Report for NSW Treasury

Using Subjective Well-being in Policy in NSW

Dr Richard Tooth

28 February 2013

sapere
research group

About the Author

Dr Richard Tooth is a Director with the Sydney office of Sapere Research Group. He works on public policy, competition and regulatory issues across a number of industries including water, energy, transport and financial services. Dr Tooth has a PhD in Economics, a Master in Business Administration and a Bachelor of Science.

About Sapere Research Group Limited

Sapere Research Group is one of the largest expert consulting firms in Australasia and a leader in the provision of independent economic, forensic accounting and public policy services. Sapere provides independent expert testimony, strategic advisory services, data analytics and other advice to Australasia's private sector corporate clients, major law firms, government agencies, and regulatory bodies.

Sydney	Canberra	Melbourne
Level 14, 68 Pitt St GPO Box 220 NSW 2001 Ph: + 61 2 9234 0200 Fax: + 61 2 9234 0201	Unit 3, 97 Northbourne Ave Turner ACT 2612 GPO Box 252 Canberra City, ACT 2601 Ph: +61 2 6267 2700 Fax: +61 2 6267 2710	Level 2, 65 Southbank Boulevard GPO Box 3179 Melbourne, VIC 3001 Ph: + 61 3 9626 4333 Fax: + 61 3 9626 4231
Wellington	**Auckland**	
Level 9, 1 Willeston St PO Box 587 Wellington 6140 Ph: +64 4 915 7590 Fax: +64 4 915 7596	Level 17, 3-5 Albert St PO Box 2475 Auckland 1140 Ph: +64 9 913 6240 Fax: +64 9 913 6241	

For information on this report please contact:

Name: Dr Richard Tooth

Telephone: 02 9234 0216

Mobile: 0412 105 817

Email: rtooth@srgexpert.com

Contents

Tables

Figures

Glossary

ABS	Australian Bureau of Statistics
ACQOL	The Australian Centre for Quality of Life
AU-PWI	Australian Unity – Personal Wellbeing Index survey
CIV	Community Indicators Victoria
DALY	Disability adjusted life year
DEEWR	Commonwealth Department of Education, Employment and Workplace Relations
DRM	Day Reconstruction Method
ESM	Experience Sampling Method
FaCHSIA	Commonwealth Department of Families, Housing, Community Services and Indigenous Affairs
GSS	The ABS General Social Survey
HALE Index	Herald Age Lateral Economics Index of Wellbeing
HDI	The Human Development Index
HILDA	Household Income and Labour Dynamics in Australia
HVRF	Hunter Valley Research Foundation
HVWW	Hunter Valley Wellbeing Watch
LSAY	Longitudinal Surveys of Australian Youth
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
PWI	Personal Wellbeing Index – A measure of SWB
QALY	Quality adjusted life year
QOL	Quality of life
SF-36	Medical Outcome Short Form Health Survey (36 Questions)
SWB	Subjective wellbeing, an umbrella term for self-reported measures of wellbeing.
SWLS	Satisfaction with Life Scale — A measure of SWB
WTA	Willingness to accept
WTP	Willingness to pay
WHO-Europe	World Health Organisation – Regional Office for Europe

Executive summary

Introduction

Measurement of wellbeing is critical to public policy and to the basic economic problem of how to allocate scarce resources between competing ends. Subjective wellbeing (SWB) is an umbrella term for a variety of measures by which people evaluate their wellbeing (or quality of life). Through surveys SWB has been collected in Australia and overseas for many years. These surveys have spurned significant research into wellbeing and there is growing acceptance that SWB measures provide important and policy relevant information not captured in traditional measures. In other jurisdictions — most notably the UK — there has been substantial recent investment in developing and applying SWB measures.

This paper provides a background on SWB and provides guidelines for how SWB measures may be used in public policy.

Background

There is no single unifying theory as to what constitutes wellbeing. However, there is general consensus that wellbeing encompasses a number of separate dimensions that include short-term emotional responses (positive responses such as joy and negative responses such as sadness) and longer term feelings of satisfaction and contentment. Although the terms are often used interchangeably, wellbeing, and what SWB measures, is broader than 'happiness', which is more commonly considered a fleeting emotion.

Accordingly, SWB is measured in a number of ways. The most common approach is by asking people how satisfied they are with their life and/or how satisfied they are with particular domains (e.g. heath, work, relationships). Other approaches involve focusing on emotions that they have felt (such as last month or even over the course of a day). In recent decades SWB data has been captured in large surveys including longitudinal studies that allow researchers to control for fixed (e.g. personality) effects.

SWB measures appear to be reliable and valid measures. For example, they appear to show good consistency and have been shown to correlate as expected with objective measures (e.g. health status, suicide etc) and other independent subjective assessments. Nevertheless, some caution is required in its measurement and application as there are practical measurement challenges and debates as to how responses are to be interpreted.

Findings from SWB research

There are many factors that affect wellbeing and it is difficult to isolate causation and correlation. However, by employing multivariate analysis on large datasets, researchers have in recent decades made significant progress in providing insights into the determinants of wellbeing. Although the research on SWB is still developing, general consensus is emerging on a number of key aspects. Much of the variation in SWB can be explained by genetics and upbringing. However there are many other important factors (e.g. health and relationships; see Table S1 on page x).

From this research there are a number of key policy relevant findings. These include:

- *Low wellbeing:* Most people are on the whole happy with their lives and people appear to adapt to different environments and events; however there are some groups/situations (e.g. carers,

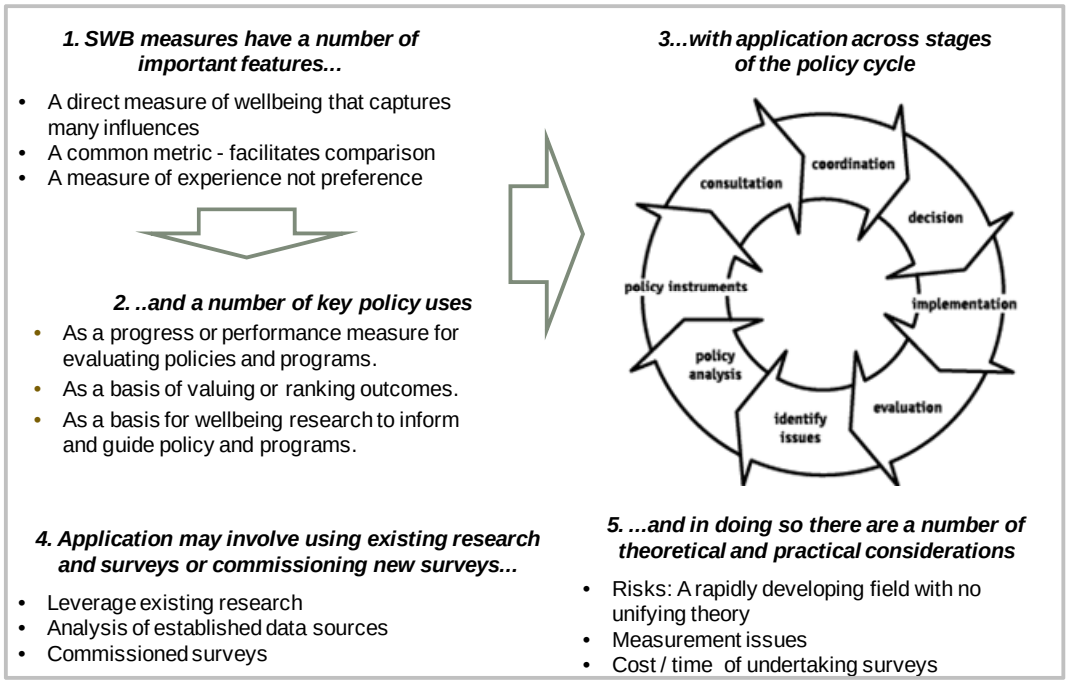
the unemployed) who report abnormally low SWB. Furthermore SWB research can help to identify what type of support may make a difference.

- *Forecasting errors:* People appear to be poor at forecasting their wellbeing in different situations (e.g. in different health states, when commuting). This has a number of implications for government resource allocation that is based on preferences. Governments may use SWB insights to improve individual choices through provision of information and/or by influencing ('nudging') people to make better choices.
- *Governance and regulation:* Trust in public institutions is significantly correlated with SWB. SWB is also positively correlated with legal security and property rights and freedom from excessive regulation.
- *Relative concerns:* There is strong evidence that individuals care strongly about their situation relative to others, including that relative income may be more important than absolute income. Such concerns have implications for the value of alternative investments.
- *Social externalities.* There is clear evidence that SWB is strongly correlated with a number of other social factors including personal relationships and trust in others. These may reflect externalities of interest to government policy.

Using SWB measures in policy

A summary of how SWB may be applied for public policy is captured in the schematic below. SWB measures have important features and a number of key uses in policy that can be applied at various stages across the policy cycle. Application of SWB measures may involve leveraging existing research and surveys and/or commissioning new surveys. In applying SWB measures there are a number of theoretical and practical considerations. The decision to use SWB will depend on their relative advantage over other measures which will depend on circumstance.

