

THE GOLDEN TRIANGLE OF HAPPINESS: ESSENTIAL RESOURCES FOR A HAPPY FAMILY

Robert A. Cummins

Abstract: It is normal for people to feel positive about the quality of their lives, despite the presence of challenges. Of special interest here are the challenges of caring for a child or a disabled family member. How do the adults living within such families maintain a positive self-view? Answering this question requires an understanding of subjective well-being as it applies to each individual family member and of the management system that strives to keep each person feeling positive. This paper describes various psychological components of this homeostatic management system, together with a consideration of the most useful resources to support homeostasis. Key resources have been identified by using the Personal Wellbeing Index, a seven-item scale measuring subjective well-being (mood happiness). Over many studies, researchers have found considerable agreement that three kinds of resources — “the Golden Triangle” — are consistently more relevant to subjective well-being than the others. These are feelings of satisfaction with income, relationships, and life purpose. The implications for interventions that offer support to families in need are discussed.

Keywords: quality of life, family quality of life, measurement, well-being

Acknowledgement: This work was supported by the National Research Foundation of Korea Grant funded by the Korean Government (NRF-2013S1A3A2054622).

Robert A. Cummins Ph.D is Emeritus Professor, Office of Faculty of Health, Melbourne Burwood Campus, Deakin University, Australia. Email: robert.cummins@deakin.edu.au

An omnibus definition of “family” is “a group of individuals living under one roof and usually under one head” (Merriam-Webster, 2017). In this context, the well-being of a family is both a well-being collective, with contributions by each family member, and a microcosm of community well-being as measured by social indicators (Kee, Lee, & Kim, 2017). This essay concerns the well-being of individuals as it contributes to family life quality.

The scientific understanding of human life quality is now represented by a massive research literature. As might be expected from such a vast repository, many different interpretations have been published. However, some issues represent common ground among researchers, and the most fundamental of these is the distinction between objective and subjective life quality (Andrews & Withey, 1976; Campbell, Converse, & Rodgers, 1976; Cummins, 1998a).

Objective life quality concerns the tangible world we experience in common with other people. The component parts are, for example, how much money people have, the size of their friendship networks, and whether they are productive members of their communities. This dimension can be measured in ways that can be verified by other people; for example, by observing how many friends the family member has.

The second dimension is subjective, and therefore private. It comprises the feelings that can only be experienced by each individual. Examples are the level of satisfaction someone has with their earnings, their friends, and the work they do each day. This dimension is the primary target of this essay; it is commonly referred to in the scientific literature as subjective well-being (SWB).

It seems intuitive that these two dimensions should be simply related to one another such that, for example, people who are wealthy and healthy will have a high level of SWB. This is not so, however. An authoritative review within the disability literature (Schalock et al., 2002) describes the strength of the relationship as only “modest” (p. 458). Finding an explanation for this counterintuitive result requires an understanding of the science underpinning SWB. Such an understanding is provided by the theory of subjective well-being homeostasis management system. This system has been described in detail elsewhere (Cummins, 2016, 2017) and will now be summarized.

Understanding Subjective Well-Being

In common scientific usage, the term “subjective well-being” is used synonymously with “happiness” and “life satisfaction” (e.g., Kozma, Stone, & Stones, 2000). All three terms refer to a single construct and, when measured as mood through self-report, all three are highly correlated (Anglim, Weinberg, & Cummins, 2015).

The most common form of SWB measurement is by means of semi-abstract questions of “satisfaction”, most commonly the single question, “How satisfied are you with your life as a whole?” (Campbell et al., 1976, p. 33), termed *global life satisfaction* (GLS). SWB can also be measured using multi-item scales. The most popular of these is the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985), which comprises five items, each an assertion regarding satisfaction with “life as a whole”. This scale construction allows the production of a single average measure that is more reliable than any single item used alone, and which correlates highly with GLS (e.g., $r = .66$; van Beuningen, 2012). The second multi-item scale is the seven-item Personal Wellbeing Index (PWI; International Wellbeing Group, 2013). The PWI also correlates highly with GLS (e.g., $r = .60$; Casas, González, Figuer, & Malo, 2009) and very highly with the SWLS (e.g., $r = .79$; Renn et al., 2009). The PWI also has a parallel version for adolescents (Cummins & Lau, 2005b) and another for people with an intellectual or cognitive disability (Cummins & Lau, 2005a). Using any of these measures to track SWB over time yields a single, very predictable, result. The average level of SWB is very stable.

SWB is Normally Stable

The remarkable stability of measured happiness was noted over 80-years ago, when Hartmann (1934) reported a 1-month test–retest reliability of .70. This result has since been verified many times, using various measurement techniques, and has both practical and theoretical importance. A practical application of this stability has been to generate normative ranges for SWB using the mean and standard deviation (see the PWI manuals). Normative ranges may be calculated both for populations, by using multiple survey mean scores as data, and also for individuals (for Australian norms see Cummins et al., 2013, Tables A 2.20/21).

The first published normative estimation of SWB used population mean scores from several Western countries. Data were standardized by a formula that transforms response-scale scores into percentage-point scores, denoting responses from *no satisfaction* (0 points) to *complete satisfaction* (100 points; Cummins, 1995). It was found that the population grand mean was 75 points, with a standard deviation of just 2.5. Thus, within the range 70 to 80 points, there is a 95% probability of including any Western population mean score.

Since that time the normative range for SWB has been refined in two main ways. First, the inclusion of non-Western population mean scores expanded the normal range downward to 60 to 80 points (Cummins, 1998b). The main reason for this change is the inclusion of countries with low economic status. However, a second reason for the new lower bound is *cultural response bias* (Lai, Cummins, & Lau, 2013; Lau, Cummins, & McPherson, 2005). This is a systematic cultural influence, causing people to provide either higher or lower responses to questions of life satisfaction. For example, due to the Confucian cultural influence, East Asian populations report lower SWB than do Western samples, generally by about 10 percentage points (for a review, see Chen & Davey, 2008).

The second way the normative range for SWB has been refined is to make it relevant for individual people. Based on the responses from about 60,000 Australians, the population mean is 75 points with a standard deviation of 12.5. The normative range (2 standard deviations around the mean) for individuals is thus 50 to 100 points. In other words, most people feel positive about their lives.

The practical usefulness of normative ranges is to allow a determination of whether the mean scores of a population group, or the scores of an individual, are normal (within-range) or pathological. Such determination has usefulness for policy, in allowing the identification of population subgroups with high levels of pathological functioning (Tomyn, Weinberg, & Cummins, 2015). It also has high relevance for researchers studying the properties of SWB because samples high in pathology (below 50 points) exhibit abnormal psychometric characteristics (Richardson, Fuller-Tyszkiewicz, Tomyn, & Cummins, 2015).

While these normative standards have been calculated using general population data, a crucial understanding is that they apply to everyone, including people with a disability (Cummins, Lau, Davey, & McGillivray, 2010). The reason for this universality is that the level of SWB for each person is genetically managed around a set-point (Capic, Li, & Cummins, 2018; Cummins, Li, Wooden, & Stokes, 2014). Thus, each person's natural level of SWB is set genetically and does not change due to disability.

Set-Points and Homeostasis

Within physiology, it has been understood for over 80 years (Cannon, 1932) that body temperature and other biological variables that must be kept at reasonably constant levels are each managed by a homeostatic system. In contemporary terms, and consistent with the authoritative description by McEwen and Wingfield (2003), homeostasis can be defined as the management of an essential variable to a set-point representing an optimal level of the variable for the normal physiological operation of each individual.

Each homeostatic system manages its own dependent variable to a level dictated by a genetic set-point. For core body temperature this set-point is about 37 °C. When forces external to the homeostatic system cause movement of the variable's level away from its set-point, the system generates counteractive measures designed to return the variable back to its optimal set-point level. For example, the sensation of feeling cold causes changes in both blood distribution and behavior, for the purpose of retaining more body heat. Analogous homeostatic devices have been described that manage the level of SWB back to its set-point (see Cummins, 2016; Cummins, 2017).

There has been much controversy over the existence of set-points for SWB. While it has long been suggested that SWB levels have a strong genetic basis (Tellegen et al., 1988), the evidence that such set-points exist has been elusive. However, this has recently changed, with the first demonstration of SWB set-points, and the finding that they have a normal distribution

within the range of about 70 to 90 points on the 0 to 100 point scale (Cummins et al., 2014). This has recently been confirmed using a different data set (Capic, Li, & Cummins, 2017). Thus, the key component for understanding SWB homeostasis is now in place.

The second essential component of homeostasis is the system that maintains SWB around its set-point for each person. The system recognizes the optimum level of the managed variable, as determined by its set-point, and seeks to return it to that level if displaced. In order to understand this system a deeper understanding of SWB is required.

