.8.

2.4 Personality Theory

The stability of SWB was initially conceived as being largely determined by the stable nature of personality. Heritability studies involving monozygotic and dizygotic twins, find that personality is largely genetically determined and is therefore

relatively stable across the life span (Tellegen, Lykken, Bouchard, Wilcox, Segal and Rich, 1988; Diener, et al, 2003). Twin studies have also been examined in relation to SWB, with results suggesting monozygotic twins' SWB is more similar than dizygotic twins' SWB, even when raised separately. These results suggest genetics, by way of personality, has a large influence over SWB (Lykken and Tellegen, 1996). Surprisingly, stability of environment was found to contribute minimally to stability in SWB, which also provides support for the genetic influence on SWB (Kozma, Stone and Stones, 2000; Diener and Ryan 2009). In addition to the stable properties of personality influencing SWB, the ability of personality traits to predict SWB has also been investigated (Diener, Suh, Lucas and Smith, 1999).

Of the Big Five Personality Traits, Extraversion (E) and Neuroticism (N) were found to consistently explain significant variance in SWB (Costa and McCrae, 1988). Their results show individuals who score highly on E tend to report greater levels of SWB than those who score low in E. Conversely, individuals scoring highly on N tend to report lower levels of SWB (Costa and McCrae, 1988).

Adding support to these results is the finding that E is associated with high PA, which is also positively correlated with SWB (Lucas and Fujita, 2000); while N is associated with high NA, which is negatively correlated with SWB (Costa and McCrae, 1980). These correlations suggest that both personality and affect are strongly associated with SWB. Despite these findings, subsequent research by Davern, Cummins and Stokes (2007) found contrary results. These authors found poor correlations between personality and SWB, once the influence of a certain affective composite had been accounted for. This will be discussed further in section 2.7.

2.5 Dynamic Equilibrium Model

A second approach utilising personality to explain the stability of SWB, is the Dynamic Equilibrium Model (DEM) proposed by Headey and Wearing (1989). The model suggests that individuals have a stable, adaptive equilibrium level of SWB, determined by their personality (Headey and Wearing, 1989). Importantly, these authors suggest that when individuals experience significant positive or negative life events, SWB can rise above or drop below the equilibrium level. They claim these changes are generally short lived because personality dispositions return SWB to the equilibrium level over time (Headey and Wearing, 1992). They also suggest that those with high levels of E will return to their equilibrium level through an increased

probability of experiencing positive events. How this process works for those who are not high in E is, however, not so clear and is an evident limitation of this theory. An alternative homeostatic theory proposed by Cummins will be discussed in section 2.8.

2.6 Core Affect

As an alternative to the affective perspective introduced in section 2.2.1, Core Affect (CA) has been suggested as the primary constituent of SWB (Davern, et al, 2007). CA, according to Russell (2003), is a momentary feeling not necessarily related to a specific object or event, as is the case for emotions. It is conceived as primitive, non-reflective and biologically driven, maintaining a stable average level, although environmental factors can change it both in the long and short term (Russell, 2003). CA is not always in conscious awareness; however, it can be accessed when required, in the same way we can become aware of our body temperature (Yik, Russell and Steiger, 2011).

In his theory, Russell utilises the affective circumplex (Figure 1.) to determine the characteristics of CA. The affective circumplex utilises two bipolar dimensions, one relating to arousal (Activation-Deactivation), the other to valence (Pleasure-Displeasure). Affects are organised in a circle around the two axes, with the point at which an individual sits within the circumplex being their CA (Russell, 2003).

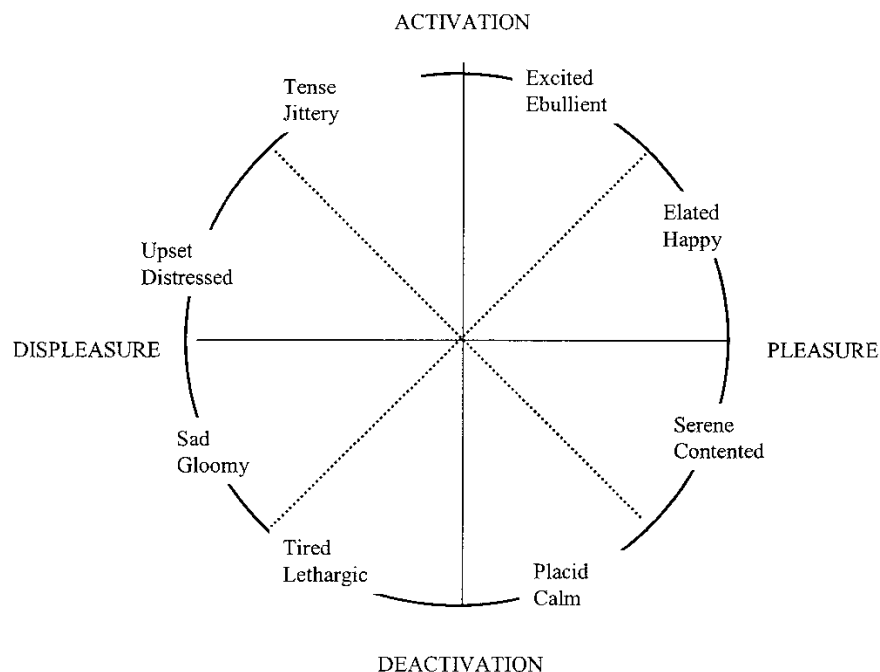


Figure 1. The Affective Circumplex of Core Affect (Russell, 2003, p 148)

When examining the affects surrounding the circumplex, Davern et al (2007) found that three affective adjectives; content, happy and excited, correlate most highly with CA. Tomy and Cummins (2011) replicated this research, also finding these three adjectives to be independent, significant predictors of SWB. Together these three affects, and therefore CA, explain 64% of the variance in SWB (Davern et al, 2007).

The research undertaken by Davern et al (2007) utilises a different definition of CA to that employed by Russell (2003). Although both authors describe CA as biologically determined, primitive and enduring, Russell's CA can be influenced and changed by events and circumstances. In contrast, Davern et al conceptualise CA as object free, unchanging, positive mood with no cognitive component (Tomy and Cummins 2011; Cummins, 2013). Due to these central differences, Davern et al's notion of CA has since been termed Homeostatically Protected Mood (HPMood; Cummins, 2010) and will be referred to as such in the remainder of this review.

2.7 Comparison of SWB Theories and Perspectives

HPMood (Cummins, 2010), Personality Traits E and N and MDT (Michalos, 1985) have all been analysed in terms of their contribution to SWB. Contrary to findings previously discussed (Diener, et al, 2003; Headey and Wearing, 1989; Michalos, 1985), Davern et al (2007) report E and N make no significant contribution to SWB once HPMood has been statistically factored out of the equation. This is because HPMood saturates higher processes including personality (Cummins, 2013). Previous positive correlations between SWB and E and N are therefore suggested to result from the influence of HPMood. Building on this premise, Blore, Stokes, Mellor, Firth and Cummins (2011) and Tomy and Cummins (2011) suggest a purely affective model utilising HPMood has greater predictive power than MDT and/or E and N. Based on these findings it is proposed that HPMood is the most powerful determinant of SWB and that a purely affective model best fits the data (Davern et al, 2007; Blore et al 2011; Tomy and Cummins, 2011).

2.8 Cummins' theory of SWB Homeostasis

The homeostatic theory of SWB proposed by Cummins (1995) builds on Headey and Wearing's DEM. In contrast to DEM where personality determines the equilibrium level of SWB, Cummins suggests that HPMood determines SWB and the

set point range. Thus, SWB generally remains positive, stable and within the set point range through biological and psychological mechanisms that operate to maintain homeostasis. This concept of SWB homeostasis is analogous to the homeostatic regulation of body temperature (Cummins, 2010). The optimal set point for each individual's body temperature is biologically determined and protected for optimal physical health. In the same way, the homeostatic system of SWB maintains SWB within the set point range provided that life events are not strong enough to defeat homeostasis.

Significant positive and negative life events can lead to increases and decreases in SWB. As challenges to homeostasis push SWB toward the upper or lower thresholds of the set point range, the homeostatic system steels itself by utilising internal and external resources to combat the strength of the challenge (Cummins, 2010). Should the strength of the challenging agent defeat homeostasis, the process of adaptation generally returns SWB to its set point range over time, given the person has the resources necessary to achieve this. The resources maintaining and protecting homeostasis will be examined in section 2.10.

A graphical representation of the homeostatic system is presented in Figure 2.