Figure S1: Using SWB for public policy



The features of SWB measures

SWB measures may fill a gap not covered by more traditional measures such as social indicators and conventional economic measures. A key attraction of SWB measures is that they attempt to directly measure wellbeing. As such they can be used to identify when wellbeing is low, how improvements may be achieved and evaluate initiatives in terms of changes to wellbeing. Being a measure that captures many influences, SWB can be used in a broad range of situations and analysed to reveal new insights in the determinants of wellbeing. SWB can be used as a common metric for comparing the impact of different policies and programs.

SWB measures may be used to complement or replace social indicators when it is difficult to measure outcomes (e.g. the impact of support programs) and/or weight the significance of different outcomes (e.g. importance of trust). SWB measures may provide an important alternative to price based measures when appropriate markets do not exist (e.g. for non-market valuation), where consumer choice is limited (e.g. where there is monopoly service provision by governments) or where consumers may have difficulties in making choices.

SWB may also be of interest to governments (and non-government parties) because individual wellbeing is a driver (predictor) of other factors of interest.

Broad uses of SWB in public policy

There are three broad ways in which SWB measures may be used in public policy processes.

1. As a general progress measure or a performance measure for evaluating policies and programs.

   Compared with other results indicators, SWB measures are a more direct measure of wellbeing and may be preferable particularly when other indicators may have ambiguous benefit. In some situations, SWB may also be a quicker and easier measure to use. In addition to being used directly, research on SWB may be the basis for identifying and applying weight to objective indicators used in evaluation.

2. As a basis of valuing or ranking outcomes.

   For example, SWB measures can be used as a common metric basis for:

   (a) an *experienced* based approach to valuing non-market goods and services

   (b) determining the relative significance of other indicators of interest

   (c) comparing the relative effectiveness of different programs.

3. A basis for wellbeing research to inform and guide policies and programs.

   For example, research on SWB may be used to:

   - Identify issues: For example, identify situations of low wellbeing
   - Analyse issues: For example, identify underlying causes of low wellbeing
   - Assess policies: For example, identify opportunities and risks associated with policies
   - Inform choices that are influenced by government.

These uses of SWB measures broadly align to different stages of the policy cycle; however there are applications of the uses across the policy cycle (see Table S2). For example, using SWB measures to provide insights into wellbeing is relevant at most stages.

Applying SWB measures

Application of SWB measures may involve leveraging existing research and surveys or new surveys. An important useful resource is the large, and rapidly growing, research literature that is based on analysis of SWB measures from Australian and international data sources.

In Australia there are a number of established surveys that capture SWB that may be used (see Appendix 1). These include longitudinal and cross-sectional surveys of the general population and specific population groups (including youth and the Indigenous). Commissioned surveys may be preferred for the analysis of small groups, root cause analysis and policy and program evaluation. Such surveys may leverage (e.g. use a similar question set) or complement existing survey sources.

Theoretical and practical considerations

In using SWB measures, there are a number of considerations.

- The research on wellbeing is a rapidly developing field; while there are some very clear conclusions, there is some uncertainty as to the influence of some factors. There is a risk that SWB measures are used to justify pre-determined views rather than inform and guide policy. For this reason, it is preferable that consideration of SWB be used early in the policy process.
- There are a number of methodological challenges in collecting and analysing SWB. While this can be true with any measure, there are some particular considerations when using SWB measures. For example, being subjective, SWB responses may be influenced by the context, question order, question wording and interview mode; due to the broad range of influences on SWB, multivariate analysis may be required to isolate the impact of factors of interest.
- There are (as with other measures) limitations to existing data sources and costs to be considered in conducting analysis and designing and commissioning additional surveys.

Conclusions and recommendations

The relevance of SWB measures will vary by use and circumstance. It is likely that SWB will complement rather than replace existing measures. It is appropriate that SWB be considered as a progress measure at all levels of government. The insights from SWB research are also likely to be of some relevance to all government agencies with programs and services that are aimed at directly affecting individual wellbeing. SWB measures are likely to be particularly useful in a number of situations; for example in identifying and analysing issues associated with vulnerable people who have abnormally low wellbeing.

For program evaluation the usefulness of SWB measures will vary. For example, as SWB is an immediate measure of a person's wellbeing it is unlikely to be useful in evaluating programs that have long-term health benefits (e.g. preventative smoking programs).

It is appropriate that each government agency evaluate its own needs as the relevance and importance of SWB measures will vary by use and circumstance. Useful first steps are to review the implications of existing research and review information and analysis strategies for use of SWB.

There is also a need for some coordination across government agencies and with other jurisdictions, for example for:

- Coordination and standardisation of SWB measurement.
- Development of standards for analysis and assessment to enable inter-agency comparison.
- Development of common tools and resources.

Table S1: A selected summary of findings from SWB research by area

Area	Findings
Income	The relationship between income and SWB is complex. Although SWB increases with greater income, the significance of income varies greatly based on situation. For some groups, a lack of financial resources is a significant barrier to higher SWB. For many, absolute income may be of less importance than relative income. There is mixed evidence on the impact of income inequality on SWB.
Education	The relationship between SWB and education is difficult to isolate. There is some but mixed evidence to suggest that education improves SWB but this affect may be through health.
Health	Evidence of a strong relationship between SWB and both physical and psychological health. Some evidence suggests that people adapt to some forms of disability and that people are poor at forecasting how different health states affect their wellbeing.
Work	Insufficient evidence to draw clear conclusions between work characteristics (e.g. type of employment, number of hours)
Unemployment	Strong evidence of unemployment substantially reducing SWB both in short and long-term, much more so than can be attributed to the loss of financial resources. While individuals with low SWB may be more likely to become unemployed, these selection effects appear to be small. The negative effect varies: men and the middle aged are more affected; the effects are lessened if their partner and others in the neighbourhood are unemployed.
Carers	Strong evidence that carers of the disabled have lower SWB.
Commuting	Strong evidence that commuting lowers SWB and some evidence that people underestimate this affect.
Community involvement	While generally a positive correlation is found between SWB and participation in community organisations the causation is not clear.
Religion	The evidence is fairly consistent and suggests that regular engagement in religious activities is positively related to SWB.
Trust	Clear evidence that trust in other people (social trust) is strongly associated with SWB.
Public institutions	Trust in key public institutions such as the police, the legal system and government is also associated with higher life satisfaction.
Relationships	People in stable relationships have higher SWB. It would appear that, overall, socialising with family and friends is positively associated with SWB.

Source: Summarised from Dolan, Peasgood and White (2008).

Table S2: Potential applications of SWB across the policy cycle

Stage	Application
Issue identification	• Examine data sources, to identify groups and situations where wellbeing is abnormally low (or high) • Leverage established SWB research to identify likely causes, and situations, of low wellbeing • Use SWB progress measures to identify adverse trends
Policy analysis	• Use SWB as a common metric to weight or rank significance of issues • Use SWB research to understand underlying causes of low-wellbeing that may have policy relevance • Undertake tailored surveys on specific issues to investigate factors affecting wellbeing • Use SWB-valuation techniques to analyse issues
Policy instruments	• Use SWB research to identify policy instruments that are likely to impact wellbeing • Evaluate alternative policy instruments based on impact to SWB e.g. to estimate cost-benefit analysis of alternative interventions • Conduct detailed design on policy instruments using research on SWB
Consultation and coordination	• Seek coordination of SWB measurement and analysis across different agencies and programs • Improve consultation by providing an evidence base for policy/programs based on wellbeing
Decision	• Use impact on SWB as basis for decision making
Implementation	• Undertake opportunity and risk assessments of policies • Configure and refine policies for maximum benefits e.g. in setting defaults, based on SWB research
Evaluation	• Estimate performance and impact of programs based on changes in SWB • Evaluate programs based on relative impact on SWB • Establish SWB as a general progress measure

1. Introduction

The measurement of wellbeing is critical to public policy and to the basic economic problem of how to allocate scarce resources between competing ends. Subjective wellbeing (SWB) is an umbrella term for a variety of measures by which people evaluate their wellbeing (or quality of life, QOL).

In recent years there has been growing interest in SWB and how such measures can be used for public policy. Data on SWB has been captured and analysed for a number of years and, based on this data, there is a rapidly increasing academic literature. Interest in SWB intensified following the Stiglitz, Sen and Fitoussi (2009) commission report that concluded that 'Objective and subjective dimensions of wellbeing are both important' and that statistical offices should capture SWB. There also appears to be strong public support[1] and political support for using SWB measures. In November 2010, the UK began a Measuring National Wellbeing Programme, which has led to the UK Office for National Statistics, earlier this year, completing its first annual Subjective Wellbeing Annual Population Survey of 165 thousand adults.

However, despite the research, the interest and recognised potential of SWB measures for public policy there has been to-date little application of SWB in public policy processes. A barrier appears to be the lack of a practical framework and tools for using SWB measures. This paper aims to fill this gap by providing guidelines for using SWB in public policy processes.