The Character of SWB

SWB can be described as being normally positive and stable, and mainly comprising mood. The positivity and stability characteristics have already been described. Understanding mood requires further explanation.

When most authors define SWB, they cite classic publications such as Andrews and Withey (1976) and Diener (1984). These support the statement that SWB comprises a mix of high positive affect, low negative affect, and cognition in the form of a global, personal life assessment. This view requires revision. As first demonstrated by Davern, Cummins, and Stokes (2007) and confirmed using factor analysis and structural equation modelling (Blore, Stokes, Mellor, Firth, & Cummins, 2011; Longo, 2015; Tomin & Cummins, 2011a), the composition of SWB is dominated by mood. It is this mood, named Homeostatically Protected Mood (HPMood; Cummins, 2010), that homeostasis is maintaining at a steady level around its set-point.

HPMood provides each person with a constant, stable, gentle, background level of affective positivity and alertness. This constant mood can be described as a general feeling of contentment, but also comprises the affects happy and alert. Homeostasis is responsible for maintaining HPMood at a level that approximates its set-point for each individual person. This does not mean, however, that SWB is stable.

While it is postulated that HPMood is indeed stable, as dictated by its set-point in each individual, measured SWB shows considerable variation. In a recent review of longitudinal state–trait model analyses, Yap, Anusic, and Lucas (2014) estimated that about a third of the measured variance in life satisfaction is stable even over very long time periods, another third changes slowly over time, and the remaining third is occasion-specific. While these proportions require substantiation, the general model is a plausible initial estimate. Certainly there is substantial variation in the levels of measured SWB, on a moment-to-moment basis, due to strong emotions causing homeostatic failure. Thus, the measured level of stability is consistent with a homeostatic system with limited capacity to prevent acute change, but with a substantial capacity to bring SWB back to set-point on a chronic basis.

As evidence of this homeostatic capacity, within normal population samples only a very small proportion of Australian people lie below the scale mid-point. Using data from over 60,000

people gathered over 13 years by the Australian Unity Wellbeing Index surveys (Cummins et al., 2013), only around 4% of scores lie below 50 points. It is thus normal for people to feel good about themselves whether they have a disability or not (Cummins, McCabe, Romeo, Reid, & Waters, 1997).

Practical Implications

The idea of SWB homeostasis places great emphasis on how people feel about themselves and, indeed, many authors have proposed that this is the most important aspect of life quality (e.g., Brown, 1999; Schalock, 1997). Clearly, however, the objective side of life is also relevant. If objective life circumstances are poor, normal bodily and mental functioning will be compromised. Moreover, if such conditions are severe enough to cause distress, SWB homeostasis is likely to be defeated. When this occurs, people lose their normal levels of positivity and may become depressed (Cummins, 2010). Understanding the relationship between the objective and subjective aspects of life quality is therefore crucial for professionals concerned with facilitating homeostatic resources, such as money, especially in the context of disability services.

In discussing this relationship, a useful starting point is to emphasize that life circumstances, including disability, do not change set-points for SWB. This is because the level of each individual's set-point is under genetic control. Nevertheless, adverse life circumstances and disability do threaten the maintenance of normal levels of measured SWB because they make demands on the available resources. For example, it is likely that the disability will cause a need for additional financial resources to purchase prostheses or pay for help. The disability may also add to the difficulty of maintaining an intimate relationship and of holding a fulfilling job. Factors like these add an element of stress that is not as likely to be experienced by someone without such a condition.

Stress is also cumulative (Meile & Haese, 1969), so the addition of disability to a normal life is likely to result in a higher level of stress than would otherwise be experienced. Note, however, that the experience of higher stress reflects a deficient level of the named resources. If someone with a disability has sufficient objective resources to meet their needs, then their level of SWB, *ceteris paribus*, will be no different from someone without a disability.

This description of the operation and defeat of homeostasis provides the means for understanding the relationship between objective resources and SWB. This understanding can be summarized as follows:

1. For people operating within their normal set-point range, there is never a simple linear relationship between change in their objective circumstances and their level of SWB. Providing that homeostasis remains functional, any increase or decrease in the objective resource will be rapidly adapted to by homeostatic processes. Under such conditions, the

chronic level of SWB remains close to set-point. This mainly accounts for the commonly observed low-level relationships between objective variables and SWB.

2. If the change in objective circumstances is strong enough to defeat homeostatic control, then SWB will come under the control of the emotion generated by the event, and will rise or fall beyond the set-point. Long-term homeostatic processes, such as adaptation (Helson, 1964), are then activated. These are normally powerful enough to return SWB close to its set-point over a period of time.
3. For people who remain in homeostatic defeat because the source of their distress is chronic and uncontrollable, their SWB will remain below its set-point. Such people are at high risk of depression (Cummins, 2010).

The implications of all this for the allocation of resources is considerable. Essentially, if someone is operating within their normal range, the provision of additional resources will not cause a discernible rise in their level of SWB. On the other hand, providing such resources to people in homeostatic defeat will normally act to raise SWB into the set-point-ranges (see, e.g., Tomy et al., 2015). Thus, from this perspective, the baseline SWB level of an individual or a group is important information for administrators charged with public resource allocation.

Measuring Subjective Wellbeing

The simplest measure of SWB involves a single question concerning global life satisfaction. Devised by Andrews and Withey (1976), it asks, “How do you feel about your life as a whole?” (p. 66). Responses are measured using an end-defined, numerical response scale (Jones & Thurstone, 1955) anchored by *no satisfaction* (0) and *complete satisfaction* (10).

While GLS is considered a sensitive and reliable measure of SWB, it has the psychometric limitation of being a single item. A solution to this limitation is to measure SWB by a set of items that, together, represent GLS (see Cummins & Weinberg, 2015 for an expanded discussion). There are two such scales.

The first is the Satisfaction with Life Scale¹ (Diener et al., 1985), which is the scale most widely used to measure SWB. In June 2017, Google estimated that it had been cited over 17,000 times. Unfortunately, however, an authoritative review of this scale by van Beuningen, 2012 found that people with low and intermediate levels of education and those who were not native English speakers had a tendency to misinterpret some items. Van Beuningen concluded that the wording of the SWLS may be too complex for use with general population samples. This also makes it unsuitable for use by adolescents and people with an intellectual or cognitive disability.

¹ A copy of this brief five-item scale may be obtained from <http://labs.psychology.illinois.edu/~ediener/SWLS.html>.

The second scale constructed to represent GLS is the Personal Wellbeing Index² (International Wellbeing Group, 2013). The PWI comprises seven items of satisfaction: standard of living, health, achieving in life, relationships, safety, connection to community, and future security. Each item is asked in a semi-abstract format, such as, “How satisfied are you with your relationships?”, with no further specification as to how the target (here “relationships”) should be considered. It is proposed that these seven domains are sufficiently universally relevant, in sharing unique variance with GLS, to form a valid comparative scale for any group of people (Cummins, 1996).

When tested empirically, however, the extent of domain contribution to GLS is variable (Cummins, 2013; International Wellbeing Group, 2013). Fortunately, this only minimally detracts from the validity of the scale. Due to its semi-abstract, personal format, each domain is dominated by its content of Homeostatically Protected Mood (HPMood), with the added variance of each target word (e.g., relationships) making only a very small contribution to the prediction of GLS variance. Thus, despite variable domain contributions to GLS, the PWI provides a valid estimate of SWB due to all of the domains having a common, dominant content of HPMood.

In other terms the PWI is psychometrically robust as: (a) The seven items all inter-correlate strongly and almost inevitably form a single factor; (b) The seven target items are all familiar to adults generally; thus, people find all of the domains relevant to their lives; (c) The scale has a parallel version for people with an intellectual or cognitive disability (PWI-ID) and another for school-age adolescents (PWI-SC).

The Golden Triangle Domains

A further characteristic of the PWI is that, when regressing the seven domains against GLS, three of the domains — money, relationships, and achieving — are more predictable contributors of unique variance than the other four. These “golden” domains form the “Golden Triangle”.

Money: Money has the power to protect SWB through its capacity as a flexible resource to assist homeostasis (Cummins, 2000). Having sufficient money allows people to minimize the unwanted challenges that accompany daily life. Wealthy people pay others to perform tasks they do not wish to do themselves. Because of this, SWB rises, from low income to high income, following an asymptotic curve.

This power of money is particularly evident for people who are disabled. Such people are more likely to encounter discrimination, to be unemployed, and to have ill health and dependence on carers. For these people, therefore, the importance of money to support homeostasis is magnified.

² All versions of the PWI are available from <http://www.acqol.com.au/instruments#measures>.

However, even for people with special needs, more money does not necessarily equate to higher SWB. People who are rich experience rapid adaptation to high living standards, so living in a mansion with servants feels luxurious in the short term, but over time it will just feel “normal”. Moreover, an increase in wealth cannot shift the set-point to create a perpetually happier person. No matter how rich someone becomes, once their level of income has saturated the wealth-dependent buffering capacity of the homeostatic system, additional wealth will not raise SWB further.