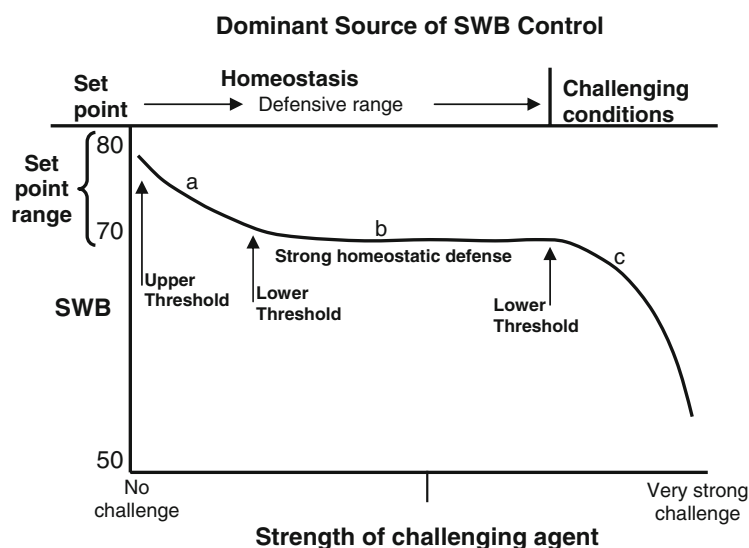


Figure 2. Changing levels of SWB as homeostasis is challenged. (Cummins, 2010)

Phase (a) in the graph represents a drop in SWB due to the introduction of a challenging agent. The amount SWB will drop is dependent on the strength of the challenge and the resilience of the homeostatic system. The plateau in Phase (b) shows stabilization of SWB as homeostatic resources defend the set point range

through internal and external resources. If the strength of the challenge is too great, homeostasis will be overwhelmed. In this case SWB will fall below the lower threshold of the set point range and enter homeostatic defeat. This is represented by Phase (c), where SWB is dominated by the negative emotions associated with the challenging agent.

2.8.1 Homeostatic Defeat and depression

As described, when challenges are too strong for the homeostatic system, SWB breaks through the threshold of the set point range and enters homeostatic defeat. When in homeostatic defeat, HPMood fails to dominate people's general affective state. Rather, SWB is determined by the challenging agent and the dominating emotions associated with that agent (Cummins, 2010). Thus, when significant negative life events occur, negative emotion dominates. The reduction of positive affect experienced when in homeostatic defeat, is proposed to be the essence of depression. Supporting evidence for this theory comes from research investigating the relationship between SWB and Depression, utilising the PWI and the Depression, Anxiety and Stress Scale (Cummins, 2010). This research suggests a negative correlation exists between SWB and depression. Thus, as levels of depression increase, SWB decreases.

2.9 Adaptation

Human beings have a remarkable ability to adapt to both positive and negative life events. Born from Adaptation Level Theory (Helson, 1964), Brickman and Campbell (1971) introduce the term Hedonic treadmill to describe the process of adaptation to positive and negative life events. The hedonic treadmill proposes that people react emotionally to changes in circumstances initially, but return to neutrality in a short space of time (Brickman and Campbell, 1971). Cummins' Homeostatic Theory, however, suggests SWB will return to its pre-event level after defeat, provided adequate resources are accessible (Cummins, 2010). This adjustment to life events occurs in the same way that people adapt to different smells over time. By adapting to novel situations and circumstances people become desensitised to them and they are, therefore, less salient and impactful. Consequently, despite the initial shift in SWB, it will generally return to the pre-event level through the process of adaptation, in conjunction with internal and external resources.

2.10 Resources

Internal resources (self esteem, optimism and perceived control) and External resources (social support and income) provide resistance to challenging agents, in addition to helping return SWB to the set point range after homeostasis has been defeated (Tomyn and Cummins, 2011).

2.10.1 Internal Resources

Cognitive buffers, also known as positive cognitive biases (PCBs; Cummins and Nistico, 2002), are psychological mechanisms, which serve to protect a positive view of the self and the world by cognitively restructuring reality in order to soften the impact of negative experiences (Cummins, 2010). Three main cognitive buffers relating to self-esteem, perceived control and optimism, are integral to creating satisfaction with the self and are hypothesized to regulate SWB (Cummins and Nistico, 2002). Therefore, the more an individual utilises these buffers, the greater the chance of combating challenging agents and maintaining SWB homeostasis.

2.10.1.1 *Self Esteem*

Self-esteem refers to the cognitive evaluation of one's competence and worth (Cast and Burke, 2002). Evaluating oneself positively and thus having positive self esteem correlates highly with SWB (Lucas, Diener and Suh, 1996). These positive views of the self are protected through biases such as attributing failure to external, specific causes whilst attributing success to internal, global factors. In addition, people can protect their self-esteem by attending to positive assessments whilst dismissing the negative (Taylor and Brown, 1988). These biases help protect people's satisfaction with themselves and sense of worth and in so doing, maintain their SWB.

2.10.1.2 *Perceived Control*

Individuals' sense of control influences how they react and cope when faced with life challenges. If an individual cannot control and/or change their environment, known as primary control, they are forced to gain a sense of control in other ways such as via secondary control (Rothbaum, Weisz and Snyder, 1982). Secondary control involves changing the self to adapt to the external environment. This is achieved through PCB's which can help people alter their perceptions of a situation and the importance of the threat to their sense of self, in addition to re-evaluating

unattainable goals (Rothbaum, et al, 1982). By positively altering the cognitions associated with a particular situation, people gain a greater sense of control, which helps regulate emotional distress (Folkman, 1984). Thus the use of PCBs can help buffer against anxiety and depression associated with unchangeable, adverse situations in addition to maintaining SWB in general populations (Cummins and Nistico, 2002).

2.10.1.3 Optimism

Optimism refers to a general tendency to hold unrealistically positive or favourable beliefs about oneself and the future (Cummins and Nistico, 2002). Although it is objectively impossible for everyone to have a better than average future, optimistic people tend to believe they will be happier, and live a longer, healthier, more prosperous life than hypothetical others (Taylor and Brown, 1988; Scheier and Carver, 1992). By foreseeing a positive future, optimism fuels motivation to pursue goals. This means optimistic people are more likely to achieve their goals and will consequently feel more fulfilled, which reinforces their optimism (Scheier and Carver, 1992). An optimistic outlook is therefore associated with a higher level of SWB.

Together, these internal resources act to maintain satisfaction with the self, which helps to protect and maintain SWB homeostasis.

2.10.2 External Resources

In addition to internal resources, external resources such as social support and wealth also serve to maintain homeostasis when facing challenging circumstances. The power of wealth and its influence on SWB is often misunderstood. Money does not necessarily buy happiness; however, it is an important resource that assists individuals face challenges. For example, money enables people to pay others to perform tasks for them, in addition to providing access to psychological intervention, which can help people cope emotionally with challenging times. Those who lack financial resources are unable to gain assistance in this way and as a result are more vulnerable to the events and circumstances of their environment (Cummins, 2010).

Another important external buffer is people's social support system, which is a positive resource in challenging times. The power of sharing and supportive

relationships helps protect SWB and buffer against the negative effects of life stressors (Cummins, 2010).

3. Resilience

The resources discussed above all contribute to maintaining and protecting SWB homeostasis. If these buffers are consistently unable to withstand threat to homeostasis, SWB is at risk of chronic homeostatic defeat, which is characterised by a prolonged depressive state where the emotions associated with the challenge control SWB. The ability of an individual to maintain SWB within the set point range is strongly related to the concept of resilience.

Definitions of resilience are wide and varied. Merriam-Webster (2012) defines resilience as: “an ability to recover from or adjust easily to misfortune or change”. This broad and generic definition is not exclusive of specific events or individuals, which others tend to be. The process of recovery and adjustment from challenges and misfortune form the essence of resilience; which can be achieved through the utilisation of resources. Thus, greater use of resources creates greater resilience of the homeostatic system when facing challenges (Cummins and Wooden, in press).

When the resources discussed in section 2.10 are measured, a high correlation is found between them (Cummins and Nistico, 2002). This shared variance is proposed to be the result of HPMood saturation (Cummins and Wooden, in press). The unique variance that each resource contributes to overall resilience has not yet been investigated. By identifying the core factors contributing to resilience, a psychometrically sound resilience scale may be developed.

4. Hypotheses

The hypotheses arising from the review are as follows:

1. That a general resilience factor (GR) will have a significant positive correlation with HPMood.

Rationale: HPMood has been found to saturate the psychological resources that enable individuals to adjust and recover from misfortune. As these resources are suggested to influence resilience, HPMood will therefore correlate significantly with a GR factor.

2. That self esteem, perceived control, optimism, personal relationships and income each contribute unique variance to GR once the shared variance contributed by HPMood has been eliminated.