In terms of scope, this paper's contribution and focus is on practical application to public policy purposes. The paper provides an overview of wellbeing and SWB measures; however this is a significant topic in itself for which there is a substantial existing literature that may be used.

The rest of the paper is divided into two main sections.

- Section 2 provides a background to SWB measures and recent research on wellbeing.
- Section 3 considers the use of SWB measures for policy. The section aims to provide a brief but practical guide to using SWB measures in policy processes.

[1] For example, in a 2005 poll conducted in the United Kingdom 81% of respondents agreed that "A government's prime objective should be achieving the greatest happiness of the people, not the greatest wealth" http://news.bbc.co.uk/2/hi/programmes/happiness_formula/4771908.stm

2. About subjective wellbeing

2.1 SWB and wellbeing

A starting point for examining SWB is to consider how SWB relates to the broader concept of wellbeing. How wellbeing is defined and measured has been a subject of significant interest and debate. [2]

While there are no clear accepted definitions some general consensus is emerging. A significant recent development is the work of the WHO Regional Office of Europe. They convened an expert meeting on 'Measurement and Target-Setting for Well-being' (WHO Europe, 2012b) which proposed the following definition of wellbeing

> *Well-being exists in two dimensions, subjective and objective. It comprises an individual's experience of their life as well as a comparison of life circumstances with social norms and values.*

SWB is thus considered to measure the subjective aspects of wellbeing (or quality of life). [3] SWB is often used interchangeably with happiness. However SWB is generally preferred as the term 'happiness' may have different meanings to different people.[4]

There is no single unifying theory as to what constitutes wellbeing and the subjective aspects of wellbeing. However, there is general consensus that SWB encompasses a number of separate dimensions. There appears to be some consensus that SWB consists of short-term emotional responses (often separated into pleasant affect such as joy and happiness and negative affect such as being sad and afraid) and longer term feelings of satisfaction and contentment. The exact nature of these dimensions is debated and a number of different theories have been posited (see Box 1 below).

Box 1: Theories of what contributes to SWB

While there is broad consensus on many important aspects of wellbeing, there are many different theories and descriptions as to the components of SWB. Some prominent theories include the following:

Diener and Suh (1997, p. 200) posit that SWB consists of three interrelated components: life satisfaction, pleasant affect, and unpleasant affect. Affect refers to pleasant and unpleasant moods and emotions, whereas life satisfaction refers to a cognitive sense of satisfaction with life.

---

2 A review of the definitional issues is outside of the scope of this paper. Galloway (2006) provides a comprehensive literature.

3 The term quality of life (QOL) is generally considered as the general wellbeing of individuals and the key goal for policy. The term 'wellbeing' is often used interchangeably with QOL. Sometimes wellbeing has been used interchangeably with SWB. In this paper wellbeing refers to QOL and is not interchangeable with SWB.

4 In particular, for some happiness may equate to wellbeing, but for others it can be narrower in referring to a specific emotion (of contented pleasantness) (see Diener et al. 2009, page 8, 9).

Cummins (2009) argues that measures of life satisfaction do not capture a cognitive evaluation of life but rather an underlying mood.

Seligman (2011) posits wellbeing consists of the nurturing of one or more of the five following elements Positive emotion, Engagement, Relationships, Meaning, and Accomplishment.

SWB and other concepts of wellbeing

The conventional economic approach to wellbeing is a utilitarian approach, whereby it is assumed that individuals, given constraints (most notably financial resources available), make choices that maximise their utility. This approach naturally leads to a focus on improving financial measures such as income (and more famously GDP) so as to enable individuals to achieve greater utility. However, as is well-documented (e.g. Stiglitz-Sen-Fitoussi, 2009) there are many failings with this conventional approach. Most notably conventional economic measures fail to capture many aspects important to wellbeing.

An alternative concept of wellbeing is based on objective lists of indicators[5] that reflect different aspects of what is assumed to be important to wellbeing. These indicators include measures relating to health (e.g. life expectancy), crime, environment, relationships. There are many problems with these measures as well; most notably it is not clear whether such indicators can comprehensively capture important aspects of wellbeing (e.g. the importance of relationships), how much each indicator contributes to overall wellbeing, and even what is an optimal level (e.g. is there an optimal level of community participation?). Furthermore as with other approaches there are also a range of measurement challenges.

An alternative approach to considering wellbeing for public policy, made famous by Sen (1999), is to focus on capabilities that are available to people. While in some respects the approach is similar to the conventional economic approach that embodies choice, the capability approach focuses on what people are *effectively able* to achieve, which may vary by individual. Capabilities also encompass a broader consideration (than is reflected in measures of resources) of the opportunities that are available to people, such as political freedoms. In practice, the capability approach is however difficult to use (see Biddle (2011a) for a critique), as capabilities are difficult to measure and because, as is the case for other social indicators, it is difficult to assess the significance of any one measure.

Descriptions of wellbeing are often closely linked to health[6] and similarly SWB to mental health. Health and mental health might be considered both determinants of wellbeing and indicators of wellbeing. However wellbeing and SWB is generally considered as being broader. For example, mental health or mental illness has a focus on negative factors whereas SWB also considers positive factors, such feelings of joy. Mental health (or illness) also tends to be narrower in scope in terms of cause and cure. For example, someone may have good mental health but experience physical pain.

---

5 While often described as objective lists, they might also include both subjective elements (e.g. levels of trust).

6 For example, the ABS (2001, page 6) states 'Wellbeing [...] can be seen as a state of health or sufficiency in all aspects of life'.

A number of institutions have developed their own wellbeing frameworks that contain elements of the approaches above. A prominent example is the Commonwealth Treasury, which uses a wellbeing framework that reflects both a utilitarian and capability approach. It is based on the dimensions of: (i) the level of opportunity and freedom that people enjoy; (ii) the level of consumption possibilities; (iii) the distribution of those consumption possibilities; (iv) the level of risk that people are required to bear; and (v) the level of complexity that people are required to deal with. The framework is however intended only as a descriptive tool to provide context and to inform policy analysis.

There have also been attempts to develop composite measures of wellbeing in the form of wellbeing indices that draw-on multiple measures. Prominent examples include the Human Development Index (HDI)[7] and the locally developed Herald Age Lateral Economics index (HALE).[8] A key challenge to these indices is that the indicators used and their weight ultimately reflects the judgement of the designers.[9] Being a composite of objective measures, they also provide limited use for policy.

2.2 Measuring SWB

2.2.1 Types of measures

There have been numerous attempts to measure SWB through surveys of individuals.[10] A number of survey instruments have been proposed and applied that reflect the different aspects of wellbeing, the different theories and the need to tailor measures for different population groups.

The range of approaches that have been taken to measuring SWB vary across a number of dimensions. Broadly SWB measures might be described as including:

- Evaluative measures based on people's assessments of their life as a whole or domains of life. For example, question include:
  - How satisfied are you with your life as a whole?
  - How satisfied are you with your [health/relationships etc]?
- Affect (emotional experience) measures which aim to measure peoples' feelings over short periods of time. For example, questions include:
  - How much of the time during the past 4 weeks... ['have you been a happy person?'/ 'Have you been a nervous person?' etc]
- Eudemonic measures; reports of purpose and meaning, and worthwhile things in life.

---

7 See http://hdr.undp.org/en/statistics/hdi/.

8 See http://www.smh.com.au/national/wellbeing.

9 An innovation of the HALE index is that it utilises SWB information to determine weights and modify keys elements of the index.

10 The Australian Centre on Quality of Life notes that maintain a directory of over 800 instruments that purport to measure QOL. See http://www.deakin.edu.au/research/acqol/instruments/instrument.php.

For a given survey, the incremental cost of collecting SWB measures is small as they require only asking a few additional questions. As such, many established surveys capture a mix of the above SWB measures. In a recent study for the UK Office for National Statistics (ONS), Dolan (2011) recommended that the three types of SWB listed above be captured in National Indicators.[11]

Within the above categorisation there are other distinctions. These include the following:

- *Satisfaction or happiness.* Some surveys focus on how 'happy' people are with their life (or aspects thereof); others on their satisfaction. In general (and in the main Australian surveys), it appears more common that evaluative measures are based on satisfaction.

- *Number of items.* Some measures of wellbeing are based on a single-item (i.e. single question); others are based on an index measure formed a multiple questions. Multi-item measures can be used to explore separate domains of SWB, to enable robustness checks and to reduce measurement error. However, single item measures are simpler and less-expensive to administer. The main Australian data sources include single and multi-item questions.[12]

- *Time period.* For experience measures the time-period is important. Some measures are based on experiences over a period of weeks. Some attempts have been made based on very short-term; for example the Day Reconstruction Method (DRM) is based on assessments of experiences in the previous day and the Experience Sample Method (ESM) attempts to capture peoples experiences in real-time. Shorter time periods are preferable due to concerns that people have difficulty in recalling their experiences.