Relationships: The second golden domain encompasses interpersonal relationships involving the mutual sharing of intimacies and support. Almost universally, the research literature attests to the power of such relationships to moderate the influence of stressors on SWB (Sarason, Sarason, & Pierce, 1990). While such positive relationships are a natural component of family life, within other living environments they are not so predictable. The residents of share-homes, for example, evidence high heterogeneity in this resource. Yet their satisfaction with social relationships is strongly associated with happiness (Chadsey & Beyer, 2001), self-esteem, and confidence (Srivastava, 2001). This is why, in institutional settings, facilitating meaningful social relationships is a primary task for responsible staff.

Aspects of the living environment can be engineered to facilitate friendship formation and maintenance (see, e.g., Forrester-Jones, 2001). However, the most important facilitating agent is a positive attitude amongst staff towards relationship formation among the people in their care. This is especially crucial for those people with a disability who have limited mobility and difficulty interacting with other people.

The positive power of emotionally intimate relationships is most evident when they are absent. When this homeostatic resource is insufficient for people’s needs they feel lonely and excluded. The dreadful consequence is a high susceptibility to depression.

Achieving in life: The process of active engagement, providing purpose in life, is the third golden domain (Trope, 1986). In their review, McKnight and Kashdan (2009) conceive purpose in life to be “a cognitive process that defines life goals and provides personal meaning” (p. 242). A voluminous literature attests to the fact that when people are deprived of this homeostatic buffer through, for example, losing an active role in their family group or becoming unemployed (Schaffer, 1953), their SWB is severely threatened (Clark, Diener, Georgellis, & Lucas, 2008).

People with a disability are at high risk of failing to secure this buffer, especially if they experience institutional care. When people live in an institution or group home, the simplest and most cost-efficient method of care is for staff to produce routines by conducting all necessary operational procedures. This, however, deprives the residents of the opportunity to contribute to the collective, through which they could gain a sense of purpose and responsibility.

Extracurricular, organized activities, are a weak substitute because they lack self-direction. The result of these institutional practices is to reduce residents' access to this crucial golden domain.

Practical Recommendations

Not all life domains are equal in their capacity to support SWB homeostasis. Three preeminent resources of money, relationship intimacy, and life purpose together form the Golden Triangle. Each of these domains has an especially strong ability to support SWB homeostasis. Unfortunately, adequate levels of these three domains are also the most difficult resources to ensure at the general population level. The difficulty is exacerbated for people with a disability and for families with children.

SWB and Families

An authoritative definition of family quality of life (QOL; Brown & Brown, 2014) includes the statement, “Family quality of life is concerned with the degree to which individuals experience their own quality of life within the family context” (p. 2195). Thus, families can be considered a collection of individuals, each of whom has two sources of influence determining their personal level of SWB. One is the level of their set-point, genetically set, and the other is experience of life, which includes the family environment.

Consider first each family member's set-point. A recent review (Røysamb, Nes, & Vittersø, 2014) concludes that as much as 80% of the stable level of SWB is attributable to genes (p. 19). Thus, since the level of each set-point is under genetic determination, it might be expected that the set-point levels of the parents would be a good predictor of the set-point levels of their children. However, this is not so.

The reason has been explained by Lykken and Csikszentmihalyi (2001) who proposed that happiness is an “emergenic” trait. That is, the relevant genes combine in a configural [differing in the relative arrangement of individual genes] rather than a simple additive fashion. Such emergenic traits, while strongly genetic, do not tend to run in families: “Mom may be holding a full house while Dad has a straight flush, yet when Junior gets a random half of each of their cards, his poker-hand may be a loser. The value of a poker hand, like the strength of an emergenic trait, depends on how the cards fit together; on their configuration rather than on their sum” (p. 470).

As evidence of such diversity, these authors cite data from many dizygotic twin studies (e.g., Lykken & Tellegen, 1996; Nes, Røysamb, Tambs, Harris, & Reichborn-Kjennerud, 2006). But if family members differ markedly from one another in their genetic component of SWB, to what extent does their shared family environment produce a common level of SWB? The answer is that it does so only to a very small extent.

As proposed by Nes (2010), each family member will have a different experience of the shared family environment. Just how different was demonstrated by Casas et al. (2008) who explored the relationship between the SWB of parents and their 12- to 16-year-old children using the PWI. They found only a weakly positive relationship. The authors concluded, as did Røysamb et al. (2014), that shared family factors contribute little to interpersonal resemblance within families.

The above understanding supports the following statements regarding the measurement of family SWB:

1. SWB is a personal feeling. Each family member will have their own level of SWB.
2. The only way of measuring family SWB is to ask individual family members to rate themselves on an age-appropriate scale. This means using an adult scale, such as the PWI (International Wellbeing Group, 2013), an adolescent scale such as the PWI-SC (Cummins & Lau, 2005b), or a simplified version such as the PWI-ID for people with an intellectual or cognitive disability (Cummins & Lau, 2005a).
3. Due to cognitive limitations, it is often not currently possible to validly and reliably measure the SWB of all family members. Excluded are children younger than 12 years (see “Measuring SWB in Children” below) and people who cannot successfully complete the pretesting protocol attached to the PWI-ID due to cognitive limitations. Moreover, the SWB of these persons cannot be validly measured by a proxy adult, such as a parent (see “Proxy Responding” below). These understandings become caveats when considering how to validly measure family QOL.

Scales to Measure Family QOL

There are many scales designed to measure family life quality. The Australian Centre on QOL “Directory of Instruments”³ lists 22 such scales. The two best known are the Family QOL Survey (Brown et al., 2006a; Brown et al., 2006b) and the Beach Center Family QOL Scale (Beach Center, 2015). Both are complex instruments. The former measures well-being within nine domains and across six dimensions, involving various forms of dependent variables. While this scale is not intended to measure SWB it does include domains that are highly relevant to families with a child who has a disability. For example, some of the survey’s domains relate to social well-being and community relations. These are important aspects of family QOL and will be elaborated by other articles in this special issue.

The Beach Center Family QOL Scale is intended for use with families caring for a disabled family member. It comprises 25 items forming 5 subscales: family interaction, emotional well-being, physical/material well-being, parenting, and disability-related support. Items are prefaced by, “For my family to have a good life together --- How satisfied am I that ---

³ See <http://www.acqol.com.au/instruments>.

.”(Summers et al., 2005, p. 780) In other words, one member of the family is providing their own perceptions of the life quality within their family. Several matters are relevant to the interpretation of such data because:

1. The result will reflect the respondent’s personal level of SWB rather than some global evaluative construct applying to the whole family.
2. The scale has not been constructed using theoretical guidance and it is difficult to determine what it is measuring. It includes items evaluating satisfaction with relationships (e.g., “My family enjoys spending time together”); factual statements (e.g., “Family members help the children with schoolwork and activities”); judgements on behalf of others (e.g., “My family members have some time to pursue their own interests”); and statements on behalf of the person with a disability (e.g., “My family member with special needs has support to make friends”). This collation does not represent a measure of SWB.

Practical Recommendations

While neither of these two scales can be considered to provide a valid measure of SWB, both comprise lists of items relevant to family QOL. However, whether they validly represent the construct of family QOL is also uncertain. Neither scale is designed to represent a theoretical definition of family QOL. Rather, family QOL is assumed to be represented by the scale items; an assumption that cannot be tested. Moreover, neither scale contains norms against which data can be interpreted. Thus, while both instruments are useful for between-group comparisons, the interpretation of results in terms of family life quality is restricted to the scale that has been used. Of greater relevance in the context of this paper is the SWB of individual family members.

SWB and Parents

The pattern of SWB levels for parents is well predicted by homeostasis theory. Their major resources are represented by the Golden Triangle domains (money, relationships, and achieving) and the major systematic source of challenge comes from their children. Essentially, children need to effectively use parental resources in order to thrive, just as do the progeny of all mammals. For parents, this means that they need more resources than would a childless couple in order to maintain SWB within their set-point-range. As a result, when the resources are adequate, children have little influence on parental well-being. When resources are inadequate, however, children place the SWB of cohabiting adults at risk.

Figure 1 demonstrates this balance between two of the golden resources (money and partner relationship) and challenges (children). The data are cumulative over 22 surveys (surveys 9 to 30) of the Australian Unity Wellbeing Index, with each survey involving a fresh, geographically representative national sample. These combined results are originally presented in the report of survey 30.0 (Cummins et al., 2013; Table A3.14). The total number of observations within each of the depicted subsamples is: living with partner only, 10,506; partner

and children, 10,219; and living as a sole parent, 2,307. The smallest analytic cell is 62, representing sole parents with incomes in the range \$151,000 to \$250,000.

