Soc Indic Res (2018) 135:879–891
https://doi.org/10.1007/s11205-016-1496-x

Subjective Wellbeing as a Social Indicator

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Accepted: 11 November 2016 / Published online: 18 November 2016

Abstract My essay contributes to the 50-year celebration of Bauer's 'Social Indicators' by examining the progress of subjective social indicators. It begins with a description of how the three contributors to this volume, Bauer, Biderman and Gross, viewed subjective indicators, and then examines developments to the present. Of special interest is subjective wellbeing, most particularly as it is understood through the theory of subjective wellbeing homeostasis. The theory is described and the potential use of subjective wellbeing as an indicator, relevant to the development of public policy, is described. I conclude that it is timely for national statistical agencies to consider the adoption of a scale to measure subjective wellbeing.

Keywords Social indicators · Subjective wellbeing · Happiness · Homeostasis · Public policy

1 Introduction

Land and Michalos (2016) have provided an excellent lead article into this celebration of Bauer's (1966) edited work. Their account of social indicators over the past 50 years is inspiring, causing the reader to reflect on the massive literature and information base that has been created. Also apparent from their description is the increasing usefulness of social indicators for the development of public policy.

My account to follow dove-tail's their historical description, emphasizing the broad area called 'Quality of life' and, more specifically, the subjective side of life quality called subjective wellbeing (SWB). As Land and Michalos state, the term 'social indicators' is generally regarded as inclusive of 'life quality' indicators, and they have already made

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reference to this work by naming survey instruments and key references. Nevertheless, the topic of subjective indicators remains a contentious area.

As noted by Diener (2006), the dimension of life quality normally measured by social indicators is objective. Subjective indicators are sometimes included in national surveys, but seemingly as an after-thought. Compounding the low profile of subjective data in national statistics is the lack of skill in their analysis. Most commonly, such data are analyzed as though they are objective. That is, even when subjective data have been generated by a response scale with multiple choice points, researchers tend to binarise their data before applying some non-parametric technique, such as logistic regression. Such analyses lack the finesse of a parametric analyses, most especially since they ignore the crucial information supplied by variance.

This lack of familiarity with appropriate forms of analysis reflects the disciplinary training of the people responsible for national surveys, which is usually in economics, business, or associated statistics. Thus, as a general overview, subjective indicators are not valued, are poorly understood, and poorly analyzed. This means they yield uninteresting data, which leads to them not being valued. The cycle is complete.

The story that will now be developed starts with an examination of subjective indicators as viewed by Bauer and colleagues 50 years ago. This will be interwoven with the description of progress provided by Land and Michalos, and followed by an account of subjective wellbeing from within psychology. The final section provides consideration of how contemporary SWB measurement can be used for the purpose of policy advice.

2 Subjective Indicators Portrayed in Bauer (1966)

2.1 Quality of Life

Quality of life (QOL) is an attractive term for the proselytizers of social indicators. It provides a simple rationale for collecting social statistics and then using the results to inform policy creation. Moreover, this rationale has a simple logic when applied to objective indicators. It is a fair bet that decreasing infant mortality and increasing rates of employment are, indeed, simply linked to increased life quality. The extension of this to the subjective indicators, however, is not so simple.

Historically, there has been little incentive for survey designers to consider subjective indicators. The raw power of economic indicators has been overwhelmingly successful at distinguishing between successful and unsuccessful societies. So it has been difficult to argue why additional subjective indicators are required to measure the goodness of a society. This difficultly is reflected in the rhetorical character of most statements of support, which fail to offer a strong rationale as to how, precisely, the information from subjective indicators assists policy decisions. So they have been ignored.

As reported by Gross (1966a), the simple recognition of subjective indicators was evident among social analysists over 20 years prior to their review. They are mentioned in the 1943 report of President Hoover's Research Committee on Social Trends, entitled 'Recent Social Trends in the United States'. However, while many new national indicators were developed over the next two decades, most of these "were economic in character" (Gross 1966a, p. xiii).