Rationale: These resources are essential to people's ability to adjust to and recover from challenging agents. Therefore, it is proposed that they each contribute uniquely to GR once the shared variance of HPMood has been removed.

**CHAPTER 2:
EMPIRICAL REPORT**

ABSTRACT

Subjective Wellbeing (SWB) refers to an individual's subjective evaluation of their overall life and is remarkably stable over time. Homeostatic Theory of SWB suggests this stability is due to the influence of Homeostatically Protected Mood (HPMood). For most people, SWB is maintained at the genetically determined level of HPMood, which is a biological, positive mood state with no cognitive component. When challenging circumstances arise, SWB can move above or below the adaptive set point range and become determined by emotions associated with challenges. Over time, SWB returns to the pre-event level, given individuals have sufficient resources (Self-Esteem, Primary and Secondary Control, Optimism and Social Support) available to combat the challenge. Greater use of resources is proposed to increase homeostatic resilience to recover and adjust from misfortune and change. This study aims to investigate resilience and the predictive ability of resources based on Homeostatic Theory of SWB. Participants were the first 1000 respondents to the Australian Unity Wellbeing Index. This included 507 women and 481 men with a mean age of 64.7years (*SD* 12.29). It was hypothesised that each item in the resilience scale would account for significant unique variance in General Resilience (GR). The Four-item scale, RS4, supports this hypothesis and qualifies as a first level deconstruction of GR. Second, Self-Esteem, Primary Control and Optimism contributed significant unique variance to RS4, partially supporting the hypothesis. Unexpectedly, Secondary Control and Social Support did not contribute significant unique variance. When controlling for the saturating effect of HPMood, the resources' unique variance in resilience decreased whilst shared variance increased, as was expected. By understanding the relationship between resilience, resources and SWB, intervention programs can be developed in the future to assist those at risk manage challenges and have greater ability to maintain SWB homeostasis.

SUBJECTIVE WELLBEING

Understanding quality of life (QOL) has been an endeavour for human kind since the sixth century B.C. when classic Greek philosophers examined the nature of happiness, or living well. Modern day investigations of QOL have developed with vigor across a number of different fields of study (Steel, Schmidt & Shultz, 2008; Kesebir & Diener, 2008). Despite an initial focus on objective measures of QOL such as income and health (Campbell, 1976), a shift to subjective measures in the 1970's (Andrews & Withey, 1976) permitted researchers to investigate individuals' views of their own wellbeing. By examining subjective wellbeing, the factors influencing subjective life experience could be examined (Campbell, 1976; Andrews & Withey, 1976). Although various terms such as Subjective QOL, Happiness and Personal Wellbeing are used interchangeably, this paper utilises the term Subjective Wellbeing (SWB) to refer to an individual's subjective evaluation of their overall life.

1.1 Measurement of SWB: Global and Specific Domains

SWB can be measured overall using a single item scale known as Global Life Satisfaction (GLS), in which people are asked: "How satisfied are you with your life as a whole?" (Campbell, Converse & Rodgers, 1976). Alternatively, multi-item scales, such as the Personal Wellbeing Index (PWI), can be used to measure satisfaction in relation to specific life domains, including questions such as "How satisfied are you with your health?" (International Wellbeing Group, 2013). One of the unique design features of the PWI is that the measurement of seven life domains contributes unique variance to GLS. Because of this, the PWI is more reliable than GLS alone as it assesses multiple aspects of life, rather than relying on one generalised life view. Due to the cognitive complexity of integrating multiple aspects of life when rating GLS, people tend to rely on chronically accessible information and heuristics such as current mood when answering the question (Diener, Scollon, Oishi, Dzokoto & Suh, 2000). These cognitive shortcuts associated with GLS have been proposed to allow mood to dominate reports of SWB (Schwarz & Strack, 1999).

1.2 SWB Characteristics: Stability and the Set Point Range

SWB demonstrates remarkable stability over time at the population level, varying within a small range of values on the dissatisfied-satisfied continuum of 0-100 (Cummins, 1995). The “set point” of SWB is proposed to be a genetically determined level unique to each individual. Research by Cummins, Li, Wooden and Stokes (2013) found evidence that individual set points exist between 70-90 points, with the average set-point-range, around each set point, about 18 points. It is possible for an individual’s SWB to move above or below their set-point-range when they experience strong positive or negative emotions.

1.3 Personality

Various theoretical perspectives have developed in an effort to understand the driving force behind SWB and its stable nature. One perspective utilises Personality as the basis for this stability (Costa & McCrae, 1980). The genetic component of personality was investigated through heritability studies and was shown to have a large influence over SWB (Tellegen, Lykken, Bouchard, Wilcox, Segal & Rich, 1988). Supporting this, Costa and McCrae (1988) found the traits of Extraversion and Neuroticism consistently explained significant variance in SWB.

Personality was also utilised in the Dynamic Equilibrium Model (DEM) proposed by Headey and Wearing (1989). This model suggests that individuals have a stable, adaptive equilibrium level of SWB, which is determined by their personality. Importantly, these authors suggest that when individuals experience significant positive or negative life events, SWB can rise above or drop below the equilibrium level. They claim these changes are generally short lived because personality dispositions return SWB to the equilibrium level over time (Headey & Wearing, 1992). They also suggest that those with high levels of Extraversion will return to their equilibrium level through an increased probability of experiencing positive events. How this process works for those who are not high in Extraversion is not so clear and is an evident limitation of this theory. An alternative to DEM is homeostatic theory, which draws on the DEM and the concept of an adaptive set point range for SWB.

1.4 The Homeostatic Theory of SWB

As in the DEM, The Homeostatic Theory of SWB also suggests there is an equilibrium level of SWB. Rather than being determined by personality, however, Homeostatic Theory suggests Homeostatically Protected Mood is the main determinant (Cummins, 2010: HPMood). HPMood is a primitive, biologically determined mood state, which is object free; an unchanging positive mood with no cognitive component. This biologically driven mood has been found to approximate the set point for SWB (Cummins, et al, 2013). Although SWB can increase and decrease in response to the emotions associated with life events, it generally remains positive, stable and within an individual's adaptive set point range at the level of HPMood. In addition to HPMood, the homeostatic system involves a system of buffers or resources that become activated when challenging life events threaten SWB homeostasis (Cummins & Wooden, in press).

When life events are strong enough to push SWB above or below the set point range, homeostatic mechanisms including internal and external resources such as self-esteem, optimism and social support, help return SWB to homeostasis (Cummins & Nistico, 2002). For example, the strength of the challenge may diminish when individuals are able to protect positive views of themselves and life, in addition to sharing thoughts and emotions with supportive others. If the strength of the challenge is too great for the homeostatic system, homeostasis is defeated and SWB breaks through the threshold of the set point range. When SWB falls above or below the set point range, HPMood fails to dominate affective consciousness. Rather, the level of SWB is determined by the challenging agent and the dominating emotions associated with that agent (Cummins, 2010). Thus, when strong negative life events occur, negative emotions dominate.

1.4.1 Maintaining SWB when Facing Challenges

According to Homeostatic Theory, SWB will return to its pre-event level after defeat, provided adequate resources are accessible (Tomyn & Cummins, 2011). This adjustment to life events occurs in the same way that people adapt to different smells over time. By adapting to novel situations and circumstances, people become

desensitised to them and they are, therefore, less salient and impactful. Consequently, despite the initial shift in SWB, it will generally return to the pre-event level through the process of adaptation, in conjunction with internal and external resources.

1.4.2 Internal Resources

Internal resources, also known as positive cognitive biases (PCBs; Cummins & Nistico, 2002), serve to protect a positive view of the self and the world. This can be achieved by cognitively restructuring reality in order to soften the psychological impact of negative experiences (Cummins, 2010). Three main PCB's exist relating to self-esteem, perceived control and optimism (Cummins & Nistico, 2002). For example, attributing failure to external, specific causes whilst attributing success to internal, global factors protects positive views of the self. These PCBs are integral to maintaining satisfaction with the self. Therefore, when faced with frequent challenges, the more an individual utilises these buffers, the greater the chance of combating the challenging agents and maintaining SWB homeostasis.

1.4.3 Control

There are two main types of control strategies that people utilise in order to feel in control of their lives. Primary Control involves an individual's ability to actively change their environment or circumstance (e.g. leaving an abusive relationship), and is often referred to as changing the world to fit the self's needs (Rothbaum, Weisz & Snyder, 1982). Alternatively, Secondary Control (e.g. perceived control) refers to changing the self (e.g. thoughts, opinions and goals) to fit the world. Secondary Control is most beneficial when an individual cannot exert Primary Control over their current situation (Rothbaum, et al, 1982).