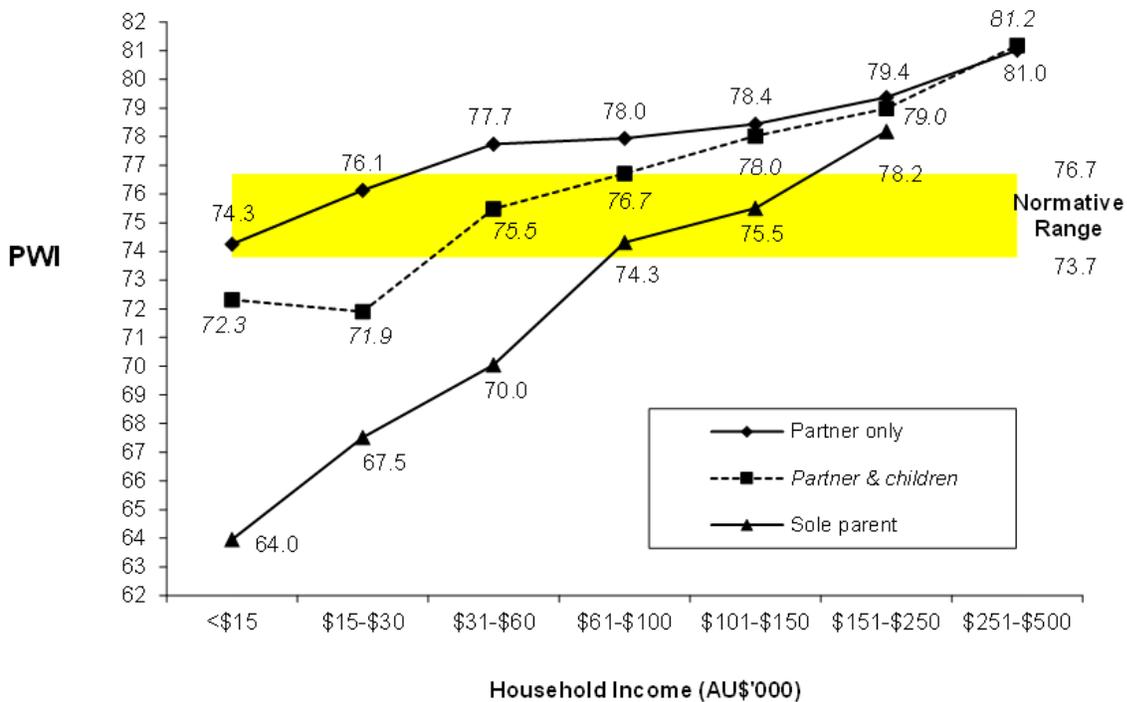


Figure 1. The interaction of income with household composition on the Personal Wellbeing Index.

The horizontal bar in Figure 1 represents the generic normal range for groups. This range is calculated using our 30 survey mean scores as data. This normal range reflects the extent of variability between surveys and represents a 95% probability that any future national survey mean will fall within this range. Thus, any Australian group mean score can be compared against this range to indicate the degree of its normality. The PWI provides the measure of SWB and all results are projected onto a 0- to 100-point scale.

The results from Figure 1 show the power of higher income to lift SWB in all groups. This is consistent with the role of money as a systematic homeostatic resource, as has been described. These results provide the following three insights into resources versus challenges for families:

1. The best option, for normal or above normal levels of SWB, is to live with a partner in the absence of children. Even at an income of less than \$15K their well-being lies in the normal range, and at an income of \$251 to \$500K their well-being has risen by only 6.9 percentage points.

2. Living with children adds a level of challenge to homeostasis. This is most evident when household income is low. At an income of \$15 to \$30K individuals are 4.2 points below the partner-only group and well below the normal range. However, their SWB responds positively to increased income. At \$31 to \$60K they enter the normal range and, at an income of \$101 to \$150K they are statistically indistinguishable from the partner-only group.
3. Both of the above groups contrast markedly with the sole-parent group, where one parent lives with one or more children. Here the partner resource is missing and parents only enter the normal range at \$61 to \$100K. Their SWB remains 1.2 points below the partner-only group even at an income of \$151 to \$250K. This group also demonstrates extreme sensitivity to income, rising 14.2 points over the whole income range.

In summary, both income and a partner are individually powerful resources for family well-being and their combined effect on SWB is additive. Either resource without the other is linked to reduced levels of SWB. The importance of these resources is even more pronounced for informal carers.

SWB and Informal Carers

An informal carer is a person, other than a parent, who provides unpaid support to family members or friends who have a disability or are frail (Carers Australia, 2017). Such care involves assistance with varied aspects of daily life, but most commonly includes physical and personal care. Informal carers are also often responsible for the daily management of medical conditions, and the provision of emotional and financial support. It is evident that the task of caring is a source of challenge in the carer's life, covering some of the same dimensions as the role of parenting. Thus, as in the previous section, the question of whether this caring role threatens SWB homeostasis depends on the balance between the relative strength of such challenges and the available resources. This common context allows the question as to whether this role is more challenging than the role of parent.

In answer, it is evident that carers are far more likely than parents to be deprived of the key golden resources. Taking data from the most recently released (2015) census data in Australia (Australian Bureau of Statistics, 2016), the comparisons are as follows:

Wealth: Whereas 26% of non-carers have a household income in the lowest 40% of the population, this applies to fully half of primary carers (carers with primary responsibility for the person in care). Moreover, a majority of carers depend for their income on a government pension or allowance.

Relationships: The provision of care to a dependent person in the home will often restrict the maintenance of other personal relationships outside the home. Such restrictions may well be more severe when caring for an adult than for a child. In general, children can more easily

accompany a parent on visits to friends or shopping centres than can an infirm adult. The census data also show that the more hours of care provided each week, the lower is the likelihood that the carer will be involved in activities outside the home.

Achieving: When the carers were asked the reason for taking on the caring role, the primary carers nominated: a sense of family responsibility (66.9%), a feeling they could provide better care than anybody else (50.3%), and a feeling of emotional obligation (44.2%). Thus a majority were performing the role as a duty. While most of these carers would certainly feel a sense of purpose and achievement in their role, it is also unlikely that they would find this as fulfilling as an activity that was freely chosen, such as parenthood or employment.

Employment is especially relevant in this context since it is commonly a source of all three golden resources. It provides money, a ready source of friends, and a sense of achievement. It is thus highly relevant to note that the labour force participation rate for primary carers is around 50%, compared to 80% for non-carers.

From this sobering set of statistics, it is predictable that these people have an increased likelihood of experiencing homeostatic failure, and this has been confirmed by many studies. As a recent example, Hammond, Weinberg, and Cummins (2014) reported a study of over 4,000 informal carers, conducted in 2007 (Cummins et al., 2007) in collaboration with Carers Australia. Using the PWI, the group as a whole had the lowest mean level of SWB we have recorded (58.5 points, as against a normal range for the population of 73 to 76 points). As confirmation of the link between low SWB and depression, the median SWB of the carers corresponded to being moderately depressed, using the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995). In short, SWB homeostasis for carers has very commonly failed due to inadequate support in terms of money, relationships, and personal achievement.

Practical Recommendations

It is evident that informal carers require more key resources in order to experience a normal level of life quality. The National Disability Insurance Scheme (NDIS; Australian Government, 2013), certainly one of the most important social reforms in recent Australian history, was established to address this problem. The NDIS creates a uniform system of disability services across Australia “based on individual aspiration and choice” (National Disability Insurance Scheme, 2015, p. 2). It is jointly funded by the federal government and the states and territories through a national levy (0.5% of income), introduced in 2014 (Madden, 2015). Funds provided may be managed by the participant, the NDIS, a registered plan management provider, or a nominee of the participant. Supports are provided by registered providers in a competitive market. The philosophical approach is to facilitate a person’s inclusion in society, rather than focusing on their disability (NDIS, p. 28).

An evaluation of the effectiveness of the NDIS (Mavromaras, Moskos, Mahuteau, & Isherwood, 2018), conducted within the five states and territories initially targeted for the trial,

has reported generally positive outcomes. In June 2018, Western Australia became the final state to join the NDIS (Buckmaster & Clark, 2018).

Crucially for the current discussion, the scheme targets the Golden Triangle domains, as Buckmaster (2017) explained:

Money: The NDIS is an uncapped (demand-driven) scheme, providing individualized packages of support. The participants meet with the NDIS to identify a set of supports agreed as “reasonable and necessary” to meet their goals. Clearly, this will remove much of the family’s financial burden.

Relationships: The scheme supports independence and social and economic participation. This includes the maintenance of informal supports, such as from family and friends, and access to community services, such as sports clubs and libraries.

Achieving: Crucially, the scheme puts the person with the disability in control. Under the objects and principles of the NDIS Act, participants are entitled to exercise “choice and control in the pursuit of their goals and the planning and delivery of their supports”.