Thus, at the time of the Bauer review the perceived usefulness of subjective indicators was mainly to advance rhetoric. For example, a report to congress by President Lyndon B

Johnson (1966) states "To improve our ability to chart our progress, I have asked the secretary to establish within his office the resources to develop the necessary social statistics and indicators to supplement those prepared by the Bureau of Labor Statistics and the Council of Economic Advisers. With these yardsticks, we can better measure the distance we have come and plan for the way ahead" (Gross 1966a, p. xiv). This does little more than repeat the recognition of subjective indicators contained in Hoover's report, and indicates the lack of progress. So, an interesting question is whether science in 1966 was sufficiently advanced to move the level of understanding? There are two kinds of relevant information. One is the views stated by the contributors to Bauer (1966) and the other is the available literature at that time. These will now be considered together.

2.2 The Views of Bauer, Biderman, and Gross

Bauer (1966) is frequently cited as the beginning of social indicators as a coherent area of study. It has received around 1300 citations, so has clearly been influential. The volume has three contributors: Bauer—trained in sociology and business administration; Gross—English literature and philosophy; and Biderman—economics and sociology. As a group their disciplinary background suggests they were well positioned to comment authoritatively on the issue of subjective indicators. However, their descriptions of this topic lack enthusiasm

Biderman (1966a) states his interest in subjective indicators to lie in the "relatively neglected areas of noneconomic social statistics", measured quantitatively as social indicators, "assessed sociologically" (p. 69). This presumably means that such measures are useful at the level of group averages but not at the level of the individual. He represents such data as 'impressionistic or intuitive' (Biderman 1966a, p. 132) and, as emphasis, (Biderman 1966b) states "It is easier to develop data on changes in the wealth of the population than in their virtue or happiness; on the number of TV sets. per family than on the number of close friends" (p. 97). Clearly Biderman is not a champion of subjective indicators.

The second contributing author, Bauer (1966), considers the inclusion of subjective data as the proportion of the population agreeing or disagreeing with some aspect of society. For example, the proportion of adults who answered 'yes' to a question on whether the drinking age should be lowered. He considers such data to be "as objective, and probably at least as accurate, as most so-called 'hard' data on demography or economics" (p. 35) because the proportion could be verified by repeated sampling. Unfortunately, however, this description carries negative connotations for subjective social indicators. First, he refers to such material as the 'softer phenomena' and as 'qualitative data', thereby giving the impression of unreliability. Second, the nature of the example is too specific to be considered as contributing to the life quality profile of the nation. Third, the reliability criterion of 'proportional verification' has been used against the incorporation of subjective wellbeing because, it was believed, such data could not be verified by such objective means.

The third author, Gross (1966b), appears overwhelmed by the idea of operationalizing subjective indicators. In a section entitled 'Mysteries of Interest Satisfaction' (pp. 220–221) he considers the term 'interest satisfaction' to include within its scope "all that philosophers have referred to by ''happiness. It includes the rather disembodied satisfactions dealt with by economists and mathematicians under the name of welfare, benefits, utility, utiles, or (in the hard language of game theorists) 'payoffs' (p. 220). Not surprisingly, he regards all this as too complex to allow simple understanding. Reflecting the

wisdom of economics, he considers that happiness cannot be directly measured, and can only be indirectly estimated through 'surrogates', such as through choices made.

All this seems to suggest that the understanding of happiness had not evolved since the Scottish philosopher Smith (1776) and the English philosopher (Bentham 1780, 1789) created the origin of economics as a discipline. In the absence of empirical data, they made all sorts of philosophical assumptions upon which to base their arguments. Most crucially for the current discussion, they believed that the subjective benefits of economic activity could not be directly measured. Positive outcomes for the individual could only inferred from their rational choice behavior, and this benefit became known as 'utility'. Thus it came about that, within economics, income became proxy for happiness and, ceteris paribus, the more money individuals or nations have, the happier they are.