1.4.4 External Resources

External resources such as social support and wealth also serve to maintain homeostasis when facing challenging circumstances. Having at least one supportive personal relationship can act as a buffer against the negative effects of life stressors (Rutter, 1985). Also, having satisfactory income assists individuals to face challenges.

For example, money can allow people to pay others to perform tasks for them. Those who lack financial resources are unable to gain assistance in this way and are therefore more vulnerable to the events and circumstances of their environment (Cummins, 2010).

By utilising these internal and external resources, individuals have a greater ability to maintain SWB within the set point range in the face of challenge. This is strongly related to the concept of resilience (Cummins & Wooden, in press).

2. RESILIENCE

2.1 Defined

Definitions of resilience are wide and varied, with some being exclusive of specific events or individuals. This is often the case when authors have a particular area of interest, such as childhood adjustment, and will exclude adults from the definition (Luthar & Zelazo, 2003). Merriam-Webster (2012), however, is not exclusive, defining resilience as: “an ability to recover from or adjust easily to misfortune or change”. This process of recovery and adjustment from challenges and misfortune forms the essence of resilience, which can be achieved through the utilisation of resources. Thus, it is proposed that greater use of resources creates greater homeostatic resilience when facing challenges. (Cummins & Wooden, in press).

2.2 Research and Scales

A great challenge in the area of resilience research is the use of varied definitions of the construct, combined with an abundance of different terminology referring to the factors measured by resilience scales. As a result, there is a lack of consensus about what is actually being measured in these scales.

What does seem clear, however, is that resilience scales do not measure resilience directly. Rather, “Resilience” is inferred by measuring personal qualities and characteristics that promote it. Two resilience scales that have developed in this vein and have been utilised in a number of studies, are the Connor Davidson

Resilience Scale (CD-RISC; 2003) and the Wagnild and Young Resilience Scale (1993).

The CD-RISC was developed using the personal characteristics of resilient people, based on research by Kobasa (1979), Rutter (1985), and Lyons (1991). The characteristics identified by these researchers were amalgamated to create a 25-item scale of resilience (Connor & Davidson, 2003). Responses to items such as “I like challenges” and “you work to attain your goals” are summed to give an overall Resilience score.

Similarly, the 25-item Resilience Scale by Wagnild and Young (1993) reflects five core characteristics of resilience. These characteristics were generated from a qualitative study involving 24 older women who were asked to describe how they successfully adapted after a major life event (Wagnild & Young, 1993). As such, these two scales do not measure resilience independently, but measure the personal characteristics that support it (Smith, Dalen, Wiggins, Tooley, Christopher & Bernard, 2008).

2.3 A New Approach

This study aims to investigate resilience in two distinct ways. First, General Resilience (GR) is measured by the single question “How quickly do you normally recover when something goes wrong?” This item is analogous to the way GLS measures SWB. It is anticipated that HPMood will dominate GR due to the abstract, general nature of the question, with individuals relying on heuristic information when answering the question. In addition to GR, a new seven-item scale is utilised to measure more specific aspects of resilience. Items in the scale draw on the personal characteristics and qualities that promote resilience, similar to those in CD-RISC and Wagnild and Young’s Resilience Scale. This scale is anticipated to meet the requirements of a first level deconstruction of GR, much like the PWI is a first level deconstruction of GLS.

Second, this study aims to gain support for the positive impact of internal and external resources on resilience levels. This research is based on Homeostatic Theory

and includes the assumptions that resources aid resilience, and resilience is positively correlated with SWB. In this phase of the study, the unique ability of resources to predict resilience, as measured by the resilience scale, will be assessed. Resources' unique contribution to resilience will be examined both before and after the anticipated shared variance of HPMood has been removed. The rationale for controlling for HPMood is that this biologically based mood state is always present in every individual. Whether HPMood is dominating SWB or not, it will have shared variance with all of the variables in the study.

3. HYPOTHESES

It is hypothesised that:

1. Each item on the new seven-item Resilience scale will contribute significant unique variance to GR. As such, the resilience scale will meet the requirements as a first level deconstruction of GR.

Rationale: GR, as measured using a single item, will approximate “Resilience” at the level of HPMood. This is due to the general, abstract nature of the GR question, resulting in reliance on heuristics such as current mood when responding. This is anticipated to follow the model of GLS in measuring SWB. The seven-item resilience scale attempts to capture greater cognitive assessment of resilience by asking specific questions such as “I easily manage the changes in my life”. Such specific items enable individuals to engage in greater thought and cognitive evaluation when responding, rather than relying on HPMood to guide them. This rationale is based on the PWI and its ability to assess seven specific domains of SWB.

2. The Resources – Self-Esteem, Primary Control, Secondary Control, Optimism and Social Support – will each contribute unique variance to Resilience. These resources will continue to contribute unique variance once the shared variance contributed by HPMood has been eliminated.

Rationale: These resources are essential to people's ability to adjust to and recover from challenging agents. Therefore, it is proposed that they each contribute

uniquely to Resilience. Due to the saturating effect of HPMood, the resources' unique variance in Resilience will reduce, but remain significant when the shared variance of HPMood has been removed.

4. METHOD

4.1 Participants

Participants in this study were the first 1000 respondents from the most recent longitudinal survey of the Australian Unity Wellbeing Index (AUWI), ARC25. The AUWI has been used to assess the SWB of the Australian population for the last 12 years. Initially, participants were contacted via telephone to be part of the AUWI cross sectional study. They were recruited through telephone numbers randomly selected according to a proportional sample of the Australian population based on 50 geographic areas. These participants were asked at the end of the telephone interview if they would be willing to participate in a longitudinal written survey in the future. Those who agreed, in addition to participants who remained in the study from the previous written surveys, took part in ARC25. The total number of surveys sent out was 6,500. For convenience, the first 1000 participants to return their survey were included in this study, with 507 women and 481 men. The age of participants ranged from 24 to 91 years old, with a mean age of 64.7years (*SD* 12.29).

4.2 Materials

Each participant received an envelope in the mail which included the ARC survey (Appendix A1), Demographics form (Appendix A2), Executive Summary of the previous cross sectional survey 'Survey 29.0', Letter to participants from Head Researcher Professor Robert Cummins (Appendix B2), and Plain Language Statement (Appendix B3). Scales utilised in this study include GLS, PWI, HPMood, GR, Resilience, Self-Esteem, Control, Optimism, and Social Support (Appendix C1 to C9).

4.2.1 Subjective Wellbeing

The AUWI includes two measures of SWB. The first is Global Life Satisfaction (GLS) and asks a single question: “How satisfied are you with your life as a whole?” (Appendix C1) The second measure of SWB is the PWI, which assesses SWB via seven life domains (Appendix C2). The scale has high internal consistency with Cronbach’s alpha between .70 and .85 (International Wellbeing Group, 2013).

4.2.2 HPMood

The scale to measure HPMood is comprised of three items, which were suggested by Cummins (2010). These items relate to responses measuring the affects contented, alert and happy (Appendix C3).

4.2.3 Resilience

Two measures of resilience were used to measure Resilience in this study. GR was measured asking a single question “How quickly do you normally recover when something goes wrong?”(Appendix C4). The second measure included seven specific items aimed at capturing the essence of resilience characteristics (Appendix C5). These items were adapted from questions found in CD-RISC (2003) and Wagnild and Young’s Resilience Scale (1987).

4.2.4 Self-Esteem

Rosenberg’s (1965) five-item Self-Esteem scale was employed in this study (Appendix C6). The scale has high internal consistency with Sinclair, Blais, Gansler, Sandberg, Bistis and LoCicero (2010) reporting Cronbach’s alpha of .90.

4.2.5 Control

Primary (Appendix C7.1) and Secondary Control (Appendix C7.2) were measured utilising the Approach-Avoidant Control Scale (Ayres, 2011). Cronbach’s

alpha for Approach (Primary) Control .87 and Avoidant (Secondary) Control .76 indicate high internal consistency.

4.2.6 Optimism

The Life Orientation Test – Revised (Scheier & Carver, 1985) was utilised in this study (Appendix C8). Using this scale, Scheier, Carver and Bridges (1994) found a Cronbach’s alpha level of .82, indicating high internal consistency.

4.2.7 Social Support

Social support was assessed using a single item (Appendix C9). A single item was chosen as a close relationship with even *one* supportive person generates the benefits associated with “social support” when facing adversity (Rutter, 1985).

4.3 Procedure

Upon receiving Ethics Approval from the Deakin University- Human Research Ethics Committee, ARC 25 was sent to participants in the mail. They were requested to complete the survey and demographics form, and return both in the reply paid envelope provided.