In summary, there is every reason to expect that once the NDIS scheme is fully operational the national level of SWB for carers will rise from the dismal levels noted above.

SWB and Adolescents

A major concern with SWB measurement during adolescence is whether respondents have the cognitive capacity to provide valid and reliable self-report data. The issue of reliability can be answered easily through an examination of data intercorrelations within samples and longitudinally over time. The more difficult issue to address is validity, most particularly construct validity. Most crucially, does the scale that is used to measure SWB yield data consistent with a nomological net (Liu, Li, & Zhu, 2012); that is, what is the degree to which a construct behaves as it should within a system of related constructs, together forming a theory (Cronbach & Meehl, 1955). Additionally, do the grouped data validly measure SWB or some other construct (Adler & Seligman, 2016)?

To our knowledge there is only one scale that meets these specifications, and that is the Personal Wellbeing Index – School Children (Cummins & Lau, 2005b). The nomological net is formed within the theory of SWB homeostasis (Cummins, 2017). Studies using adult data derived from the PWI (International Wellbeing Group, 2013) have shown that measured SWB is dominated by HPMood in both adults (e.g., Davern et al., 2007) and adolescents (Tomyn & Cummins, 2011a). Additionally, as has been explained, HPMood is the essence of SWB set-points (e.g., Capic et al., 2017). Finally, and crucially, the adult and adolescent versions of the PWI show measurement invariance (Tomyn, Fuller-Tyszkiewicz, Cummins, & Norrish, 2017).

A further test of adolescent data validity is whether results conform to the adult normal range. If, as proposed, this range is primarily determined through the distribution of HPMood set-points, then the distribution should not differ between adults and adolescents because the determination of each set-point is under genetic control. This similarity has been confirmed for adolescents in, for example, Spain (mean 14.1 years, 79.1 points; Casas et al., 2008) and Australia (mean 15.7 years, 74.7 points; Tomy & Cummins, 2011a). These are reasonable approximations to the normative adult range for grouped data (74 to 77 points).

However, while the adolescent range is adult-normal on average, SWB levels fall as adolescents grow older (Casas et al., 2011; Casas et al., 2007; Tomy & Cummins, 2011b). At the same time, the incidence of general mental health problems rises (Keyes, 2006). Most notable is the rising incidence of depressed mood (e.g., Greenberger & Chen, 1996), which occurs more often during adolescence than at any other time of life (Steinberg, 1993).

Many coincident factors are responsible for this mental turmoil. They include the biological changes of puberty, moving from primary to secondary schools with increasing schoolwork pressures, concerns about belonging and conforming to peer pressure, changing familial relationships, and the uncertainty of earning a living (Steinberg, 1993). It is notable that these areas of increasing challenge concentrate on the three golden domains, causing homeostatic maintenance to be under mounting pressure. So the decreasing SWB seen during adolescence seems understandable and the consequences predictable. These include lower satisfaction with school (e.g., Baker, 1999; Huebner, Gilman, & Laughlin, 1999; Jin & Moon, 2006) and associated difficulties in scholastic achievement and social development. It also seems likely that these trends will be magnified for adolescents with a disability.

SWB and Children

And what of younger family members? The age at which researchers consider children to transition into adolescence varies quite widely with era and culture, spanning at least the ages of 10 years (e.g., Kasser et al., 2014) to 13 years (e.g., Casas, Baltatescu, Bertran, González, & Hatos, 2009). The most common is 12 years and that will be adopted for the discussion to follow.

Do the same discovered properties of SWB homeostasis apply to children? Certainly it is expected that the set-points of newborn children are at the adult level. However, several of the conscious homeostatic processes in children will be limited by cognitive immaturity. These include the internal homeostatic buffers of secondary control (Rothbaum, Weisz, & Snyder, 1982), which only gradually become available to children as they transition from early school age to adolescence (Altshuler & Ruble, 1989; Band, 1990; Marriage & Cummins, 2004). Thus, it would not be expected that homeostatic control would reach full strength until at least adolescence.

A similar maturational issue is raised by the measurement of SWB itself. The questions used for this purpose are quite abstract (see PWI; International Wellbeing Group, 2013) and so clearly are not understandable by young children who are thinking in concrete terms. One way to counter this is to make the measurement scale questions more concrete, with a simpler response format.

Measuring SWB in Children

The Australian Centre on Quality of Life (2017) lists over 100 self-report instruments designed to measure the well-being of adolescents and children. Some of these are designed to measure SWB and, for adolescents aged 12 and older, such scales are generally age-appropriate. However, one of these, the PWI-SC (Cummins & Lau, 2005b), includes the important caveat that responses by children under the age of 12 may be unreliable. This caution should be applied generally for this younger age-group.

The reason for this age limitation is that SWB comprises mainly the positive-activated mood of HPMood. Moreover, the SWB questions, devised to gauge this mood, have the character of being semi-abstract items that pertain to the self. The archetypal item is GLS (“How satisfied are you with your life as a whole?”), which is clearly beyond the comprehension of young children. Moreover, if the question is simplified to make it more concrete (e.g., “How happy are you with your toys?”), the response will reflect the target of the question (toys) rather than HPMood. Thus, making questions more concrete means that the answers only weakly reflect SWB.

An explanation of this age barrier lies within developmental psychology. Children under the age of 12 are considered to be at the concrete operational stage, with reasoning limited to concrete examples rather than abstract or hypothetical concepts (López-Pérez, Sánchez, & Gummerum, 2016). Beyond this age, in adolescence, they enter the formal operational stage (Piaget, 1952) and can reason about abstract concepts without needing concrete examples. How, then, might this maturational barrier be overcome to enable the valid measurement of SWB in younger children?

The common solution is to ask parents to provide proxy responses on behalf of their child, such as through the use of a child diary, kept by the parent, that records daily child mood (Lämsä, Rönkä, Poikonen, & Malinen, 2012). Unfortunately, such devices are invalid measures of SWB.

Proxy Responding

Proxy responding, or providing answers for another person, may well be reliable when the information sought is objective (e.g., “How often does Trixy get out of the house with her friends?”). However, both reliability and validity plummet when the information sought is subjective. This has been systematically documented in relation to both children and adolescents; several reviews have concluded that proxies cannot be reliably substituted for self-reports either

in relation to behavioral/emotional problems (Achenbach, McConaughy, & Howell, 1987) or the feelings experienced by children with disabilities (Yuker, 1988).

A review of proxy responding by the present author (Cummins, 2002) is more wide-ranging. It examines data covering many different situations where proxy responses have been used. Across all situations, no evidence was found supporting proxy responding as a valid technique. Several reasons for this were advanced, including the obvious fact that the proxy has no direct access to the required information and so must rely on indirect cues and personal knowledge about the target person, all of which are inherently unreliable for such a purpose. Further, systematic personal biases in relation to the person being rated distorts proxy estimates. It is concluded that the process of proxy responding in relation to SWB is inherently flawed and should not be used.

Practical Recommendations

While a large number of scales claim to measure the subjective life quality of children under the age of 12, their reliability and validity for this age group have not been adequately demonstrated. This is due to the cognitive limitations imposed by concrete operational processing. In addition, estimating levels of SWB from proxy responses is invalid. In summary, it is not currently known how to scientifically measure the SWB of children under the age of 12.

Conclusion

The SWB of adults with normal-range cognitive abilities can be measured with great assurance using the PWI-Adult (International Wellbeing Group, 2013). Moreover, the SWB of adolescents can be measured with the PWI-SC, a factorially-invariant version of the adult scale (Cummins & Lau, 2005b), and the PWI-ID (Cummins & Lau, 2005a) appears valid for people with an intellectual or cognitive disability. However, all of these scales are for use with individuals. Family members may well differ markedly in their level of SWB. It is therefore recommended that family levels of SWB are reported and processed at the level of individual family members.