- *Scale used.* For measurement among adults, it is common to ask respondents to measure their satisfaction or happiness on a 0-10 scale (e.g. from 0- Completely dissatisfied to 10 – Completely Satisfied). Some surveys use alternative scales (e.g. the ABS General Social Survey uses a 7 point terrible-delighted scale). A number of community based surveys are using a 5 point scale.

There are some attempts to establish some standard measures (instruments) that can be applied in different surveys. A summary of prominent instruments is provided in Table 1 below. However, a universal standard set of measures has yet to be determined. There are ongoing debates as to what SWB measures capture[13] and what are the most appropriate SWB measures. These debates will likely continue for some time. Regardless, for most policy purposes this appears unlikely to be a limiting issue.

First, there appears to be some consensus that the most important and useful measures of SWB for policy purposes pertain to evaluation measures (e.g. based on life satisfaction). Such

---

11 Dolan et al. (2011) argued that any account must be 1. theoretically rigorous, 2. policy relevant; and 3. empirically robust.

12 The relative merits of a single or multi-item measure is debated. Shields and Wooden (2003, page 7) argue that 'While single-item measures are often regarded as problematic, in the area of SWB it has been well-established that single item measures perform as well as, if not better than, multi-item measures'.

13 For example, Diener, Lucas, & Oshi (2002) consider that life satisfaction measures capture a cognitive evaluation. Cummins (2009, pg 4) argues that 'the response that people give does not represent a cognitive evaluation of their life [...] Rather it reflects a deep and stable positive mood state [...]'.

measures are commonly available and commonly analysed.[14] Further there is some consensus of the types of evaluation measures. Of note, the expert group convened by WHO-Europe (2012) concluded that there are three established ways to capture SWB through evaluation measures:

1. Ask a single question about life satisfaction.
2. Use the Satisfaction with Life Scale (SWLS), which asks five life satisfaction questions and sums the responses. These questions do not relate to different domains, but attempt to overcome the risks of over-specific understandings of an individual question.
3. The Personal Wellbeing Index (PWI), which is based on questions about eight different areas of life. A key difference and potential benefit over the SWLS is that it provides data on how different dimensions of life affect well-being.

Second — not surprisingly — there is a strong correlation between different measures. As such, for most purposes (such as identifying population groups with low SWB) the choice of measure will not be a significant factor.[15]

The choice of measure will be, in part, pre-determined if an established data source is used for analysis. As noted below, there are a number of established data sources in Australia that may be leveraged (through analysis of existing data, or comparison with additional surveys). Some datasets (e.g. HILDA) capture a number of different SWB measures enabling sensitivity analysis to be conducted.

The choice of instrument may be a consideration in determining which data source (and which survey questions within a data source) to use and when new surveys are conducted. The main established data sources in Australia capture life satisfaction measures that can be replicated for supplementary surveys. For example, the PWI is a free-to-use instrument that has been applied in conducting specific surveys for policy analysis.

It is also noteworthy that the problem of multiple measures is a problem typically encountered with using other social and economic indicators.[16] For example, in measures of progress multiple indicators are generally used and even when cost-benefit analysis is undertaken there are often secondary considerations in addition to present values of a dollar amounts.

---

[14] There are a number of issues with emotional response surveys. One concern is that individuals suffer from recall bias. Another issue is that emotional responses will not capture all aspects of wellbeing. As argued by Diener et al. (2009, Chapter 2, pg 18) 'humans can pursue desires that are independent — or at least more loosely connected to — the affect system'.

[15] However, the measure used can be important for some applications. For example, Biddle (2011b) compared the wellbeing of Indigenous and non-Indigenous Australians and found significantly different results depending on the SWB measure used. Powdthavee and van den Berg (2011) examined the wellbeing valuation approach (discussed in Section 3.2.2 of this report). They found significantly different results depending on the SWB measure used.

[16] This point is argued Diener et al. (2009, page 127).

Table 1: Common instruments for measuring SWB

Instrument/Scale	Description
Personal wellbeing index (PWI) Source: The International Wellbeing Group (2006).	An index based on satisfaction measured across seven (or eight) domains. There is also an optional question on satisfaction with life as a whole. In addition to an adult version, there are parallel versions aimed at school children and adolescents, pre-school children, and people with an intellectual disability or other cognitive impairment. The domains in the adult version are: standard of living, health, life achievement, personal relationships, personal safety, community-connectedness, future security, and spirituality (if applicable).
Satisfaction With Life Scale (SWLS) Source: Diener et al. (1985)	The SWLS is a short 5-item instrument designed to measure global cognitive judgments of satisfaction with one's life.
The Positive and Negative Affect Schedule (PANAS).	A 20-item self-report measure of positive and negative affect.
Kessler Psychological Distress Scale	A 10-item questionnaire intended to yield a global measure of distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4 week period.
SF-36®	The SF-36® Health Survey is a generic outcome measure designed to examine a person's perceived health status.
PERMA Source: Seligman (2011)	Assesses wellbeing for adults from questions on: Positive emotion, Engagement, Meaning, Relationships, and Accomplishment.

2.3 Issues and concerns with SWB measures

The use of SWB measures for public policy has captured strong criticism as well as support. This section discusses the key issues and concerns. Much of the debate has been focussed around some extreme positions that have been put forward, in particular relating to an apparent paradox (known as the Easterlin paradox) that economic growth has not led to greater 'happiness'.[17]

Extreme positions aside, there are some important issues and concerns with using SWB measures that need to be considered. A full review is out of scope of this paper but an overview of the relevant issues is considered in this section below.[18]

[17] Some of the views are captured in a debate held by the Economist. See http://www.economist.com/debate/overview/204.

[18] For a comprehensive review of the debates see Diener et al. (2009).

2.3.1 SWB and objective measures

It is tempting to consider that SWB is all that matters and that any objective measure merely captures an intermediate outcome that has an implication for SWB.[19] However, there is broad consensus that SWB measures are by themselves insufficient for measuring wellbeing and that both objective and subjective measures are important. Broadly the key issues with using just SWB are that there are:

- theoretical limitations to SWB including that:
  - SWB may be ineffective in providing an adequate safeguard due to how people adapt (see discussion further below)
  - SWB is a measure of present evaluations – it does not predict the future
  - debates continue as to what SWB measures capture.
- practical issues. For example:
  - it is impractical to undertake subjective measurement on some groups (e.g. the very young and mentally disabled)
  - relative to some other measures, SWB may be expensive and difficult to measure.

2.3.2 The reliability and validity of SWB measures

It is reasonable to question whether the SWB measures can be relied upon for the purposes of measuring and analysing the subjective aspects of wellbeing. The psychometric properties[20] of many common SWB measures have received close scrutiny. There appears to be general consensus that the main SWB measures used have performed sufficiently well to be relied upon for analysis purposes.[21]

SWB measures have been shown to have good reliability — that is, provide consistent results under consistent conditions.[22] SWB measures have validity in that the results are consistent with other measures and theories of wellbeing. For example, there is evidence that (see Stutzer and Frey, 2010) that SWB measures correlate with other measures of wellbeing including objective measures (such as suicide risk). There is also some evidence of interpersonal comparability of SWB measures; SWB measures correlate well with third-party ratings of satisfaction and there is evidence that different people's reports of pain associated with physiological reactions are similar.

---

19 Another argument is that the distinction between objective and subjective measure is meaningless to the extent that "so called 'objective' measures are actually a product of our perceptions and, as a consequence, subjective." (Cummins 2000, pg 56).

20 Psychometric properties are those aspects of a test or a measure that say how good the test or measure is.

21 For a review of the reliability and validity of SWB measures see Diener et al. (2009) or Stutzer and Frey (2010).

22 Tests of reliability are performed include retests of individuals within surveys and over time.

Survey bias

A concern with any survey of individuals is that responses will be biased by external factors. There have been numerous studies that have examined survey bias in SWB measures. Some of the findings include that SWB responses are influenced by the:

- *Order and context in which questions are presented.* For example, the number of dates a student had in the past month was found to be important for life satisfaction but only when the dating question was asked before the life satisfaction question (Strack, Martin, & Schwarz, 1988).
- *Administration mode*. There is evidence that found individuals consistently report higher SWB in phone than in face to face (F2F) interviews and that the mode may affect correlations with other factors[23] (Dolan and Kavetos, 2012).
- *Current mood.* Evaluative measures of life satisfaction are influenced by how good respondents feel at the moment they are asked. (Schwarz & Strack, 1999).
- *Other factors*. For example, Taylor (2006) found differences by day of the week.

While researchers need to be wary of survey bias, such biases can generally be managed through a number of techniques. For example, a bias due to the mode (or any other source of bias) may be managed by using a random mix of mode; by ensuring that the mode used is consistent between groups or periods being compared; or including explicit controls for the mode used.

2.3.3 How should SWB be interpreted and applied?

Interpersonal comparison of SWB and aggregation

A challenge with any measure of wellbeing is how to aggregate results across a group of individuals or time. When a numerical scale for SWB is used, it is common to see average measures reported; when a qualitative scale is used, the proportion in a particular category (e.g. reporting 'very happy') is typically presented. There is however no definitive answer as to what is the optimal aggregate statistic that should be the object of policy; for example, is it not clear whether it is preferable to maximise the mean, median or some other aggregate statistic of wellbeing.