This way of avoiding the issue of direct measurement was a clever philosophical device at that time. However, it was evidently inadequate by 1966. Thirty-six years earlier, the psychologist Watson (1930) had reported that self-ratings of happiness on a printed rating scale correlated .81 with a composite score comprising a number of subjective indices. Watson concluded that the general level of happiness can be measured reliably. Numerous other researchers followed his lead and it was soon discovered that measures of mood happiness were not only reliable but also surprisingly stable over time. For example, (Hartmann 1934) obtained a test–retest reliability of .70 with two measurements a month apart, while (Wessman and Ricks 1966, p. 103) reported that happiness-related measures taken 2 years apart correlated .67.

In summary, the three contributors to Bauer's 'The State of the Nation' convey a negative and poorly informed view of subjective indicators, clearly more influenced by economics than psychology. They also, however, give some important insights into the reason for their views as follows:

1. Biderman (1966a) cites Likert (1960), who proposed that a crucial function of statistics is to reveal the nature of the system being measured, that is, the conceptual model that provides understanding of what the levels mean. This, indeed, has been the Achilles Heel of subjective indicators, and will addressed later in contemporary terms.
2. Bauer (1966) suggests that subjective indicators must be sensitive to a wide range of potential impacts on society, and that the information gained must be useful. This property of SWB was also missing in 1966, but is not missing now, as will also be described.

3 Subjective Social Indicators Post Bauer

From the account above, there is little in the Bauer document to move subjective indicators beyond the political recognition of their potential. Moreover, as noted by Land and Michalos (2016), progress since that time has been very slow. Not only did subjective indicators lack a compelling rationale for their inclusion in national surveys but also, as SWB started to be understood, its complex relationship with money soon became apparent.

Population surveys conducted during the 1950s and 1960s revealed that, while GDP was rising, the average levels of happiness were not. In January (1969), the U.S. Department of Health, Education and Welfare submitted to President Johnson 'Toward a social report', which stated ''Money income, of course, cannot buy happiness, and it is by no means obvious that satisfaction rises along with income.'' (p. 41). This conclusion was in direct

contravention of basic economic philosophy holding that money is poxy for happiness. Such results were not understood and further decreased the standing of subjective indicators as useful measures of national progress.

However, in academic circles at that time, researchers in psychology and sociology were becoming increasingly interested in this topic, especially as it broadened to the general relationship between objective and subjective variables. It became clear that the relationship was complex, and not linear as had been supposed. For example, Robinson and Converse (1972) noted that people's reports of their own subjective states can be quite different from what might be predicted on the basis of an objective description of their situation. As a consequence of this new literature, some influential economists became intrigued by this new information and in 1972, the Organization for Economic Cooperation and Development (OECD) held a high-level, invitation-only symposium to discuss the issue.

Many leading authorities on social indicators gave papers, and these have been collectively published (Strumpel 1974b). In his review of the situation, (Strumpel 1974a) concludes: ''For evaluating and using indicators of subjective well-being, information is needed about both the objective condition and future prospects and how both are experienced." (p. 90). In this same volume, the psychologist Campbell (1974) went one step further, stating "There is no suggestion that objective data should be set aside in favour of subjective measures. The value of subjective measures of the kind proposed here is to give additional information to the repertoire of the scholar and decision-maker, to provide an array of psychological data parallel to the more familiar kinds of indices. It is to be hoped that integration of the two kinds of data will make possible a fuller and truer representation of the state of society than we command at present." (p. 19). However, the OECD remained unconvinced and it was to be almost another 40 years before that organization published guidelines advising their member nations how to measure SWB (OECD 2013).

Also during the mid-1970s, the U.S. Department of Commerce (1974) produced 'Social Indicators 1973', as a compendium. However, a later investigation found its impact to be extremely low among senior policy makers (Caplan and Barton 1978). One reason cited is "insufficiency of data on subjective matters involving attitudes, values, and personal aspects of social well-being" (p. 445). This small voice again went unheeded, with economically-relevant indicators continuing to totally dominating national surveys.