References

- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin*, *101*(2), 213–232. [doi:10.1037/0033-2909.101.2.213](https://doi.org/10.1037/0033-2909.101.2.213)
- Adler, A., & Seligman, M. E. P. (2016). Using wellbeing for public policy: Theory, measurement, and recommendations. *International Journal of Wellbeing*, *6*(1), 1–35. [doi:10.5502/ijw.v6i1.429](https://doi.org/10.5502/ijw.v6i1.429)
- Altshuler, J. L., & Ruble, D. N. (1989). Developmental changes in children's awareness of strategies for coping with uncontrollable stress. *Child Development*, *60*, 1337–1349. [doi:10.2307/1130925](https://doi.org/10.2307/1130925)
- Andrews, F. M., & Withey, S. B. (1976). *Social indicators of well-being: American's perceptions of life quality*. New York, NY: Plenum Press.
- Anglim, J., Weinberg, M. K., & Cummins, R. A. (2015). Bayesian hierarchical modeling of the temporal dynamics of subjective well-being: A 10 year longitudinal analysis. *Journal of Research in Personality*, *59*(3), 1–14. [doi:10.1016/j.jrp.2015.08.003](https://doi.org/10.1016/j.jrp.2015.08.003)
- Australian Bureau of Statistics. (2016). *Survey of Disability, Ageing and Carers, Australia: Summary of findings 2015*. Canberra, Australia: Author. Retrieved from <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4430.0?OpenDocument>
- Australian Centre on Quality of Life. (2017). *Instruments to measure quality of life*. Retrieved from <http://www.acqol.com.au/instruments#measures>
- Australian Government. (2013). *National Disability Insurance Scheme Act 2013*. Canberra, Australia: Author.
- Baker, J. A. (1999). Teacher-student interaction in urban at-risk classrooms: Differential behaviour, relationship quality, and student satisfaction with school. *The Elementary School Journal*, *100*(1), 57–70. [doi:10.1086/461943](https://doi.org/10.1086/461943)
- Band, E. B. (1990). Children's coping with diabetes: Understanding the role of cognitive development. *Journal of Paediatric Psychology*, *15*(1), 27–41. [doi:10.1093/jpepsy/15.1.27](https://doi.org/10.1093/jpepsy/15.1.27)
- Beach Center. (2015). *Beach Center Family Quality of Life Scale: Psychometric characteristics and scoring key*. Lawrence, KS: University of Kansas. Retrieved from [http://www.beachcenter.org/sites/default/files/inline-files/Family Quality of Life Psychometric Characteristics and Scoring Key.pdf](http://www.beachcenter.org/sites/default/files/inline-files/Family%20Quality%20of%20Life%20Psychometric%20Characteristics%20and%20Scoring%20Key.pdf)

- Blore, J. D., Stokes, M. A., Mellor, D., Firth, L., & Cummins, R. A. (2011). Comparing multiple discrepancies theory to affective models of subjective wellbeing. *Social Indicators Research, 100*(1), 1–16. [doi:10.1007/s11205-010-9599-2](https://doi.org/10.1007/s11205-010-9599-2)
- Brown, I. (1999). Embracing quality of life in times of spending restraint. *Journal of Intellectual and Developmental Disability, 24*(4), 299–308. [doi:10.1080/13668259900034061](https://doi.org/10.1080/13668259900034061)
- Brown, I., Brown, R. I., Baum, N. T., Isaacs, B. J., Myerscough, T., Neikrug, S., ... Wang, M. (2006a). *Family Quality of Life Survey: Main caregivers of people with intellectual or developmental disabilities*. Toronto, ON: Surrey Place Centre.
- Brown, I., Brown, R. I., Baum, N. T., Isaacs, B. J., Myerscough, T., Neikrug, S., ... Wang, M. (2006b). *Family Quality of Life Survey: General version*. Toronto, ON: Surrey Place Centre.
- Brown, R. I., & Brown, I. (2014). Family Quality of Life. In A. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 2194–2201). Dordrecht, Netherlands: Springer.
- Buckmaster, L. (2017). *The National Disability Insurance Scheme: A quick guide – March 2017 update*. Canberra, Australia: Parliamentary Library. Retrieved from <http://apo.org.au/node/74201>
- Buckmaster, L., & Clark, S. (2018). *The National Disability Insurance Scheme: A chronology*. Canberra, Australia: Parliamentary Library. Retrieved from <http://apo.org.au/system/files/182336/apo-nid182336-960201.pdf>
- Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life: Perceptions, evaluations, and satisfactions*. New York, NY: Russell Sage Foundation.
- Cannon, W. B. (1932). *The wisdom of the body*. New York, NY: Norton.
- Capic, T., Li, N., & Cummins, R. A. (2017). Confirmation of subjective wellbeing set-points: Foundational for subjective social indicators. *Social Indicators Research, 137*, 1–28. [doi:10.1007/s11205-017-1585-5](https://doi.org/10.1007/s11205-017-1585-5)
- Capic, T., Li, N., & Cummins, R. A. (2018). Confirmation of subjective wellbeing set-points: Foundational for subjective social indicators. *Social Indicators Research, 137*(1), 1–28. [doi:10.1007/s11205-017-1585-5](https://doi.org/10.1007/s11205-017-1585-5)
- Carers Australia. (2017). *Statistics*. Retrieved from <http://www.carersaustralia.com.au/about-carers/statistics/>

- Casas, F., Baltatescu, S., Bertran, I., González, M., & Hatos, A. (2009, July). *Similarities and differences in the PWI of Romanian and Spanish adolescents aged 13-16 years-old*. Paper presented at the IX , International Society for Quality of Life Studies conference, Florence, Italy.
- Casas, F., Castellá Sarriera, J., Abs, D., Coenders , G., Alfaro, J., Saforcada, E., & Tonon, G. (2011). Subjective indicators of personal well-being among adolescents. Performance and results for different scales in Latin-language speaking countries: A contribution to the international debate. *Child Indicators Research*, 5, 1–28. [doi:10.1007/s12187-011-9119-1](https://doi.org/10.1007/s12187-011-9119-1)
- Casas, F., Coenders, G., Cummins, R. A., González, M., Figuer, C., & Malo, S. (2008). Does subjective well-being show a relationship between parents and their children? *Journal of Happiness Studies*, 9, 197–205. [doi:10.1007/s10902-007-9044-7](https://doi.org/10.1007/s10902-007-9044-7)
- Casas, F., Figuer, C., González, M., Malo, S., Alsinet, C., & Subarroca, S. (2007). The well-being of 12- to 16-year-old adolescents and their parents: Results from 1999 to 2003 Spanish samples. *Social Indicators Research*, 83(1), 87–115. [doi:10.1007/s11205-006-9059-1](https://doi.org/10.1007/s11205-006-9059-1)
- Casas, F., González, M., Figuer, C., & Malo, S. (2009). Satisfaction with spirituality, satisfaction with religion and personal well-being among Spanish adolescents and young university students. *Applied Research in Quality of Life*, 4, 23–45. [doi:10.1007/s11482-009-9066-x](https://doi.org/10.1007/s11482-009-9066-x)
- Chadsey, J., & Beyer, S. (2001). Social relationships in the workplace. *Mental Retardation and Developmental Disabilities Research Reviews*, 7, 128–133. [doi:10.1002/mrdd.1018](https://doi.org/10.1002/mrdd.1018)
- Chen, Z., & Davey, G. (2008). Normative life satisfaction in Chinese societies. *Social Indicators Research*, 89(3), 557–564. [doi:10.1007/s11205-008-9250-7](https://doi.org/10.1007/s11205-008-9250-7)
- Clark, A. E., Diener, E., Georgellis, Y., & Lucas, R. E. (2008). Lags and leads in life satisfaction: A test of the baseline hypothesis. *Economic Journal*, 118, F222–F243. [doi:10.1111/j.1468-0297.2008.02150.x](https://doi.org/10.1111/j.1468-0297.2008.02150.x)
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52(4), 281–302. [doi:10.1037/h0040957](https://doi.org/10.1037/h0040957)
- Cummins, R. A. (1995). On the trail of the gold standard for life satisfaction. *Social Indicators Research*, 35(2), 179–200. [doi:10.1007/BF01079026](https://doi.org/10.1007/BF01079026)
- Cummins, R. A. (1996). The domains of life satisfaction: An attempt to order chaos. *Social Indicators Research*, 38, 303–332. [doi:10.1007/BF00292050](https://doi.org/10.1007/BF00292050)
- Cummins, R. A. (Ed.). (1998a). *Quality of life definition and terminology: A discussion document*. Blackburg, VA: International Society for Quality-of-Life Studies. <http://www.isqols.org/resource-overview/qol-happiness-well-being-related-articles/>