How results are aggregated may be of little relevance for many purposes (e.g. we might expect that generally a ranking based on mean and median or most other aggregate statistics will produce very similar results). However, in some circumstance the choice of statistic is important, particularly where results do not follow a symmetrical distribution. In such circumstances the most preferable approach may be to present sensitivity analysis.

2.3.4 SWB, adaptation and expectations

A key finding of SWB research is that individual SWB is remarkably stable over time. There are a number of contributing explanations as to why. These include that people adapt

[23] For example in relation to employment and education, the impact of the characteristics on SWB is much less in phone compared to face to face surveys.

through automatic internal (i.e. neurological) processes (see Box 2 on page 14) or by physical means (e.g. changing the environment to cope with new life circumstances). Another potential reason is the people's life satisfaction (and possibly their evaluation) is influenced by their expectations. Thus a person may be less likely to report being satisfied with their life (or any domain of their life) if they had greater expectations of what constitutes a good life. People's expectations will no doubt change over time as incomes rise and technology improves. People's expectations may also be determined by comparison with peers.

That SWB can be affected by adaptation or by changing expectations provides some philosophical challenges to applying SWB measures. For example, how should policy makers consider groups who rate poorly on objective measures of wellbeing but due to low expectations report high SWB? If we were to ignore these other objective indicators, we could conclude that wellbeing could be increased by merely lowering expectations.

Such concerns are clearly potentially very significant. However, for many applications they will be largely irrelevant. For example individual expectations are likely to be of little relevance for identifying and considering policies and programs for group that have been found to have abnormally low SWB. Furthermore the issue of expectations will not be a consideration where analysis is undertaken over time and for groups where expectations are stable.

Adaptation and expectations may be important in some situations. For example, care may be required in the construction of programs and policies that lift expectations before improvements can be delivered. Another challenge occurs in the analysis of SWB where adaptation can occur. For example, a person's SWB might adapt to a negative state (e.g. contraction of a debilitating disease or extended unemployment) in part through adaptation or a lowering of expectations. How much should we consider the lowering of expectations in policy analysis? In the extreme example, if we did not pay attention to changing expectations and relied solely on SWB, we might conclude that there is negligible cost to some negative outcomes. While such an extreme conclusion appears inappropriate, the appropriate response is not clear cut; for example, we presumably should care more about avoiding negative events where adaptation is less likely to occur, even if adaptation is solely due to changing expectations.

2.4 Key findings from SWB research

2.4.1 Overview and introduction

Based on data on SWB measures, research on wellbeing has advanced significantly over the last few decades. This section provides a brief summary of some of the key findings from this research. It is divided into two sub-sections. The first section summarises a number of findings on causes of, and correlates with, wellbeing. The second section aims to draw-out and briefly summarise the main policy-relevant themes.

2.4.2 Findings on wellbeing causes and correlates

Many of the factors correlated with SWB are also correlated with each other. This makes it difficult to identify causation and the particular contribution of any one factor. However, through a variety of techniques (e.g. multivariate regression) and data sets (including longitudinal and cross-sectional data sets) there has been some convergence in findings.

There have been a number of attempts to summarise the key findings of the research. Layard (2005) summarised the findings of the research of drivers of happiness. He concludes that much relates to genetic make-up and up-bringing. He identified the 'big 7' factors that can be influenced in adult life as pertaining to family relationships; financial situation; work; community and friends; health; personal freedom and personal values.

More recent and comprehensive summaries of the research are provided by New Economics Foundation (Stoll et al. 2012); Dolan et al. (2008) and Diener et al. (2009). A brief summary of key findings (drawn from Dolan et al. 2008) is provided in

Table 2 overleaf. The key findings from Stoll et al. (2012) — a more comprehensive and recent review — by area are repeated in Table 6 in the Appendix. With a policy perspective in mind they summarised the key findings according to categories of the economy, social relationships and community, education and care, local environment, and personal characteristics.

These research results make interesting reading but it is sometimes difficult to identify policy implications. Many of the findings are unsurprising. For example, as we would expect wellbeing is correlated with higher income and better health. Furthermore, some of the results are of limited relevance for policy; for example, wellbeing is strongly correlated with many personality characteristics (e.g. age and ethnicity) that cannot be directly influenced through public policy.

Nevertheless, an examination of the causes of, and correlates with, wellbeing can provide policy makers with important insights for some groups and factors. For example, one population group that has received substantial research interest is the unemployed. Unsurprisingly, repeated studies have found a strong relationship between wellbeing and unemployment; however the relationship is much more significant than can be explained through the loss of income alone. Interestingly, the negative impact of being unemployed on wellbeing is significantly less for people in high unemployment regions, suggesting that there may be non-financial ways of reducing the misery faced by the unemployed.

Table 2: Selected findings from SWB research

Area	Findings
Income	The relationship between income and SWB is complex. Although SWB increases with greater income, the significance of income varies greatly based on situation. For some groups, a lack of financial resources is a significant barrier to higher SWB. For many, absolute income may be of less importance than relative income. There is mixed evidence on the impact of income inequality on SWB.
Education	The relationship between SWB and education is difficult to isolate. There is some but mixed evidence to suggest that education improves SWB but this affect may be through health.
Health	Evidence of a strong relationship between SWB and both physical and psychological health. Some evidence suggests that people adapt to some forms of disability and that people are poor at forecasting how different health states affect their wellbeing.
Work	Insufficient evidence to draw clear conclusions between work characteristics (e.g. type of employment, number of hours)
Unemployment	Strong evidence of unemployment substantially reducing SWB both in short and long-term, much more so than can be attributed to the loss of financial resources. While individuals with low SWB may be more likely to become unemployed, these selection effects appear to be small. The negative effect varies: men and the middle aged are more affected; the effects are lessened if their partner and others in the neighbourhood are unemployed.
Carers	Strong evidence that carers of the disabled have lower SWB.
Commuting	Strong evidence that commuting lowers SWB and some evidence that people underestimate this affect.
Community involvement	While generally a positive correlation is found between SWB and participation in community organisations the causation is not clear.
Religion	The evidence is fairly consistent and suggests that regular engagement in religious activities is positively related to SWB.
Trust	Clear evidence that trust in other people (social trust) is strongly associated with SWB.
Public institutions	Trust in key public institutions such as the police, the legal system and government is also associated with higher life satisfaction.
Relationships	People in stable relationships have higher SWB. It would appear that, overall, socialising with family and friends is positively associated with SWB.

Source: Summarised from Dolan, Peasgood and White (2008).

2.4.3 Key policy relevant themes

Most people are happy most of the time but there are groups with abnormally low wellbeing

A common finding is that most people's level of SWB tends to be relatively stable within a normative range, both over time and between population groups. For example, (as reported in Cummins et al. 2012) from a number of studies, the correlation between repeated surveys of individuals is around 0.70.

It appears that people's SWB is resilient to many life events; that is, people are able to adapt to different environments and situations and, over time, their level of SWB will tend back towards the normative range.

The stability of SWB has led some researchers to question the extent to which individuals or public policy can make a substantial difference to SWB. However, it is clear that adaptation is neither complete nor immediate and thus improvements to SWB are possible.[24]

Furthermore, in some situations, it appears that people's ability to adapt fails and they experience abnormally low wellbeing, well below their normative range. For example, it is found that people struggle to adapt to the loss of a child or becoming the carer of a disabled family member (see Case example 5, page 28). These failures to adapt are in many cases related to situations where people lack resources, which may include support from close relationships and/or financial resources.

These findings have formed the basis of set-points and homeostasis theory of wellbeing (see Box 2 below). The key elements of the theory are that individuals have a genetically determined 'set-point' range for their SWB and that an internal process ('homeostasis') controls individual's wellbeing to within that range, much like the body controls body-temperature. However in some situations, when facing a significantly adverse environment people fail to adapt (referred to as homeostasis failure) and report abnormally low SWB.

Box 2: Set points and homeostasis theory

The theory of SWB Homeostasis proposes that, in a manner analogous to the homeostatic maintenance of body temperature, SWB is actively controlled and maintained. The theory proposes that the responses to a SWB question like "How satisfied are you with your life as a whole?" (as described by Cummins 2009, pg 4), 'do not represent a cognitive evaluation but rather a deep and stable positive mood state [...] that is dominated by a sense of contentment flavoured with a touch of happiness and excitement.'

The theory also posits that individuals have 'set-points', genetically determined characteristics for each individual, which strongly influences each person's normal level of SWB. Set-points, like body temperature, are not modified by environmental experience but rather constant.[25]

[24] See Diener et al. (2009, chapter 6) for an in-depth discussion.

A testable prediction of the set-point/homeostasis theory is that the amount of variation in SWB will vary significantly between groups with different resources at their disposal; that is those with financial (and other support) resources are less likely to experience homeostatic failure and thus the variance in SWB for these groups will be less.

Source: Cummins (2009).