4.4 Preliminary Statistical Analysis

All analyses in this study were performed using SPSS version 20.0. All data have been standardised onto a 0-100 scale by shifting one decimal to the right. Examination of the variable PWI found 11 cases scoring 100. These participants were deleted due to an acquiescence response style as recommended by the PWI manual (International Wellbeing Group, 2013).

All assumptions of the statistics to be used were met. The sample size of 1000 is greater than the criterion of a minimum of 50 respondents per variable outlined by Tabachnick and Fidell (2007) indicating adequate statistical power. A missing data analysis showed all variables had less than 5% missing cases. Missing data were

retained and dealt with via Listwise deletion. Negative skew was present although this was below the threshold of 2 for a sample of this magnitude. Both univariate and multivariate outliers were identified; however, deletion of these cases resulted in negligible difference in results. These outliers were therefore retained for sample integrity.

4.4.1 Factor Analysis

A principal components analysis was performed to confirm the factor structure of each of the scales. All Kaiser-Meyer-Olkin values were above the recommended value of .6 and Bartlett's test of Sphericity reached statistical significance, supporting the factorability of the correlation matrix.

Due to the high correlation between variables, the analyses utilised an Oblimin rotation with Kaiser Normalisation to assist in the interpretation of results. Results for PWI, Self-Esteem, Optimism, Resilience and HPMood are presented in Table 1.

Table 1: *Eigenvalues and % Variance accounted for each Variable*

Variable	Eigenvalues	% of Variance
PWI	3.99	57.01
Self Esteem	3.79	75.87
Optimism	2.35	78.30
Resilience	4.45	63.62
HPMood	2.52	83.90

As expected, one main component was extracted from each of these scales. The Resilience scale items each load highly onto one factor, i.e. Resilience. The variance in each item explained by the factor, Resilience, is also high (Table 2).

Table 2: *Resilience Items Factor loadings and Communalities*

Resilience Items	Component 1	Communalities
Q1	0.83	0.70
Q2	0.85	0.73
Q3	0.83	0.70
Q4	0.78	0.61
Q5	0.84	0.70
Q6	0.67	0.45
Q7	0.76	0.58

4.4.1.1 Primary and Secondary Control

As was expected, items assumed to assess Primary and Secondary control extracted two factors using an Oblimin rotation with Kaiser Normalisation. The results for both the pattern and structure matrix are presented in Table 3.

Table 3: *Pattern Matrix and Structure Matrix for PCA with Oblimin Rotation of Two Factor Solution of Primary and Secondary Control Items*

Item	Structure Coefficients		Pattern Coefficients	
	Primary Control	Secondary Control	Primary Control	Secondary Control
Q29	0.81		0.82	
Q31	0.80		0.80	
Q34	0.79	0.31	0.80	
Q32	0.79		0.79	
Q39	0.79		0.77	
Q37	0.78		0.76	
Q33		0.85		0.87
Q36		0.83		0.84
Q30		0.72		0.74
Q35	0.31	0.69		0.65
Q38		0.66		0.63

The structure coefficients matrix identified two complex items loading onto the second factor. The critical magnitude for considering a loading as part of a factor, however, is .40, which both items are below. Therefore, each of the Primary Control items loads strongly on factor 1 whilst Secondary Control items load strongly on factor 2.

4.4.2 Reliability of Scales

Cronbach's alpha levels assessed the reliability of each scale. These results are shown in Table 4.

Table 4: *Reliability of Scales*

Scale	Cronbach's Alpha
PWI	0.87
Self-Esteem	0.92
Optimism	0.86
Secondary Control	0.80
Primary Control	0.88
Resilience	0.90
HPMood	0.90

The results show that all the scales are internally reliable with Cronbach's alpha levels above .8

5. RESULTS

5.1 Descriptive Statistics

Descriptive information including means, standard deviations and correlations for each variable were calculated and are shown in Table 5.

Table 5: Means (*M*), Standard Deviations (*SD*) and bivariate correlations for variables

	GLS	PWI	HPMood	GR	Resilience	Self Esteem	Optimism	P Control	S Control	SSupport	
GLS											
PWI	0.78**										
HPMood	0.83**	0.82**									
GR	0.40**	0.46**	0.49**								
Resilience	0.49**	0.55**	0.58**	0.71**							
Self Esteem	0.64**	0.67**	0.71**	0.50**	0.63**						
Optimism	0.57**	0.59**	0.65**	0.51**	0.63**	0.63**					
P Control	0.39**	0.41**	0.46**	0.38**	0.53**	0.54**	0.43**				
S Control	0.12**	0.11**	0.16**	0.12**	0.17**	0.14**	0.19**	0.24**			
SSupport	0.38**	0.43**	0.42**	0.25**	0.35**	0.40**	0.36**	0.52**	0.14**		
	<i>M</i>	77.40	75.59	75.57	69.20	69.43	79.81	71.11	72.85	48.46	68.62
	<i>SD</i>	15.94	14.16	16.79	18.10	16.01	14.49	17.85	15.49	20.40	27.35

** Correlations significant at $p < 0.01$ level (2-tailed).

b. Listwise $N=897$

Global Life Satisfaction (GLS), Personal Wellbeing Index (PWI), Homeostatically Protected Mood (HPMood), General Resilience (GR), Resilience, Self-Esteem, Optimism, Primary Control (P Control), Secondary Control (S Control), and Social Support (SSupport)

As expected, each variable in the correlation matrix is significantly positively correlated with all other variables. This is because of the saturating effect of HPMood and their relationship with SWB. The strongest relationships exists between GLS and HPMood ($r = .83, p < .001$) and PWI and HPMood ($r = .82, p < .001$), which is consistent with SWB theory. The variable of Resilience is strongly positively correlated with General Resilience ($r = .71, p < .001$) and the PWI ($r = .55, p < .001$). The mean for GLS and PWI are consistent with prior research and within the normal range at 77.40 (SD 15.94) and 75.59 (SD 14.16) respectively. These findings support the theoretical basis of this study and provide validation for the utilisation of these variables for the remaining analyses.

5.2 Hypotheses

5.2.1 Hypothesis 1

Each item on the seven-item Resilience scale will contribute significant unique variance to GR. As such, the resilience scale will meet the requirements as a first level deconstruction of GR.

A standard multiple regression was conducted to assess the degree to which the scores on the seven-item resilience scale would predict GR. These results are shown in Table 6.

Table 6. *Regressing the 7-item Resilience Scale onto General Resilience*

General Resilience			
	β	$sr^2(\%)$	$R^2(\%)$
Resilience Scale			54**
Question 1	0.45**	8.18**	
Question 2	0.09*	0.30*	
Question 3	0.04	0.05	
Question 4	0.08*	0.31*	
Question 5	0.04	0.06	
Question 6	0.04	0.11	
Question 7	0.12**	0.69**	
% Unique Variance		9.70	
% Shared Variance		44.30	

* $p < .05$ ** $p < .001$

$sr^2(\%)$ the percentage of unique variance accounted for

Upon examination of the results it can be seen that only four of the seven resilience scale items (Questions 1, 2, 4 and 7; Appendix D) contribute significant unique variance to GR. For this reason, the model was run again with only those items that contributed significant unique variance to GR. This is shown in Table 7.

Table 7. *Regressing Four-Item Resilience Scale onto General Resilience*

General Resilience			
	β	sr^2 (%)	R^2 (%)
Resilience Scale			53**
Question 1	0.46**	9.06**	
Question 2	0.12**	0.64**	
Question 4	0.12**	0.83**	
Question 7	0.14**	1.08**	
Unique Variance		11.61	
Shared Variance		41.39	

** $p < .001$

sr^2 (%) the percentage of unique variance accounted for

The four-item resilience scale (RS4) accounts for a total of 53% ($p < .001$) of the variance in GR, slightly lower than the seven-item scale at 54% ($p < .001$). The biggest difference, however, is the percentage of unique variance contributed by the items on the scale. RS4 contributed a total of 11.61% of unique variance to GR compared to 9.7% on the seven-item scale. As RS4 accounts for a greater percentage of unique variance in GR, this scale will be utilised in the remaining analyses. Based on these results, it is concluded that the RS4 satisfies the requirements of a first level deconstruction of the General Resilience Factor.

The reliability of RS4 was also analysed. Cronbach's alpha reduced from .90 for the seven-item scale, to .84 on RS4.

5.2.2 Hypothesis 2

The Resources – Self-Esteem, Primary Control, Secondary Control, Optimism and Social Support – will each contribute unique variance to Resilience. These resources will continue to contribute unique variance once the shared variance contribute by HPMood has been eliminated.