- Cummins, R. A. (1998b). The second approximation to an international standard of life satisfaction. *Social Indicators Research*, 43(3), 307–334. [doi:10.1023/A:1006831107052](https://doi.org/10.1023/A:1006831107052)
- Cummins, R. A. (2000). Personal income and subjective well-being: A review. *Journal of Happiness Studies*, 1(2), 133–158. [doi:10.1023/A:1010079728426](https://doi.org/10.1023/A:1010079728426)
- Cummins, R. A. (2002). Proxy responding for subjective well-being: A review. *International Review of Research in Mental Retardation*, 25, 183–207. [doi:10.1016/S0074-7750\(02\)80009-X](https://doi.org/10.1016/S0074-7750(02)80009-X)
- Cummins, R. A. (2010). Subjective wellbeing, homeostatically protected mood and depression: A synthesis. *Journal of Happiness Studies*, 11, 1–17. [doi:10.1007/s10902-009-9167-0](https://doi.org/10.1007/s10902-009-9167-0)
- Cummins, R. A. (2013). Cultural response bias. In K. D. Keith (Ed.), *Encyclopedia of Cross-Cultural Psychology* (pp. 1–4). New York, NY: Wiley-Blackwell. [doi:10.1002/9781118339893.wbeccp604](https://doi.org/10.1002/9781118339893.wbeccp604)
- Cummins, R. A. (2016). The theory of subjective wellbeing homeostasis: A contribution to understanding life quality. In F. Maggino (Ed.), *A life devoted to quality of life - Festschrift in honor of Alex C. Michalos* (Vol. 60, pp. 61–79). Dordrecht, Netherlands: Springer.
- Cummins, R. A. (2017). Subjective wellbeing homeostasis. In D. S. Dunn (Ed.), *Oxford bibliographies in psychology*. [doi:10.1093/OBO/9780199828340-0167](https://doi.org/10.1093/OBO/9780199828340-0167)
- Cummins, R. A., Hughes, J., Tomy, A., Gibson, A., Woerner, J., & Lai, L. (2007). *Australian Unity Wellbeing Index: Report 17.1 The wellbeing of Australians - Carer health and wellbeing*. Geelong, Australia: Deakin University. Retrieved from <http://dro.deakin.edu.au/view/DU:30010534>
- Cummins, R. A., & Lau, A. L. D. (2005a). Personal Wellbeing Index — Intellectual disability [Manual] (3rd ed.). Melbourne, Australia: Australian Centre on Quality of Life, School of Psychology, Deakin University. Retrieved from <http://www.acqol.com.au/uploads/pwi-id/pwi-id-english.pdf>
- Cummins, R. A., & Lau, A. L. D. (2005b). Personal Wellbeing Index — School children [Manual] (3rd ed.). Melbourne, Australia: Australian Centre on Quality of Life, School of Psychology, Deakin University. Retrieved from <http://www.acqol.com.au/uploads/pwi-sc/pwi-sc-english.pdf>
- Cummins, R. A., Lau, A. L. D., Davey, G., & McGillivray, J. (2010). Measuring subjective wellbeing: The Personal Wellbeing Index - Intellectual Disability. In R. Kober (Ed.), *Enhancing the quality of life of people with intellectual disability: From theory to practice* (pp. 33–46). New York, NY: Springer.

- Cummins, R. A., Li, L., Wooden, M., & Stokes, M. (2014). A demonstration of set-points for subjective wellbeing. *Journal of Happiness Studies*, 15, 183–206. [doi:10.1007/s10902-013-9444-9](https://doi.org/10.1007/s10902-013-9444-9)
- Cummins, R. A., McCabe, M. P., Romeo, Y., Reid, S., & Waters, L. (1997). An initial evaluation of the Comprehensive Quality of Life Scale - Intellectual Disability. *International Journal of Disability, Development and Education*, 44, 7–19. [doi:10.1080/0156655970440102](https://doi.org/10.1080/0156655970440102)
- Cummins, R. A., & Weinberg, M. K. (2015). Multi-item measurement of subjective wellbeing: Subjective approaches. In W. Glatzer, L. Camfield, V. Møller, & M. Rojas (Eds.), *Global handbook of quality of life: Exploration of well-being of nations and continents* (pp. 239–268). Dordrecht, Netherlands: Springer.
- Cummins, R. A., Woerner, J., Weinberg, M., Collard, J., Hartley-Clark, L., & Horfaniak, K. (2013). *Australian Unity Wellbeing Index survey 30.0: The wellbeing of Australians – Social media, personal achievement, and work* [Report]. Melbourne, Australia: Australian Centre on Quality of Life, School of Psychology, Deakin University. Retrieved from <http://dro.deakin.edu.au/view/DU:30065382>
- Davern, M., Cummins, R. A., & Stokes, M. (2007). Subjective wellbeing as an affective-cognitive construct. *Journal of Happiness Studies*, 8(4), 429–449. [doi:10.1007/s10902-007-9066-1](https://doi.org/10.1007/s10902-007-9066-1)
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542–575.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49, 71–75. [doi:10.1207/s15327752jpa4901_13](https://doi.org/10.1207/s15327752jpa4901_13)
- Forrester-Jones, R. (2001). Friendships and social integration through leisure. *Tizard Learning Disability Review*, 6(4), 28–32. [doi:10.1108/13595474200100036](https://doi.org/10.1108/13595474200100036)
- Greenberger, E., & Chen, C. (1996). Perceived family relationships and depressed mood in early and late adolescence: A comparison of European and Asian Americans. *Developmental Psychology*, 32, 707–716. [doi:10.1037/0012-1649.32.4.707](https://doi.org/10.1037/0012-1649.32.4.707)
- Hammond, T., Weinberg, M. K., & Cummins, R. A. (2014). The dyadic interaction of relationships and disability type on informal carer subjective well-being. *Quality of Life Research*, 23(5), 1535–1542. [doi:10.1007/s11136-013-0577-4](https://doi.org/10.1007/s11136-013-0577-4)
- Hartmann, G. W. (1934). Personality traits associated with variations in happiness. *Journal of Abnormal and Social Psychology*, 29, 202–212.
- Helson, H. (1964). *Adaptation-level theory: An experimental and systematic approach to behavior*. New York, NY: Harper and Row.

- Huebner, E. S., Gilman, R., & Laughlin, J. E. (1999). A multimethod investigation of the multidimensionality of children's wellbeing reports: Discriminant validity of life satisfaction and self-esteem. *Social Indicators Research*, 46(1), 1–22. [doi:10.1023/A:1006821510832](https://doi.org/10.1023/A:1006821510832)
- International Wellbeing Group. (2013). *Personal Wellbeing Index* [Manual] (5th ed.). Retrieved from <http://www.acqol.com.au/instruments#measures>
- Jin, S.-U., & Moon, S. M. (2006). A study of wellbeing and school satisfaction among academically talented students attending a science high school in Korea. *Gifted Child Quarterly*, 50(2), 169–184. [doi:10.1177/001698620605000207](https://doi.org/10.1177/001698620605000207)
- Jones, L. V., & Thurstone, L. L. (1955). The psychophysics of semantics: An experimental investigation. *The Journal of Applied Psychology*, 39(1), 31–36. [doi:10.1037/h0042184](https://doi.org/10.1037/h0042184)
- Kasser, T., Rosenblum, K. L., Sameroff, A. J., Deci, E. L., Niemiec, C. P., Ryan, R. M., ... Hawks, S. (2014). Changes in materialism, changes in psychological well-being: Evidence from three longitudinal studies and an intervention experiment. *Motivation and Emotion*, 38(1), 1–22. [doi:10.1007/s11031-013-9371-4](https://doi.org/10.1007/s11031-013-9371-4)
- Kee, Y., Lee, S. J., & Kim, Y. (2017). Connecting social indicators and public policy: A review of community wellbeing models and measurements. *Social Indicators Network News* (130, February), 1–5.
- Keyes, C. L. M. (2006). Mental health in adolescence: Is America's youth flourishing? *The American Journal of Orthopsychiatry*, 76, 395–402. [doi:10.1037/0002-9432.76.3.395](https://doi.org/10.1037/0002-9432.76.3.395)
- Kozma, A., Stone, S., & Stones, M. J. (2000). Stability in components and predictors of subjective well-being (SWB): Implications for SWB structure. In E. Diener & D. R. Rahtz (Eds.), *Advances in quality of life: Theory and research* (pp. 13–30). London, Great Britain: Kluwer Academic Publishers.
- Lai, L. C. H., Cummins, R. A., & Lau, A. L. D. (2013). Cross-cultural difference in subjective wellbeing: Cultural response bias as an explanation. *Social Indicators Research*, 114(2), 607–619. [doi:10.1007/s11205-012-0164-z](https://doi.org/10.1007/s11205-012-0164-z)
- Lämsä, T., Rönkä, A., Poikonen, P.-L., & Malinen, K. (2012). The child diary as a research tool. *Early Child Development and Care*, 182(3-4), 469–486. [doi:10.1080/03004430.2011.646725](https://doi.org/10.1080/03004430.2011.646725)
- Lau, A. L. D., Cummins, R. A., & McPherson, W. (2005). An investigation into the cross-cultural equivalence of the Personal Wellbeing Index. *Social Indicators Research*, 72, 403–430. [doi:10.1007/s11205-004-0561-z](https://doi.org/10.1007/s11205-004-0561-z)