Regardless of theory (of note, the set-point/ homeostasis theory is not universally accepted), the policy implications appear clear. There are identifiable 'vulnerable' groups in society who have abnormally low levels of wellbeing and whose wellbeing may be significantly improved with additional support.

Poor forecasting of wellbeing

People appear to be poor at forecasting their future wellbeing in different situations. A frequent finding of research on SWB measures is that there can be significant differences between what individuals experience (as measured by SWB) and what is reflected in people's preferences (i.e. in actual choices or elicited from surveys).

There are two main implications for government policy. First, care is required when policy analysis is based on individual (stated or revealed) preferences as they may lead to misleading ranking/valuations of outcomes that are different to what is obtained when wellbeing is used (see for example, Case example 4 on page 26, which compares the ranking of health-states based on stated preference and experience based approaches).

Second, an implication of poor forecasting by people is that — consistent with findings from behavioural economics literature — people may make poor choices and potentially there is a role for governments in helping people to make better decisions. As a product of the growing interest in behavioural economics, there is a substantial literature[26] on how governments may assist people in making better choices — for example, through educational campaigns and the provision of default options.

Governance and regulation

Another policy relevant finding is that good governance and regulation is an important determinant of wellbeing.

Trust in public institutions is found to be significantly correlated with wellbeing.[27] Evidence also exists that wellbeing is positively correlated with legal security and property rights and freedom from excessive regulation (Gehring, 2012) and greater levels of democratic participation and decentralised (i.e. federal) government structures.[28]

---

25 As discussed in Cummins et al. (2012), the term 'set-points' is preferred to baseline, which does not have connotations of normality, and equilibrium, which suggest the level may be changed by environmental factors.

26 A well known resource is the book 'Nudge: Improving Decisions about Health, Wealth, and Happiness' (Thaler and Sunstein, 2008).

27 See Stoll et al. (2012) for references.

28 See Stoll et al. (2012).

Relative concerns

Research based on SWB supports other behavioural findings that individuals care strongly about their situation relative to others.[29] For example, Clark and Oswald (1996) found relative income to be more important than absolute income in a study of work satisfaction of 5000 British workers.[30]

Research also provides evidence that people appear to care about relative position for some outcomes such as income and cars but much less on other outcomes including health and leisure time (Solnick and Hemenway, 2005; Carlsson et al. 2007). An implication is that people's effort and expenditure will be biased (relative to what is optimal) towards outcomes for which relative position is more significant. Thus for example, based on the theory of relative concerns we would predict that people overinvest in obtaining higher income and positional goods (e.g. cars) and allocate too little time to leisure and too little resources to health. In effect, relative concerns reflect social externalities that distort individual decisions.

The existence of relative concerns potentially has very significant implications for policy. For example, Frank and Sunstein (2001) argue that cost-benefit analyses on matters such as health and safety should be modified — with the implication of an increase in investment in safety — to take account of relative concerns. Such conclusions are, however, controversial and although there appears to be little disagreement that relative concerns exist and are significant, the issue of relative concerns does not appear to be considered in policy.

Other social externalities

Research on wellbeing highlights the importance of social factors. For example, wellbeing is found to be strongly correlated with strength of personal relationships, community engagement and trust in others. [31]

The relationship between such social factors and wellbeing is of interest as such factors may be impacted by government policy and programs either positively (e.g. via building community resilience) or potentially negatively (e.g. by policies whose side effects include some disruption to local communities). SWB measures are potentially useful as a basis for research to better understand the effects of policies and to value changes in other social indicators. For example, potentially SWB measures may be used as a basis for valuing the additional benefit, in terms of wellbeing, from improved community engagement.

---

[29] Concern for relative position may also be described as concern for status.

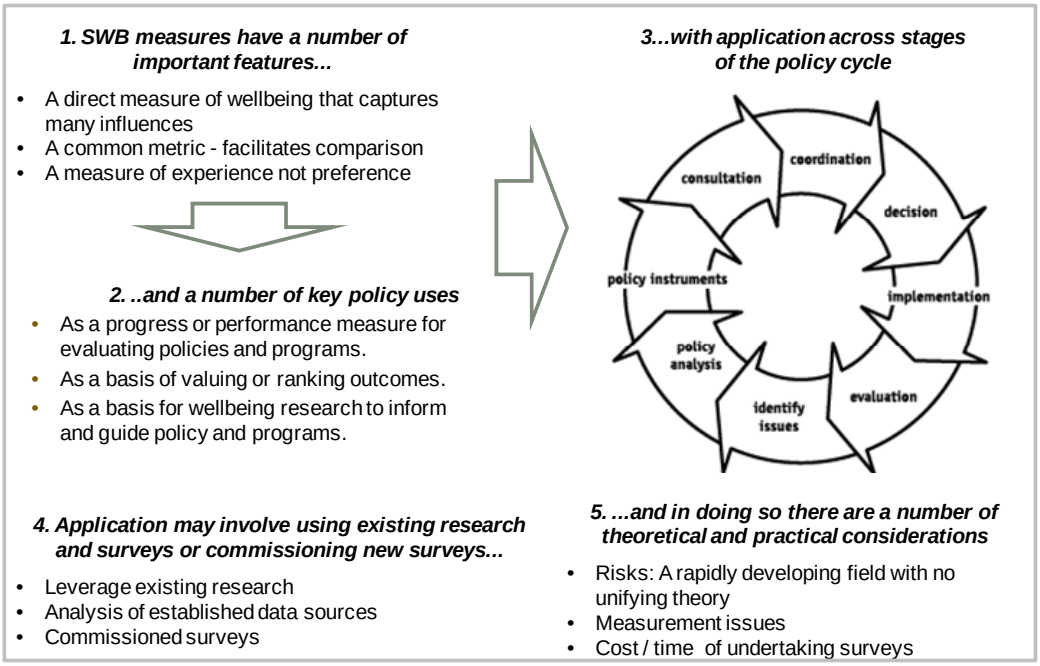
[30] Such findings are often used as a justification as to why in recent decades there have been substantial increases in incomes but not SWB measures.

[31] See Stoll et al. (2012) for references.

3. Using SWB in public policy

The use of SWB for public policy is captured in the schematic below. The features of SWB measures mean they have a number of key uses in policy that can be applied at various stages across the policy cycle. Application of SWB measures may involve leveraging existing research and surveys and/or commissioning new surveys. In applying SWB measures there are a number of theoretical and practical considerations. The decision to use SWB measures will depend on their relative advantage in the identified uses, which depend on circumstance.

Figure 1: Appling SWB to public policy



The rest of this section elaborates on these elements.

3.1 The features of SWB measures

SWB measures are primarily of interest because they fill a gap not met by traditional wellbeing measures that have included conventional economic measures (such as measures of income) and a range of other indicators (e.g. life expectancy).

The conventional economic approach to measuring wellbeing (see Box 3 below) is based on people's preferences and based largely on goods and services they purchase. As is commonly recognised, economic measures are limited in what they include — they fail to capture important aspects of people's lives that include the value of their health, relationships and the environment they live in.

A common complementary approach to measuring wellbeing is to measure other indicators of interest such as those relating to health (e.g. life expectancy), community connectedness (e.g. volunteering), safety (e.g. crime) and many others.[32] These often include subjective measures such as perceptions of safety and levels of trust.

However, there are also many issues with these other indicators. First, there are not good measures for many of the factors that are important to people; for example relating to human relationships. Second, the indicators approach provides no guidance as to how to weight the importance of different factors; for example it is unclear whether wellbeing would be improved more by increasing safety or improving health services. Third, there are many issues with the measures themselves. Measurement is often not straight forward and for many indicators (e.g. level of trust, the amount of volunteering) it is unclear what is the optimal level. Finally, the choice of indicators involves some subjective assessment.

Interest in SWB has increased because it helps overcome many of the problems with these conventional measures. As a direct measure of wellbeing, SWB reflects a broad range of influences (such as the strength of personal relationships) not contained in conventional measures. As such, SWB measures can be analysed to reveal new insights into the determinants of wellbeing.

Being a broad measure offers other advantages. SWB can be used in a broad range of situations (compared to objective indicators which may have a narrow focus). Because it is a broad measure of wellbeing that can be applied in most circumstances, SWB measures may be used as a common metric for comparing situations, policies and programs in terms of wellbeing.

A feature of SWB is that it is a measure of experience — not preference as is reflected in conventional economic measures. While in general we would expect our preferences to maximise our wellbeing, there are clear examples where this is not the case. For example, due to addiction and other behavioural biases, preferences selected may not maximise wellbeing. Furthermore there are situations where people lack information to inform preferences.

Finally, it is worth noting that the wellbeing of individuals can be of interest to governments (and non-government parties) because it is a driver of other factors of interest. For example, the wellbeing of individuals may be a contributor to academic performance; to performance in the workplace; to demands on government services and to social cohesion.

SWB measures also have limitations. As such they are most likely to be considered a complement to other measures and their use will depend on circumstance.