Then, two watershed publications pushed subjective indicators to new levels of awareness and understanding, at least within the academic community. Campbell et al. (1976) and Andrews and Withey (1976) set new standards for research into SWB in terms of methodology and conceptualization. Both primary authors were psychologists and both texts demonstrated the importance of differentiating between the objective and the subjective dimensions of QOL. While this distinction has later become the cornerstone of theory development, its impact on national surveys continued to be minimal due to continuing prejudice which viewed subjective measurement as inherently unreliable.

As an example of this entrenched attitudinal inertia, in 1980 the United Nations Educational, Scientific and Cultural Organization (UNESCO) outlined its policy-relevant, quality of life research program (Solomon et al. 1980) in response to its realization that "… social well-being is not a linear function of the economic growth…" (p. 223). However, apparently in ignorance of the Andrews and Withey (1976) research, they state "Perceived quality of life i.e. quality of life as experienced by individuals themselves is not only a linear function of the social distribution of satisfiers: it has to be measured taking into account the role of subjective or attitudinal factors and variables" (p. 229). No wonder they thought it all too hard!

So, what of the contemporary scene. In 2009 the Stiglitz commission continued the rhetoric by recommending that GDP was not sufficient as an indicator of national progress, and proposed that countries turn to the measurement of subjective wellbeing as a complementary social and economic indicator (Stiglitz et al. 2010). Additionally, both the WHO (WHO Regional Office for Europe 2012) and the OECD (2013) have revised their definitions of wellbeing, with both organizations also recommending the measurement of subjective wellbeing. The latter two publications are particularly relevant in that they also contain discussion as to the nature and composition of SWB. This increased attention to understanding is reflected in a (slowly) increasing acceptance of SWB indicators in national surveys.

There are a great many national surveys and this listing but a sub-set. However, at an indicative level, among surveys that measure SWB, the most common form of measurement is GLS (general life satisfaction) measured by a single question along the lines of 'How satisfied are you with your life as a whole? Due to the very personal, non-specific and inclusive nature of this item, it is likely the ultimate single-item subjective indicator. The contemporary pattern of inclusion then appears as follows.

1. Some long established surveys continue to include some version of GLS (e.g. Eurobarometer 2016; Household Income and Labour Dynamics in Australia Survey 2016) just as they have for several decades.
2. Some surveys are including subjective items in addition to GLS, for example: Gallup-Healthways Well-Being Index (http://www.well-beingindex.com); Measuring National Wellbeing (http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html); U.S. General Social Survey (http://gss.norc.org/About-The-GSS); OECD Better Life Initiative (http://www.oecd.org/statistics/better-life-initiative.htm); World Happiness Report (http://worldhappiness.report/). These measures do not form the additional subjective items into scales.
3. In addition to GLS, a few surveys are also including established scales, such as the Personal Wellbeing Index: Australian Unity Wellbeing Index (http://www.acqol.com.au/reports/auwbi.php); International Survey of Children's Well-Being (http://www.isciweb.org/).

In summary, this is certainly looking much more promising for SWB than it was in 1966. In essence, some of the major surveys are including the basic GLS measure. Other surveys are including additional measures of subjective wellbeing but still analyzing such data as though they are economic indices. That is, response-scale data are categorized to enable non-parametric analysis, thereby losing measures of data variance. A few surveys, however, are embracing the full power of parametric scale analyses.

Clearly there is a way to go before the full SWB technology is universally accepted and, at several points in their discussion, Land and Michalos ask what steps we need to take to continue this journey. In particular they point to the uncertain relationship between subjective and objective indicators. There is also the related issue of how to interpret SWB data in ways useful for national policy development. This requires understanding about the nature of SWB itself.

4 Subjective Wellbeing

4.1 Defining SWB and Happiness

The greatest single impediment to advancing acceptance of SWB as a social indicator is the absence of rules for nomenclature. It is surely not surprising that policy makers show indifference in the face of a variable with quite arbitrary descriptions. For example, SWB is often referred to in the social indicator literature as 'happiness'. So a useful starting-point is to clarify that 'happiness' has two quite different, but clearly understood meanings.