- Liu, L., Li, C., & Zhu, D. (2012). A new approach to testing nomological validity and its application to a second-order measurement model of trust. *Journal of the Association for Information Systems*, 13(12), 950–975. [doi:10.17705/1jais.00320](https://doi.org/10.17705/1jais.00320)
- Longo, Y. (2015). The simple structure of positive affect. *Social Indicators Research*, 124(1), 183–198. [doi:10.1007/s11205-014-0776-6](https://doi.org/10.1007/s11205-014-0776-6)
- López-Pérez, B., Sánchez, J., & Gummerum, M. (2016). Children's and adolescents' conceptions of happiness. *Journal of Happiness Studies*, 17(6), 2431–2455. [doi:10.1007/s10902-015-9701-1](https://doi.org/10.1007/s10902-015-9701-1)
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales*. Sydney, Australia: Psychology Foundation.
- Lykken, D. T., & Csikszentmihalyi, M. (2001). Happiness – Stuck with what you've got? *The Psychologist*, 14(9), 470–472.
- Lykken, D. T., & Tellegen, A. (1996). Happiness is a stochastic phenomenon. *Psychological Science*, 7(3), 186–189. [doi:10.1111/j.1467-9280.1996.tb00355.x](https://doi.org/10.1111/j.1467-9280.1996.tb00355.x)
- Madden, R. (2015). *National Disability Insurance Scheme: Commonwealth financial arrangements up to 2019-20*. Sydney, Australia: Centre for Disability Research and Policy, University of Sydney.
- Marriage, K., & Cummins, R. A. (2004). Subjective quality of life and self-esteem in children: The role of primary and secondary control in coping with everyday stress. *Social Indicators Research*, 66, 107–122. [doi:10.1007/978-1-4020-2312-5_6](https://doi.org/10.1007/978-1-4020-2312-5_6)
- Mavromaras, K., Moskos, M., Mahuteau, S., & Isherwood, L. (2018). *Evaluation of the NDIS: Final report*. Adelaide, Australia: National Institute of Labour Studies, Flinders University.
- McEwen, B. S., & Wingfield, J. C. (2003). The concept of allostasis in biology and biomedicine. *Hormones and Behavior*, 43(1), 2–15. [doi:10.1016/S0018-506X\(02\)00024-7](https://doi.org/10.1016/S0018-506X(02)00024-7)
- McKnight, P. E., & Kashdan, T. B. (2009). Purpose in life as a system that creates and sustains health and well-being: An integrative, testable theory. *Review of General Psychology*, 13(3), 242–251. [doi:10.1037/a0017152](https://doi.org/10.1037/a0017152)
- Meile, R. L., & Haese, P. N. (1969). Social status, status incongruence and symptoms of stress. *Journal of Health and Social Behavior*, 10, 237–244. [doi:10.2307/2948394](https://doi.org/10.2307/2948394)
- Merriam-Webster. (2017). Online dictionary. Retrieved from <http://www.merriam-webster.com/dictionary/family/dictionary/family>

- National Disability Insurance Scheme. (2015). *Joint Standing Committee: Second Progress report on the implementation and administration of the NDIS*. Canberra, Australia: Parliament House.
- Nes, R. B. (2010). Happiness in behaviour genetics: Findings and implications. *Journal of Happiness Studies*, 11(3), 369–381. [doi:10.1007/s10902-009-9145-6](https://doi.org/10.1007/s10902-009-9145-6)
- Nes, R. B., Røysamb, E., Tambs, K., Harris, J., & Reichborn-Kjennerud, T. (2006). Subjective well-being: genetic and environmental contributions to stability and change. *Psychological Medicine*, 36(07), 1033–1042. [doi:10.1017/S0033291706007409](https://doi.org/10.1017/S0033291706007409)
- Piaget, J. P. (1952). *The origins of intelligence in children*. New York, NY: International Universities Press.
- Renn, D., Pfaffenberger, N., Platter, M., Mitmansgruber, H., Höfer, S., & Cummins, R. A. (2009). International Well-being Index: the Austrian version. *Social Indicators Research*, 90, 243–256. [doi:10.1007/s11205-008-9255-2](https://doi.org/10.1007/s11205-008-9255-2)
- Richardson, B., Fuller-Tyszkiewicz, M. D., Tomy, A. J., & Cummins, R. A. (2015). The psychometric equivalence of the Personal Wellbeing Index for normally functioning and homeostatically defeated Australian adults. *Journal of Happiness Studies*, 17(2), 627–641. [doi:10.1007/s10902-015-9613-0](https://doi.org/10.1007/s10902-015-9613-0)
- Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology*, 42(1), 5–37. [doi:10.1037/0022-3514.42.1.5](https://doi.org/10.1037/0022-3514.42.1.5)
- Røysamb, E., Nes, R. B., & Vittersø, J. (2014). Well-Being: Heritable and changeable. In K. M. Sheldon & R. E. Lucas (Eds.), *Stability of happiness: Theories and evidence on whether happiness can change* (pp. 9–36). Cambridge, MA: Elsevier.
- Sarason, I. G., Sarason, B. R., & Pierce, G. R. (1990). Social support: The search for theory. *Journal of Social and Clinical Psychology*, 9(1), 133–147. [doi:10.1521/jscp.1990.9.1.133](https://doi.org/10.1521/jscp.1990.9.1.133)
- Schaffer, R. H. (1953). Job satisfaction as related to need satisfaction in work. *Psychological Monographs*, 67, #14. [doi:10.1037/h0093658](https://doi.org/10.1037/h0093658)
- Schalock, R. L. (1997). The conceptualization and measurement of quality of life: Current status and future considerations. *Journal on Developmental Disabilities*, 5(2), 1–21.
- Schalock, R. L., Brown, I., Brown, R., Cummins, R. A., Felce, D., Matikka, L., ... Parmenter, T. (2002). The conceptualisation, measurement, and application of quality of life: Report of an international panel of experts. *Mental Retardation*, 40, 457–470. [doi:10.1352/0047-6765\(2002\)040<0457:CMAAOQ>2.0.CO;2](https://doi.org/10.1352/0047-6765(2002)040<0457:CMAAOQ>2.0.CO;2)

- Srivastava, A. K. (2001). Developing friendships and social integration through leisure for people with moderate, severe and profound ID transferred from hospital to community care. *Tizard Learning Disability Review*, 6, 19–27.
- Steinberg, L. (1993). *Adolescence*. New York, NY: McGraw Hill.
- Summers, J. A., Poston, D. J., Turnbull, A. P., Marquis, J., Hoffman, L., Mannan, H., & Wang, M. (2005). Conceptualizing and measuring family quality of life. *Journal of Intellectual Disability Research*, 49(10), 777–783. [doi:10.1111/j.1365-2788.2005.00751.x](https://doi.org/10.1111/j.1365-2788.2005.00751.x)
- Tellegen, A., Lykken, D. T., Bouchard, T. J., Wilcox, K. J., Segal, N. L., & Rich, S. (1988). Personality similarity in twins reared apart and together. *Journal of Personality and Social Psychology*, 54, 1031–1039. [doi:10.1037/0022-3514.54.6.1031](https://doi.org/10.1037/0022-3514.54.6.1031)
- Tomyn, A. J., & Cummins, R. A. (2011a). Subjective wellbeing and homeostatically protected mood: Theory validation with adolescents. *Journal of Happiness Studies*, 12(5), 897–914. [doi:10.1007/s10902-010-9235-5](https://doi.org/10.1007/s10902-010-9235-5)
- Tomyn, A. J., & Cummins, R. A. (2011b). The subjective wellbeing of high-school students: Validating the Personal Wellbeing Index—School Children. *Social Indicators Research*, 101, 405–418. [doi:10.1007/s11205-010-9668-6](https://doi.org/10.1007/s11205-010-9668-6)
- Tomyn, A. J., Fuller-Tyszkiewicz, M. D., Cummins, R. A., & Norrish, J. M. (2017). The validity of subjective wellbeing measurement for children: Evidence using the Personal Wellbeing Index—School Children. *Journal of Happiness Studies*, 18(6), 1859–1875. [doi:10.1007/s10902-016-9804-3](https://doi.org/10.1007/s10902-016-9804-3)
- Tomyn, A. J., Weinberg, M. K., & Cummins, R. A. (2015). Intervention efficacy among ‘at risk’ adolescents: A test of Subjective Wellbeing Homeostasis Theory. *Social Indicators Research*, 120(3), 883–895. [doi:10.1007/s11205-014-0619-5](https://doi.org/10.1007/s11205-014-0619-5)
- Trope, Y. (1986). Self-enhancement and self-assessment in achievement behavior. In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 350–378). New York, NY: Guilford.
- van Beuningen, J. (2012). *The Satisfaction With Life Scale examining construct validity*. [Discussion paper (2012209)]. The Hague, Netherlands: Statistics Netherlands.
- Yap, S. C. Y., Anusic, I., & Lucas, R. E. (2014). Does happiness change? Evidence from longitudinal studies. In K. M. Sheldon & R. E. Lucas (Eds.), *Stability of happiness: Theories and evidence on whether happiness can change* (pp. 127–145). Cambridge, MA: Elsevier.
- Yuker, H. E. (1988). Mothers' perceptions of their disabled children: A review of the literature. *Journal of the Multihandicapped Person*, 1(3), 217–232. [doi:10.1007/BF01102625](https://doi.org/10.1007/BF01102625)