Box 3: Limitations of economic measures

The conventional economic approach to measurement — that uses the value of goods and services consumed — may be described as preference-based as it is based on the assumption that people make choices to satisfy their preferences. Under this standard economic approach, *utility* is reflected in people's choices. Consumers will choose to purchase a good

[32] For example, Community Indicators Victoria captures 76 indicators (including SWB and some economic indicators).

or service if the additional benefit (marginal utility) of doing so exceeds the price. Thus the price of goods and services paid becomes a basis for measuring the impact of different outcomes. Where markets do not exist, economists often turn to non-market valuation techniques that attempt to estimate what consumers would be willing to pay or willing to accept for different outcomes.[33]

However, there are many limitations to this conventional economic approach (based on preference satisfaction) for use in public policy. Many factors important to human wellbeing are not delivered through market transactions. For example, it is clear there are many social factors that are very significant to individual wellbeing.

Furthermore, there are many situations in which peoples choices are limited. People cannot choose different legal rules or social environments. For example, while different locations offer different environments, it is costly for people to move. At a more local level, choice is limited as some services are provided by monopolies. For example, many government services such as public transport, health, policing etc are monopoly services.

The conventional economic approach also provides limited guidance as to how resources should be allocated between competing groups; for example, standard economic theory would predict that any transfer of wealth between rich and poor would benefit the poor more than the loss experienced by the rich, however economic measures provide little guidance as to the extent of benefit and loss.

3.2 Uses of SWB measures

There appear to be three broad uses of SWB measures for public policy. These are as:

1. A progress measure or performance measure for evaluating policies and programs
2. A basis of valuing or ranking outcomes
3. A basis of research into wellbeing to inform and guide policy and programs

Using SWB for such purposes requires analysis on SWB measures, which in turn requires SWB data and resources to review, undertake, or apply analysis. These practical issues are discussed in Section 3.3.

3.2.1 Progress and performance measures for evaluation

SWB survey responses are potentially useful for monitoring purposes, either as a general measure of progress or as a performance measure used for program and policy evaluation.

A key benefit of SWB measures is that they directly measure wellbeing and as such are 'outcome' measures — measures of the ultimate desired benefits. In contrast, many

[33] Such as stated preference and revealed preference methods (see Section 3.2.2 of this report).

performance and progress measures are intermediate indicators that measure inputs, processes or outputs of programs that may be only loosely related to policy goals (and wellbeing) and may be incomplete in capturing key changes in wellbeing that are of interest.

The choice of what progress and performance measure to use will also depend on factors such as reliability, simplicity, cost and timeliness. SWB measures may also be desirable based on these other criteria. For example, SWB measures are relatively simple measures to explain and they can be reasonably cheaply and quickly captured through surveys.

There are a number of issues and challenges in using SWB as progress or performance measures for evaluation. First, SWB measures may not be applicable because the effects of the program on wellbeing are longer-term. For example, SWB may be an inappropriate measure for a preventative smoking campaign as the key wellbeing benefits occur some years in the future.

Second, SWB measurement may be difficult because the link between wellbeing and the program being evaluated is relatively small compared to other factors and thus difficult to detect.

Third, adaptation and changing expectations creates difficulties for analysis across population groups or over long time periods. For example, Biddle (2011b) notes the counter-intuitive result that SWB of Indigenous Australians as measured by life satisfaction is higher than non-Indigenous Australians despite significantly lower measures of wellbeing as measured by objective measures and SWB measures of emotional response. A possible explanation given is that Indigenous Australians have a 'different baseline' (i.e. comparison group) against which they conduct their evaluation. Similarly, changing personal aspirations overtime are commonly thought of as a reason why life satisfaction measures have changed little over time.

SWB as a general measure of progress

SWB is more frequently being considered as a measure for measuring progress. As noted in the introduction, the Stiglitz-Sen-Fitoussi (2009) report concluded that measurement of progress required both subjective and objective measurement of wellbeing.

Australian developments on using SWB as a progress measure at a national level include:

- The ABS Measuring Australia's Progress (MAP) incorporates some measures of SWB.
- Australian Unity publishes a National Wellbeing Index (in addition to a PWI) that uses subjective measures to form a general measure of progress.
- The HALE index uses information on SWB to weight and adjust indicators.
- A collaboration of organisations known as the Australian National Development Index (ANDI) has been established to develop a holistic measure of progress – an index that reflects the views of Australians in an ongoing, participatory process. The components of ANDI have yet to be determined but appear likely to incorporate SWB (see www.andi.org.au).

There is increasing interest in local progress measures that incorporate SWB. At present, the two most prominent examples are Hunter Valley Wellbeing Watch (HVWW) in NSW (see Case example 1) and the Community Indicators Victoria (CIV, see Case example 2).

The two examples provide an interesting contrast. The HVWW program incorporates a survey that focuses on SWB and the key factors that are expected to be significant determinants of wellbeing. The survey results are being used as an overall progress measure and as a basis for undertaking analysis on the drivers of wellbeing. Thus SWB is positioned as a key progress measure for the purposes of informing policy.

The CIV is recognised as a leading program for measuring indicators of community wellbeing. The CIV includes SWB — a PWI measure identical to the AU-PWI — but just as one indicator among a large range of indicators (76 in total). Thus it would appear less likely that the measurement of SWB will lead to research and actions.

Both the HVWW program and the CIV have generated great interest. Additional surveys based on the HVWW are now being deployed in other communities. The City of Sydney (see Appendix 1 , page 48) is now expanding its collection of community wellbeing measures using a framework based on the CIV.

Case example 1: Hunter Valley – Wellbeing Watch

Hunter Valley Research Foundation (HVRF)[34] developed Australia's first program to monitor regional wellbeing. The program called, Wellbeing Watch is based on a series of cross-sectional surveys of residents in the Hunter Region and the remainder of NSW

Three waves of the survey have been completed (2006, 2007 and 2009); completion of a fourth wave is in progress. Each survey has been conducted on 2000 adults including 1,500 from the Hunter Region and 500 from the rest of NSW. Six SWB measures were collected (each measured on a 5 point scale). These were:

1. Happiness in the previous four weeks
2. Satisfaction with life achievements
3. Sense of being valued by others
4. Satisfaction with standard of living
5. Optimism about the future
6. Satisfaction with life as a whole

These are similar but not identical to other established measures used in Australia. In addition to these and context questions, the survey included questions on key domains of wellbeing including employment, relationships, satisfaction with neighbourhood etc.

Source: http://hvrf.com.au/regional-research-program/community-wellbeing

[34] The Hunter Valley Research Foundation is a not-for-profit, independent research which receives support from a number of many sponsors including state and local government.

Case example 2: Community Indicators Victoria

Community Indicators Victoria (CIV) is a collaborative project, funded by VicHealth and hosted by the McCaughey Centre, School of Population Health, at the University of Melbourne.

CIV aims to support the development and use of local community wellbeing indicators in Victoria, Australia, with the purpose of improving citizen engagement, community planning and policy making. These indicators include a broad range of measures designed to identify and communicate economic, social, environmental, democratic and cultural trends and outcomes. In total there are 76 indicators.

The CIV includes both subjective and objective indicators. The CIV includes SWB captured using AU-PWI instrument set of questions.

Many of the indicators were captured through a phone survey of 24,900 Victorians (age 18+) conducted in 2011 (which followed a similar survey conducted in 2007). The SWB and other indicators are available for inspection via an online reporting tool.

Source: Community Indicators Victoria: http://www.communityindicators.net.au

SWB as a performance measure for evaluation

SWB may be used as an outcome performance measure for evaluating the effectiveness of policies and programs.

Broadly there are two ways in which SWB data may be used in conducting evaluations. Potentially existing data sources may be used if the data source captures a significantly large number of individuals who do and do not participate in the program. For example, Biddle (2011b, 2011c) reports on the effect of Community Development Employment Projects (CDEP) on Indigenous wellbeing from established data-sources.

Preferably, program specific surveys are used to undertake evaluation. A prominent Australian example of SWB data being used for program evaluation is an (in progress) evaluation of Youth Connections program (see Case example 3 below).

Case example 3: Youth Connections Program Evaluation

The Youth Connections Program helps young people who have left school, or who are thinking of leaving school, to continue with their education and ultimately gain a Year 12 (or equivalent) level education.

The Department of Education, Employment and Workplace Relations (DEEWR) and RMIT University Melbourne conducted a longitudinal study to assess the disengaged young people participating in the National Networks Youth Connections Program and changes in their SWB. The evaluation compared the SWB of the Youth Connections participants, before and after program participation, with a convenience sample of Victorian high-school students.

The study used a version of the PWI for school children (PWI-SC; Cummins and Lau, 2005). The study provided evidence that the program has been effective in improving wellbeing.

Key findings included that:

- young people in the Youth Connections sample reported significantly lower SWB; and
- there was a significant increase in the SWB of participants measured pre and post program.

Source: http://deewr.gov.au/youth and Tomyn and Norrish (2012).

A key challenge with using any performance measure is determining the counterfactual, that is, what would have occurred had the policy or program not being implemented. For the Youth Connections program a control group being used is a comparative group ('convenience sample').