The common meaning of happiness is a positive feeling consequential to a short term event. When something happens to them that's nice, people feel happy. This form of happiness is transitory, and is what psychologists refer to as an emotional state. That is, the emotion is caused by a percept. The second kind of happiness is a mood. This form of happiness is not generated in reaction to something that has happened, but rather is a trait. It is genetically driven and normally forms a constant background to our thoughts (Cummins 2010). It is a gentle, mildly activated form of positive affect and its major importance is to keep us feeling good about ourselves.

In the context of social indicators, emotional happiness is noise in the measurement, varying from moment to moment. The measure of policy interest is mood happiness, and this is the major component of SWB (Blore et al. 2011; Davern et al. 2007; Tomyn and Cummins 2011). This form of happiness causes SWB to have some very interesting properties. These include the facts that SWB is normally experienced as a positive feeling, its level is normally quite stable, and it has a determinedly, and understandable, non-linear relationship with objective variables, such as income.

Perhaps the most extraordinary result to come from analysing SWB data is the level of stability. Over the past 15 years we have measured the SWB of the Australian population PWI through 30 surveys, each of 2000 people, nationally representative. When the results are standardized to lie on a 0–100 point scale, and survey mean scores are used as data, the full range of values lies between 73.8 and 76.7 points. In other words, the mean score of a random survey of people in Australia can be predicted, with 95% certainty, to lie within a 2.9% point range. There is no precedent in the literature for such extraordinary stability in self-report data.

4.2 Subjective Wellbeing Homeostasis

Why are these SWB mean scores so predictable? In order to understand the relationship between perceived life challenges and perceived life quality, a theory of SWB homeostasis has been developed. This proposes that, in a manner analogous to the homeostatic maintenance of blood calcium or body temperature, the level of SWB is actively controlled and maintained by a set of psychological devices, described in detail elsewhere (Cummins 2013, 2014, 2016).

At the heart of homeostasis is each person's set-point for their SWB. This set-point is what their system is defending. While each set-point is determined genetically, and does not change, responses to SWB questions do show variation. This is caused by intrusive emotions becoming incorporated into each SWB response (Cummins et al. 2014).

This understanding, that SWB can vary while set-points do not, introduces a major caution to the interpretation of SWB measurement. Consider the analogy with the set-point for core body temperature (37 °C). Prolonged exposure to a sufficiently persistent hot or

cold thermal challenge will cause core body temperature to rise or fall. This does not represent a change in set-point. It is a defeat of homeostasis and, once the source of thermal challenge is removed, body temperature will revert to its set-point. This explains why, contrary to the views expressed by some authors (Easterlin 2016; Headey et al. 2014), set-point theory does not carry an assumption of immutability in measured SWB.

Thus, in response to the experience of a strong emotion, each person's set-point remains unaltered while the abnormal level of SWB reflects attention to the dominating emotional state. However, following such change, external and internal resources will be directed to the restoration of homeostasis. If these resources are sufficient, they will reduce the perceived level of challenge to a level allowing homeostatic control to be restored. When this occurs, reported SWB returns to its normal set-point range. If the resources are insufficient to achieve such restoration, then SWB remains below it normal range and the person is at high risk of depression (Cummins 2010).

4.3 Homeostatic Resources

There are several internal psychological forms of homeostatic defence (see Cummins 2016) which will not be discussed here. Of more direct relevance in the current context are three objective social indicators that constitute major defensive resources. These have been identified through their representation as the three domains of the Personal Wellbeing Index (International Wellbeing Group 2013) that most strongly contribute to general life satisfaction (GLS) using multiple regression (Cummins et al. 2013, Appendix Part B, Table A2.17.1). They are collectively referred to as the 'Golden Triangle of Happiness' and comprise money, relationships, and achieving in life through a purposeful activity.

The reason these three resources are so powerful is that each has a dual action. They not only defend against homeostatic failure but also assist in the maintenance of normal positive feelings because active engagement with each resource is intrinsically rewarding. For example:

- Money can be used as a defensive resource. To avoid the negative experience of dog-washing, someone else can be paid to do the job. The time saved can then be used for a personally satisfying activity.
- Relationships, when positive and intimate, allow much of daily life to occur within a secure social environment. This not only reduces the probability of unpleasant social encounters but also increases the probability of positive social interactions.
- Achieving something personally important each day engages positive life routines in a secure context and provides a positive sense of purpose.