The hypothesis has been tested using Hierarchical Multiple Regression. In step 1, Self-Esteem, Primary Control, Secondary Control, Optimism and Social Support are entered as predictive variables of resilience. In Step 2, HPMood is added to the

model in order to eliminate the saturating effect of HPMood on the other variables and thus their unique variance can be examined (Table 8).

Table 8. Regression analysis of Factors predictive of RS4

RS4					
	β	sr^2 (%)	Δsr^2 (%)	R^2	ΔR^2
Model 1				0.51**	
Self-esteem	0.29**	4.37**			
Primary Control	0.22**	2.69**			
Secondary Control	0.02	0.03			
Optimism	0.34**	6.66**			
Social Support	0.00	0.00			
% Unique Variance		13.75			
% Shared Variance		37.25			
Model 2				0.52**	0.006**
Self-esteem	0.23**	2.19**	-2.18		
Primary Control	0.21**	2.59**	-0.10		
Secondary Control	0.02	0.02	-0.01		
Optimism	0.30**	4.75**	-1.91		
Social Support	0.01	0.01	0.01		
HPMood	0.13**	0.66**			
% Unique Variance		10.22			
% Shared Variance		40.78			

** $p < .001$

sr^2 (%) the percentage of unique variance accounted for

In step 1, the predictive resources accounted for 51% ($p < .001$) of the variance in Resilience. Self-Esteem, Primary Control and Optimism all contributed significant unique variance to the prediction of Resilience Scores, accounting for 4.37%, 2.69% and 6.66% respectively. The total unique variance explain by Model 1 is 13.75% with shared variance accounting for 37.25%

In step 2, with the addition of HPMood, R^2 rose by 0.6% to account for 52% ($p < .001$). Both Models are therefore significant predictors of Resilience. The predictor variables continue to contribute significant unique variance after the influence of HPMood has been eliminated. Although these figures have decreased; (Self-Esteem 2.19%, Primary Control 2.59% and Optimism 4.75%), they have not reduced to the point of insignificance in model 2. This reduction in the unique

variance of predictor variables also reduces the total unique variance explained by the model. This has decreased from 13.75% in Model 1, to 10.22% in Model 2. Shared variance, however, has increased with the introduction of HPMood, from 37.35% in Model 1 to 40.78% in Model 2. These results reflect the saturating effect of HPMood. Secondary Control and Social Support do not significantly contribute to the prediction of Resilience.

6. DISCUSSION

This study aimed to develop a new Resilience Scale based on Homeostatic Theory of SWB (Cummins, 1995). The seven-item resilience scale was assessed to determine if it qualified as a first level deconstruction of GR. The outcome of this analysis led to the development of a Four-Item Resilience scale, RS4. This study also assessed the predictive nature of internal and external resources to RS4. Prior to hypotheses testing, the structure and reliability of each scale was analysed, which supported the use of these scales in this study.

As was expected, the Resilience Scale and each of the Resources- Self-Esteem, Primary Control, Secondary Control, Optimism and Social Support - had a strong positive correlation with SWB. This supports the assumption of Homeostatic Theory that Resilience and Resources are relevant to SWB homeostasis (Cummins & Wooden, in press). It was also found that all other variables correlated with HPMood as expected.

The first hypothesis examined whether the Seven-Item Resilience Scale could be deemed a first level deconstruction of GR. This hypothesis was partially supported as only four of the seven items contributed significant unique variance to GR. The new scale, RS4, did qualify as a first level deconstruction of GR. The internal reliability of RS4 is slightly lower than for the Seven-Item scale. This is a pleasing result because when internal consistency becomes too high, it indicates items may be redundant and therefore unnecessary. The internal consistency for RS4 is in line with CD-RISC (2003) and Wagnild and Young's RS (1993), which further support the use of RS4 as an appropriate and reliable measure of resilience.

The second hypothesis proposed that each of the internal and external resources would contribute significant unique variance to RS4. This hypothesis was partially supported, with Self Esteem, Primary Control and Optimism each contributing significant unique variance. Secondary Control and Social Support, however, did not contribute significantly to Resilience. Of the significant unique predictive resources, Optimism predicted the greatest variance in Resilience, followed by Primary Control, then Self Esteem. Having an optimistic outlook on life and the future can help people see past challenging times and circumstances that are currently occurring. In this way, optimistic people have something to look forward to and believe they will manage tough times, which concurrently increases their ability to cope through increased resilience. Similarly, an individual's perception of having control over their environment is integral to their ability to cope with a given situation. Self Esteem is also an important component as it provides a person with a sense of value and worth, which then enables them to engage in optimistic thinking and believe in their ability to use primary control strategies successfully. Greater utilisation of these resources helps protect people against life challenges, and can provide them with hope for the future and a sense of control over their own life. In turn, these things build their resiliency.

The second phase of Hypothesis 2 involved controlling for the influence of HPMood on the unique variance accounted for by Resources. This was examined with the intention of investigating whether Resources continued to contribute significant unique variance to resilience, above and beyond that contributed by HPMood. As expected, each of the resources' unique variance in resilience decreased when controlling for the influence of HPMood. This reduction, however, was not great enough for significant unique predictors to become insignificant, which supports the independent contribution of Resources to resilience. The results also support the theoretical perspective that HPMood has a saturating effect on resources, due to the biological, ever-present nature of HPMood. It is the general state of being, in the absence of conscious awareness, which infiltrates all aspects of how we feel, behave and respond. Because of this, the introduction of HPMood in the second model increased the shared variance between resources, which consequently decreased the unique variance accounted for in Resilience.

Although all resources analysed in this study were expected to contribute unique variance to Resilience, this was not the case. Secondary control and Social Support were not significant predictors of resilience, which is contrary to the theoretical expectation of Resources in Homeostatic Theory (Cummins & Nistico, 2002). It seems intuitive that expressing negative thoughts and feelings with a supportive other, and/or engaging in PCB's, would increase one's resilience. Another perspective, however, is that people who are resilient require less support from others than people who are less resilient. This may also be the case for the use of Secondary Control strategies. If an individual does not experience as many negative emotions and/or feels a greater sense of control in their lives, they are less likely to be reliant on Secondary Control strategies.

Secondary Control strategies have been found to be most helpful when an individual is unable to change the situation or environment and can therefore not use primary control to gain a sense of control (Rothbaum, et al, 1982). When answering the Control items on the survey, participants may have been thinking about challenges in which they *were* able to use Primary Control and thus did not need to rely on Secondary Control strategies. This is another plausible explanation as to why Secondary Control was not found to be a significant unique predictor of resilience, despite expectations.

6.1 Limitations and Future Research

The limitations of this study include use of a preliminary Resilience scale, RS4. Greater validation of the scale in the future would be beneficial. The relationship between Secondary Control and Resilience may not have been accurate. To improve accuracy in the future, participants could be directed to recall a challenging event they could not change, and respond to the Secondary Control items based on that event. The inclusion of specific Secondary Control strategies, such as Perceived Control, could be beneficial in gaining a more specific picture of the relationship between Secondary Control and resilience.

6.2 Conclusion

RS4, once validated, could be an easily accessible tool used to identify individuals who are most vulnerable to the life challenges they will inevitably face. By understanding the relationship between SWB and the resources that build resilience, early intervention programs could be developed to teach those at risk of low levels of resilience how to manage in times of stress. Programs aimed at encouraging positive self esteem, optimistic thinking styles, cognitively restructuring negative thought patterns and encouraging active use of Primary Control strategies, could boost individuals' resilience and therefore help protect and maintain SWB homeostasis.

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APPENDIX A1: ARC 25



Australian Unity Wellbeing Index

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 different aspects of life satisfaction in Australia.