In summary, engagement with these three resources both assists homeostatic defense by reducing the probability of negative events, and maintains positive feelings through engagement with secure and rewarding activities.

5 SWB as a Useful Social Indicator

From the account so far, the prospect of accepting subjective wellbeing (SWB) as a major social indicator seem somewhat promising. There is certainly an increasing prevalence of the General Life Satisfaction (GLS) item in surveys, evidencing increasing acceptance of this measure as a reliable indicator of population wellbeing. There is also an advanced

level of theoretical understanding offered by homeostasis theory. However, major road-blocks to further development remain.

The first source of resistance comes from the psychological nature of SWB, which understanding lies beyond the professional training of most people responsible for national surveys. The second is that SWB has not been successfully sold as a useful measure for policy decisions.

The first of these road-blocks is very difficult to negotiate. It really falls on the relevant people to engage with psychological science, such that meaningful conceptual bridges can be discussed and negotiated. However, responsibility for removing the second road-block rests with psychologists who espouse the technology. In this task, current research offers some insights which will now be described.

5.1 Interpreting Population Levels of SWB

When a population mean score on either GLS or the Personal Wellbeing Index (PWI) is measured as 65 points, what does this mean? Answering this question is absolutely necessary if such values are to have meaning for public policy. The answer is in two parts. First is the issue of international comparisons. Second is the interpretation of values within countries against their own normative data.

6 Between Country Comparisons

There is an apparent belief among some researchers that a SWB population score of 65 points, on a standardized 0–100 point scale, means the same for Australia, Hong Kong and North Korea. This belief is evidenced by the publication of comparative lists of SWB values between countries, as though such comparisons carry simple meaning; like higher is better. However, such comparisons are invalid for this purpose. SWB values are generated by self-reports, and a major role of culture is to train people to project their feelings in a socially acceptable manner. While some cultures train for expressions of high spirits, others train for emotional modesty or extreme caution. This cultural response bias translates into substantial national differences in SWB.

To take the above three examples, the national mean in Australia is about 75 points (Cummins et al. 2013, Part B, Table A2.21) based on 30 surveys of 2000 random people. The population mean of SWB data, collected from multiple surveys and equivalent demographic groups in South-East and East Asian cultures, is about 65 points (e.g. Chen and Davey 2008; Lau et al. 2005). This numerical difference is accompanied by a much lower proportion of extremely high scores in the Asian samples (Lai et al. 2013). That is, whereas very happy Australians have few qualms about rating their SWB at the top of the response scale (‘Australian response bias’), Asian respondents are more circumspect and modest in their self-ratings. This has been described as the ‘Confucian response bias’, consistent with the dominant cultural influence in these countries.

A different form of bias likely attends people living in despotic or highly dangerous societies. While this is speculative, such people would surely learn to be extremely controlled in their emotional expression, such that their responses to SWB questions would reflect acquiescence to cultural expectations, rather than reflecting how they actually feel. Thus, in summary, simple international comparisons of SWB levels between countries cannot be simply interpreted. They are, thus, unreliable indicators for policy development.

7 Within Country Comparisons

SWB measures within populations are a quite different proposition. Provided that the normal distribution of scores is known, much policy-relevant information can be derived.

Two kinds of normative data can be generated. One is the use of survey mean scores as data, the other is the use of data from individual respondents.

Considering the use of survey mean scores, the 30 Australian surveys incorporating a measure of SWB each contribute one datum to the normal range. The combination of these data yields a mean of 75.27, a standard deviation of .72, and a normal range as $\times 2$ SDs around the mean of 73.83–76.71 points (Cummins et al. 2013, Part B, Table A2.21). In other words, any random sample of the Australian population should fall within this 2.9%point range. Samples with means outside this range can be considered abnormal compared to the general Australian population.