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

SECTION K EVENTS IN YOUR LIFE

- 78 Thinking back on your life, what is the highest level of happiness you have ever experienced?
 No happiness 0 1 2 3 4 5 6 7 8 9 10 Complete happiness
- 79 Has anything **happened to you recently** causing you to feel happier or sadder than normal? Please tick as appropriate
 Yes, happier Yes, sadder No—Please move on to Section L.
 Yes, both happier and sadder – Please move on to Section L.
- (If Yes) On a scale from 0 to 10, how strongly is what happened affecting **how you feel now**?
 Very weakly 0 1 2 3 4 5 6 7 8 9 10 Very strongly
- 80 Which areas of your life have been strongly influenced by this event? Please tick **all areas** that have been affected.
 Standard of living Relationships Achieving in life Connection to your community
 Health Personal safety Future security Spirituality or religion
- 81 Now please tick the **one single** life area that has been **most strongly affected**.
 Standard of living Relationships Achieving in life Connection to your community
 Health Personal safety Future security Spirituality or religion

SECTION L RECOVERY

- Turning now to how easily you recover after some challenging event
- 82 How quickly do you normally recover when something goes wrong?
 Not quickly at all 0 1 2 3 4 5 6 7 8 9 10 Very quickly
- How much do you agree with the following statements?
 Do not agree at all 0 1 2 3 4 5 6 7 8 9 10 Agree Completely
- 83 I easily manage the changes in my life
- 84 I know I can deal with difficult situations
- 85 Under pressure I stay focussed and think clearly
- 86 I willingly take on challenges
- 87 I can deal easily with unpleasant feelings
- 88 When something goes wrong I keep trying to make it right
- 89 When something bad happens I can see a positive side

SECTION M POLITICS

- Turning now to Australian Politics
- 90 How interested are you in the outcome of the Federal Election?
 Not interested at all 0 1 2 3 4 5 6 7 8 9 10 Extremely interested
- 91 How do you intend to vote, or did you vote in the current Federal Election? Please tick one
 Labor Liberal National
 Green Other Undecided or informal

Thank you for your time and participation in this survey

SECTION A 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...
- Not satisfied at all 0 1 2 3 4 5 6 7 8 9 10 Completely satisfied
- 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?

SECTION B LIFE IN AUSTRALIA

- How satisfied are you with...
- Not satisfied at all 0 1 2 3 4 5 6 7 8 9 10 Completely satisfied
- 9 life in Australia?
- 10 the economic situation in Australia?
- 11 the state of the natural environment in Australia?
- 12 the social conditions in Australia?
- 13 government in Australia?
- 14 business in Australia?
- 15 national security in Australia?

SECTION C HOW YOU GENERALLY FEEL

- Please indicate how each of the following describes your feelings when you think about your life in general.
- Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely
- 16 Thinking about **my life in general** I feel *active*.
- 17 Thinking about **my life in general** I feel *contented*.
- 18 Thinking about **my life in general** I feel *energised*.
- 19 Thinking about **my life in general** I feel *alert*.
- 20 Thinking about **my life in general** I feel *happy*.
- 21 Thinking about **my life in general** I feel *excited*.

ARC25

APPENDIX A1: ARC 25

SECTION D OVER THE PAST WEEK

How much did these statements apply to you over the PAST WEEK?	Not at all	Extremely
22 I couldn't seem to experience any positive feeling at all.	0 1 2 3 4 5 6 7 8 9 10	
23 I found it difficult to work up the initiative to do things.	0 1 2 3 4 5 6 7 8 9 10	
24 I felt that I had nothing to look forward to.	0 1 2 3 4 5 6 7 8 9 10	
25 I felt down-hearted and blue.	0 1 2 3 4 5 6 7 8 9 10	
26 I was unable to become enthusiastic about anything.	0 1 2 3 4 5 6 7 8 9 10	
27 I felt I wasn't worth much as a person.	0 1 2 3 4 5 6 7 8 9 10	
28 I felt that life was meaningless.	0 1 2 3 4 5 6 7 8 9 10	

SECTION E COPING WITH LIFE

How much do you agree that when something bad happens...	Do not agree at all	Agree completely
29 I work hard to overcome it.	0 1 2 3 4 5 6 7 8 9 10	
30 I ignore it by thinking about other things.	0 1 2 3 4 5 6 7 8 9 10	
31 I look for different ways to achieve the goal.	0 1 2 3 4 5 6 7 8 9 10	
32 I put lots of time into overcoming it.	0 1 2 3 4 5 6 7 8 9 10	
33 I relax and don't think about it.	0 1 2 3 4 5 6 7 8 9 10	
34 I work out what caused it.	0 1 2 3 4 5 6 7 8 9 10	
35 I realise I didn't need to control it anyway.	0 1 2 3 4 5 6 7 8 9 10	
36 I tell myself it doesn't matter.	0 1 2 3 4 5 6 7 8 9 10	
37 I learn the skills to overcome it.	0 1 2 3 4 5 6 7 8 9 10	
38 I don't feel disappointed because I knew it might happen.	0 1 2 3 4 5 6 7 8 9 10	
39 I make an effort to make good things happen.	0 1 2 3 4 5 6 7 8 9 10	
40 I share my feelings with a supportive person.	0 1 2 3 4 5 6 7 8 9 10	

SECTION F MORE ABOUT YOURSELF

How much do you agree with the following statements?	Do not agree at all	Agree completely
41 On the whole, I am satisfied with myself.	0 1 2 3 4 5 6 7 8 9 10	
42 I feel that I have a number of good qualities.	0 1 2 3 4 5 6 7 8 9 10	
43 I am able to do things as well as most other people.	0 1 2 3 4 5 6 7 8 9 10	
44 I feel that I'm a person of worth, at least on an equal plane with others.	0 1 2 3 4 5 6 7 8 9 10	
45 I take a positive attitude toward myself.	0 1 2 3 4 5 6 7 8 9 10	

SECTION G WHAT YOU EXPECT TO HAPPEN

How much do you agree with the following statements?	Do not agree at all	Agree completely
46 In uncertain times, I usually expect the best.	0 1 2 3 4 5 6 7 8 9 10	
47 I'm always optimistic about my future.	0 1 2 3 4 5 6 7 8 9 10	
48 Overall, I expect more good things to happen to me than bad.	0 1 2 3 4 5 6 7 8 9 10	

SECTION H THE KIND OF PERSON YOU ARE

How much do you agree with the following statements?	Do not agree at all	Agree completely
49 I see myself as <i>outgoing</i>	0 1 2 3 4 5 6 7 8 9 10	
50 I see myself as <i>enthusiastic</i>	0 1 2 3 4 5 6 7 8 9 10	
51 I see myself as <i>anxious</i>	0 1 2 3 4 5 6 7 8 9 10	
52 I see myself as <i>easily upset</i>	0 1 2 3 4 5 6 7 8 9 10	
53 I see myself as <i>reserved</i>	0 1 2 3 4 5 6 7 8 9 10	
54 I see myself as <i>quiet</i>	0 1 2 3 4 5 6 7 8 9 10	
55 I see myself as <i>calm</i>	0 1 2 3 4 5 6 7 8 9 10	
56 I see myself as <i>emotionally stable</i>	0 1 2 3 4 5 6 7 8 9 10	

SECTION I YOUR HEALTH

How much did these statements apply to you over the PAST WEEK?	Not at all	Extremely
57 I found it hard to wind down	0 1 2 3 4 5 6 7 8 9 10	
58 I tended to over-react to situations	0 1 2 3 4 5 6 7 8 9 10	
59 I felt that I was using a lot of nervous energy	0 1 2 3 4 5 6 7 8 9 10	
60 I found myself getting agitated	0 1 2 3 4 5 6 7 8 9 10	
61 I found it difficult to relax	0 1 2 3 4 5 6 7 8 9 10	
62 I was intolerant of anything that kept me from getting on with what I was doing	0 1 2 3 4 5 6 7 8 9 10	
63 I felt that I was rather touchy	0 1 2 3 4 5 6 7 8 9 10	

SECTION J NEIGHBOURHOOD WELLBEING

Turning now to life in Your Neighbourhood (the area where you live) How satisfied are you with.....	Not at all Satisfied	Completely Satisfied
64 Life in your neighbourhood as a whole?	0 1 2 3 4 5 6 7 8 9 10	
65 The level of trust between your neighbours?	0 1 2 3 4 5 6 7 8 9 10	
66 The level of social activity with your neighbours?	0 1 2 3 4 5 6 7 8 9 10	
67 The goals and values of your neighbours?	0 1 2 3 4 5 6 7 8 9 10	
68 The state of the physical environment in your neighbourhood?	0 1 2 3 4 5 6 7 8 9 10	
69 The availability of public resources in your neighbourhood?	0 1 2 3 4 5 6 7 8 9 10	
70 The level of sharing and borrowing between neighbours?	0 1 2 3 4 5 6 7 8 9 10	
How satisfied are you...		
71 that people support each other in your neighborhood?	0 1 2 3 4 5 6 7 8 9 10	
72 that your neighbourhood feels like home?	0 1 2 3 4 5 6 7 8 9 10	
73 with the levels of noise?	0 1 2 3 4 5 6 7 8 9 10	
74 with the amount of open space	0 1 2 3 4 5 6 7 8 9 10	
75 with public transport?	0 1 2 3 4 5 6 7 8 9 10	
76 with the leisure facilities?	0 1 2 3 4 5 6 7 8 9 10	
77 with the safety of your neighbourhood?	0 1 2 3 4 5 6 7 8 9 10	

APPENDIX A2. Demographics Form

Dear Friend of the Australian Centre on Quality of Life

Below you will find some questions that refer to your life circumstances. We know you have completed a similar set in the past, and we have these data on file, but would appreciate confirmation of your current situation.

- 1 Your Gender Male Female
- 2 Your age 3 Your postcode
- 4 Please indicate from the list who lives with you. (tick whichever boxes apply)
- No one, you live by yourself One or more children Your partner
- One or both of your parents One or more adults who are neither your partner nor your parent
- 5 Is there a person living with you who is elderly or disabled and requires your care?
- Yes (go to item 5a) No (go to item 6)
- 5a Please indicate from the list who is being cared for:
- Spouse Parent Partner Other Child
- 6 How many children (aged less than 18 years) live with you?
- 0 1 2 3 4 5 6 or more
- 7 Which of the following categories apply to you at the present time?
- Married De facto or living together Divorced
- Widowed Separated but not divorced Never married
- 8 Which of the following categories best applies to you at the present time? Are you in...
- Full-time paid employment Full-time home or family care Full-time retired
- Full-time study Semi-retired Unemployed
- Full-time volunteer
- 9 Please indicate whether any of the following part-time categories applies to you at the present time. Are you...?
- In part-time paid employment A part-time volunteer In part-time study
- In casual employment
- 10 What is your household's total annual income before tax?
- Less than \$15,000 \$61,000 to \$100,000 \$251,000 to \$500,000
- \$15,000 to \$30,000 \$101,000 to \$150,000 More than \$500,000
- \$31,000 to \$60,000 \$151,000 to \$250,000
- 11 Please indicate your height and weight.
- cm kg
- or
- feet inches stone pounds
- 12 Please circle the number that corresponds with the size of town or city in which you live
- | | |
|-------------------------------------|---|
| A farm property | 1 |
| A small town (under 1000 people) | 2 |
| A town (up to 20,000) | 3 |
| A middle sized city (up to 100,000) | 4 |
| A city (up to 500,000) | 5 |
| A metropolitan area (over 500,000) | 6 |
- 13 Today's date is 14 I completed the questionnaire at am/pm

APPENDIX B1: Ethics Approval Statement



Human Research Ethics

Deakin Research Integrity
 70 Elgar Road Burwood Victoria
 Postal: 221 Burwood Highway
 Burwood Victoria 3125 Australia
 Telephone 03 9251 7123 Facsimile 03 9244 6581
 research-ethics@deakin.edu.au

Memorandum

To: Prof Robert Cummins
 School of Psychology

B

cc: Ms Camilla Franklin
 Mrs Linda Hartley-Clarke

From: Deakin University Human Research Ethics Committee (DUHREC)

Date: 12 August, 2013

Subject: 2006-266
 The Australian Unity Wellbeing Index

Please quote this project number in all future communications

The modification to this project, submitted on 12/08/2013 has been approved by the committee executive on 12/08/2013.

Approval has been given for Ms Camilla Franklin and Mrs Linda Hartley-Clarke, under the supervision of Prof Robert Cummins, School of Psychology, to continue this project as modified to 31/03/2015.

The approval given by the Deakin University Human Research Ethics Committee is given only for the project and for the period as stated in the approval. It is your responsibility to contact the Human Research Ethics Unit immediately should any of the following occur:

- Serious or unexpected adverse effects on the participants
- Any proposed changes in the protocol, including extensions of time.
- Any events which might affect the continuing ethical acceptability of the project.
- The project is discontinued before the expected date of completion.
- Modifications are requested by other HRECs.

In addition you will be required to report on the progress of your project at least once every year and at the conclusion of the project. Failure to report as required will result in suspension of your approval to proceed with the project.

DUHREC may need to audit this project as part of the requirements for monitoring set out in the National Statement on Ethical Conduct in Human Research (2007).

Human Research Ethics Unit
 research-ethics@deakin.edu.au
 Telephone: 03 9251 7123

APPENDIX B2: Letter to Participants

19 August 2013

Dear Friend of the Australian Centre on Quality of Life

Some time ago now, you were kind enough to complete a telephone interview on quality of life in Australia. At that time you also indicated that we could contact you with a view to continuing your involvement in this project. That is the purpose of this letter.

Together with our partner Australian Unity, we are tracking the wellbeing of Australians. This project has been ongoing for 12 years. If you would like to read our full reports they are available at the following web address
<http://www.deakin.edu.au/research/acqol/auwbi/index.php>

Our most recent Executive Summary from Report 24.0, conducted in October 2012, is included in the package for your information.

So, we are hoping to prevail on your kindness once again. Our latest questionnaire is being sent in the hope that you will find the time to complete and return it in the envelope provided. Your opinions are very important to our annual monitoring of the Australian population.

I wish we could offer you some form of tangible reward for your continuing involvement, but we are struggling to financially support the project at a very basic level. Consequently, we have to call once again on your good will, and hope that you will be able to find the time to remain as an active voluntary contributor to this remarkable project, which is the only one of its type in the world.

Please feel free to contact me with any queries concerning this project on (03) 9244 6845 or robert.cummins@deakin.edu.au.

Kind regards

A handwritten signature in black ink, appearing to read 'R. Cummins', written in a cursive style.

Robert A. Cummins
Professor of Psychology.

APPENDIX B3: Plain Language Statement



DEAKIN UNIVERSITY HUMAN RESEARCH ETHICS COMMITTEE

PLAIN LANGUAGE STATEMENT FOR PEOPLE RECRUITED FROM THE TELEPHONE SURVEY

Dear Friend of the Australian Unity Wellbeing Project

Some months ago you participated in the Australian Unity Wellbeing project that is conducted by telephone in conjunction with Deakin University. At that time, you indicated that you would be willing to be involved in future surveys of this kind. Thank you. We are writing to you now because we are conducting a longitudinal study of the wellbeing of Australians, to identify the beliefs that maintain wellbeing. We now invite you to be part of this study.

The research team involved is Professor Bob Cummins, Dr Melissa Weinberg, Linda Hartley-Clark and Camilla Franklin, from Deakin University. Australian Unity is a partner in the project. Linda will use part of this project for the purposes of her PhD thesis, and Camilla will use part of this project for the purposes of her Honours thesis.

In the hope you will agree to be involved, we enclose a questionnaire package. One questionnaire asks for some basic demographic details, and the other some questions about yourself such as:

- How satisfied are you with life as a whole?
- How satisfied are you with your health?

Other questions will ask your level of agreement with various statements, on topics such as:

- How you feel about yourself and your feelings in general.
- What kind of person you are.
- How you feel about events in your life.

In total, the questionnaire should take you about 25 minutes to complete. Also enclosed is a reply paid envelope to return the completed questionnaire to Deakin University, and when you return the questionnaire we will assume you are doing so willingly. Your questionnaire will be given a code and your answers will be entered into a database for collation. The research team will not be able to identify you or your personal responses. The database will be securely stored electronically at Deakin University for ten years and used only for academic research purposes.

You are quite free to participate or not to any extent, or withdraw at any time from the study. However, as we will not be able to identify your responses if you withdraw after mailing your questionnaire, such responses will be used in the overall analysis.

If for any reason you feel distressed by anything asked in the survey, we suggest that you contact Lifeline on 13 1114

For further details of the study, please contact Professor Bob Cummins on 03 92446845 or Linda Hartley-Clark on 03 92517439.

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about your rights as a research participant, then you may contact: The Manager, Research Integrity, Deakin University, 221 Burwood Highway, Burwood, Victoria 3125, Telephone: 9251 7129, research-ethics@deakin.edu.au

[Please quote project number 2006-266](#)

C6. Self Esteem

How much do you agree with the following statements?

		Do not agree at all										Agree Completely											
Q1	On the whole, I am satisfied with myself.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q2	I feel that I have a number of good qualities.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q3	I am able to do things as well as most other people.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q4	I feel that I'm a person of worth, at least on an equal plane with others.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q5	I take a positive attitude toward myself.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10

C7.1 Primary Control

How much do you agree that when something bad happens...

		Do not agree at all										Agree Completely											
Q1	I work hard to overcome it.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q2	I look for different ways to achieve the goal.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q3	I put lots of time into overcoming it.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q4	I work out what caused it.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q5	I learn the skills to overcome it.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q6	I make an effort to make good things happen.	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10

C7.2 Secondary Control

How much do you agree that when something bad happens...

		Do not agree at all										Agree Completely											
Q1	I ignore it by thinking about other things	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q2	I relax and don't think about it	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q3	I realise I didn't need to control it anyway	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q4	I tell myself it doesn't matter	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10
Q5	I don't feel disappointed because I knew it might happen	0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10