7.1 Population-Level Policy

The above empirically derived, population-level, normal range is useful when combined with the theoretical predictions of homeostasis theory. In terms of theory, set-points for mood happiness, and therefore for SWB by proxy, lie within the range of 70–90 points. Moreover, the distribution of these set-points is normal within this range (Cummins et al. 2014). Therefore, from a theoretical perspective, a nationally-representative population sample that is fully under homeostatic control, should have a mean of 80 points, as the mid-level of the set-point range. Why, then, is the mean population level of SWB in Australia determined empirically only 75 points?

The answer lies in the distribution of resources, especially financial resources, to support homeostasis. If people are living under conditions of chronic resource deprivation that is sufficiently adverse to defeat homeostasis, then their SWB will be maintained at levels below their set-point. Under such conditions of homeostatic defeat they will be highly susceptible to depression and, in Australia, this applies to about 5% of the population (Cummins and Nistico 2002). It is these people in homeostatic defeat who create the typical negative skew in population data, and who cause the population mean to be below the theoretical ideal of 80 points. If, however, Australian population sub-samples are selected to be resource rich, such as being wealthy, married, and employed, the mean of such groups is indeed around 80–82 points (Cummins et al. 2007), just as predicted.

The policy implications of this are clear. If it is considered desirable for all citizens to experience normal levels of life quality, then SWB is an excellent national indicator of the degree to which this is being achieved. The Australian government could consider achieving a mean population SWB level of 80 points as aspirational.

7.2 Population Sub-groups

Much the same logic can be applied to identify population sub-groups who need more resources to achieve the level of SWB that is normal for Australians. Such groups will display a mean level of SWB that is below the 73.83–76.71 point normal range. A dramatic example are informal carers, that is, people caring for a disabled family member at home. Even though social security benefits provide support to such people, this resource is insufficient to counter the stress of long-term and unrelenting responsibilities, loss of paid employment, broken marriages, and social isolation. A study of 4000 carers yielded a

Personal Wellbeing Index mean of 58 points, indicative of substantial levels of homeostatic defeat and distress (Hammond et al. 2014).

7.3 Individual People

The application of SWB data for policy at the level of the individual person requires population norms to be calculated using the scores from individual respondents. These results based on data from almost 60,000 people in Australia, can be found in Cummins et al. (2013, Part B, Table A2.20). They show a mean of 75.29 points, standard deviation of 12.47, yielding a normal range of 50.35–100.22 points. In other words, any individual with a PWI of less than 50 points is below the Australian normal range and in need of additional resources.

The application of this understanding has recently been demonstrated by Tomyn et al. (2015). Their study involved an intervention program delivered to 4243 adolescents who had been assessed 'at-risk' of not attaining year 12 or equivalent, or who have already disengaged from education, employment and training, their families and/or their communities. The intervention increased the PWI of the adolescents with a baseline SWB <50 points by 23.75 points. In sharp contrast, the effect of the intervention for adolescents with a baseline >50 points was barely significant. This result is consistent with theory and reinforces two ideas. First, that providing additional appropriate resources to people in homeostatic failure will assist homeostasis to lift their SWB towards their normal range. Second, that providing additional resources to people whose SWB is within the normal range is a waste of resources, since homeostasis will defeat any attempt to raise SWB above its normal set-point range.

This idea, of resource satiation, was recognized in the Bauer volume by Gross (1966b). In relation to money he notes "Satisfaction vanishes when it reaches the point of satiety, as suggested by the tendencies referred to by the economists' law of diminishing returns" (p. 221). Indeed, there is no incremental SWB beyond a gross income of around $150,000 pa as an Australian average (Cummins et al. 2013, Part B, Table A3.4). The general policy implication is that public resources will be most effective when distributed to citizens who are in homeostatic defeat.

8 Summary

It is evident that the future of subjective social indicators, especially subjective wellbeing, is much brighter than the past. From a technical standpoint, the scene is set. Reliable and valid measures are available and the results can be interpreted in a manner useful to the formulation of public policy, most particularly in relation to the most efficient distribution of resources. Whether national statistical offices decide to collect data on subjective wellbeing is now a political rather than a scientific decision.

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

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