One option that has been considered is that of a randomised control trial (RCT). A RCT requires a random selection of individual to participate in a trial of the program. The results drawn from individuals who participated in the trial may then be compared with those who had not (the control group). However, the use of RCTs is controversial — in particular due to the ethical issue of withholding a potentially useful program from a random selection of individuals. Furthermore there are a number of limitations (see Biddle 2011c, pg 18 for a discussion).

There may also be limited benefit of RCTs for measuring changes in subjective measures. A risk (regardless of whether RCTs are used) is that some or all of the measured change in SWB is a temporary effect that is due to program participants receiving greater attention. This risk is mitigated when the evaluation is on a modification of (or supplement to) an existing program.

3.2.2 Using SWB to value or rank outcomes[35]

Because SWB is a very broad measure of wellbeing it can be used as a common metric to compare outcomes. That is, it may be possible to compare any driver of change (including policies, programs and other changes in other measures) in terms of their expected impact on SWB.[36] This comparison can then be used as basis to rank different policies and programs. Furthermore, as it is also possible to relate financial and SWB impacts, impacts in terms of SWB can also be converted to financial measures.

Three potential applications of SWB as a common metric are:

1. As a basis of non-market valuation to provide an alternative of to conventional approaches. For example, SWB has been used in valuing environment issues (e.g. noise pollution), health states (see Case example 4 below) and social outcomes (e.g. costs of unemployment[37]).

[35] A useful resource on non-market valuation techniques including using SWB is 'Valuation Techniques for Social Cost-Benefit Analysis: Stated Preference, Revealed Preference and Subjective Wellbeing Approaches' (Fujiwara and Campbell 2011).

[36] The same cannot be done for other measures that are only applicable for specific applications.

[37] For example, Carroll (2007) estimated the loss of wellbeing from being unemployed in $ equivalent terms.

2. As a basis for determining the significance (i.e. weight) of other indicators of interest. For example, 'perceptions of safety' indicators are used in assessing the impact of crime: A potential means of assessing the importance of improvements in perceived safety is to base it on its relationship to SWB.

3. As a basis for comparing the relative effectiveness of different programs. For example, programs might be ranked in terms of the cost effectiveness in increasing SWB; priority could then be given to programs that achieve the greatest improvement in wellbeing for the lowest cost.

There are numerous examples of the first of these applications. At the time of writing, no examples of the second and third applications being used to guide policy have been found.[38]

The method of SWB non-market valuation

All three applications involve a similar method that is based on the valuation of non-market goods.

A SWB non-market valuation approach involves comparing the SWB over time or across groups to estimate the relative significance of different outcomes (such as a health state) to wellbeing. The approach can be used to place a monetary value on an outcome, by comparing the impact to SWB of the outcome relative to a change in income. For example, (as put by Fujiwara and Campbell, 2011):

> If a 20% reduction in local crime rates increases the life satisfaction of an individual by 1 index point and an increase in household income of $5000 p.a. also increases their life satisfaction by 1 index point, then we would conclude that the value of the 20% reduction in crime to them is $5000 per year.

In principle, the concept could be applied using any measure of SWB; however in practice it is most often based on measures of life satisfaction.

Currently, the main techniques for non-market valuation are:[39]

- Stated preference, where surveys are used to elicit estimates of people's willingness to pay (WTP) or willingness to accept (WTA) an outcome.
- Revealed preference techniques, whereby valuations for goods and services are deduced from people's behaviour.[40]

---

[38] However, as noted earlier, the HALE index uses SWB measures to determine the relative importance of some indicators in the index.

[39] When delivered by the market, the prices paid are used as a basis of valuing the goods and services provided. However, for non-market goods and services (and other outcomes such as health states) alternative techniques are required.

[40] There are two techniques: Hedonic valuation, where the price of related goods is used. For example, house prices might be used to assess individual valuation of road noise; and travel costs valuation, where the costs of using the good are analysed. For example, costs associated with travelling to a national park may be used to derive the value people place on the visiting the park.

SWB data provides a potential alternative approach based on people's experience. There are advantages and disadvantages of each non-market valuation approach. A brief summary is provided in Table 3 below.

A key attraction of the SWB valuation approach is that it more directly estimates the impact of an outcome; it does not rely on people's preferences. The SWB valuation method also helps to over-come other disadvantages of the more conventional approaches. An advantage over revealed preference techniques is that it does not rely on any assumptions relating to the markets of related goods.[41] An advantage over stated preference techniques is that it does not require individuals to put a value on the non-market outcomes in question, which may — relative to evaluating their wellbeing — be much more difficult. For example, individuals may struggle to place a value on a health (or social or environmental) state they have not experienced.

Table 3: Relative benefits of non-market valuation approaches

Approach	Benefits	Issues / concerns
Stated preference methods	Wide application and specific valuations Allows exploration of the reasons behind preferences Method can be applied ex-ante (i.e. to events that have not occurred) Widely used and researched Relatively easy to describe and explain	Sources of biases in responses including: hypothetical bias; protest valuations; and other survey-related biases. There is a significant discrepancy between results from WTP-WTA studies The approach is relatively costly
Revealed Preference Methods	Estimates based on real economic choices Cost-effective method	Subject to bias when there are market imperfections Not appropriate for measuring non-marginal changes
SWB approach	Cost-effective Reasonably wide application Fewer biases No market structure assumptions	Difficulties in estimating the marginal utility of income Requires a strong connection with SWB Issues in dealing with adaptation.

Source: Adapted from Fujiwara and Campbell (2011).

There are also issues with the SWB valuation approach. The outcome being measured must have a measureable impact on SWB. A particularly significant challenge with the SWB valuation is in the measurement (and subsequent sensitivity) to the impact of income. This, and to an extent other issues with the SWB valuation, led Fujiwara and Campbell (2011) to

[41] For example, a common approach using revealed preference techniques is to base valuations on property prices; however such an approach requires that property markets are in equilibrium.

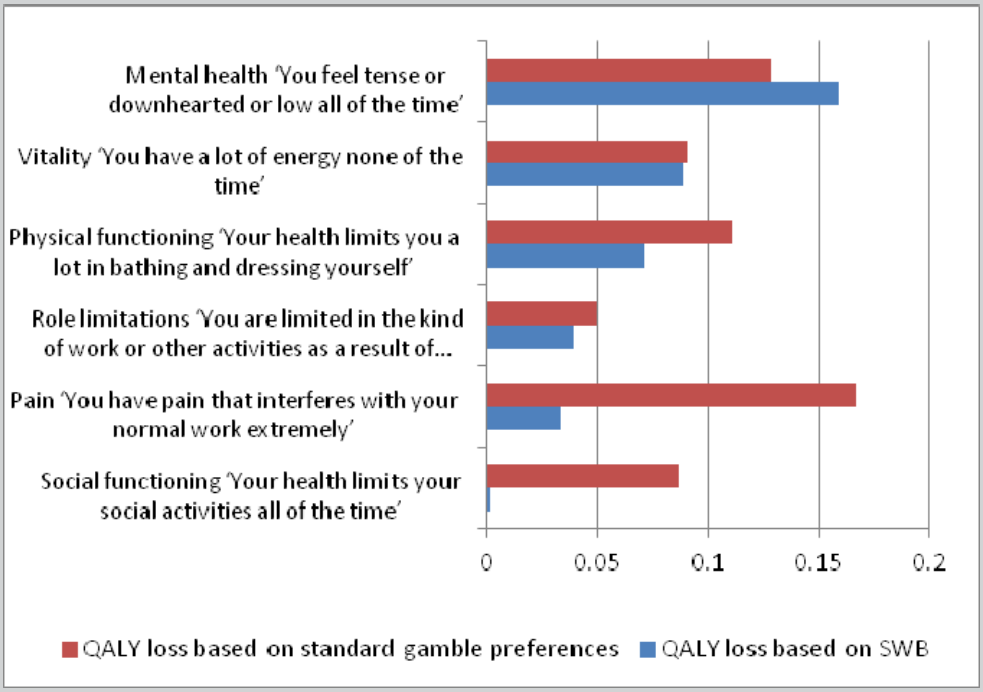
conclude that 'existing valuations are probably not robust enough yet for use in Social Cost Benefit Analysis'.

However, there are a number of ways in which SWB valuation approaches may be usefully applied. First, SWB valuation may be used to complement and provide a basis of scrutiny to other valuation techniques. Second, while the SWB valuation may not be appropriate for determining financial values of non-market outcomes, it may have significant value in determining their relative value or their value in terms of contribution to wellbeing.[42] For example, Dolan (2011, see Case example 4 below) used SWB to examine health outcomes.

Case example 4: Using SWB to rank health outcomes

A common approach to assessing the loss of quality of life of different health states involves asking people to state preferences for hypothetical options with different potential health risks. This approach (known as a standard-gamble approach) has led to formulation of Quality Adjusted Life Years (QALYs). SWB has been used as an alternative to approach to assessing the relative significance of different health states. Dolan (2007) compared the standard gamble and life satisfaction (SWB) approaches. As shown in the figure below, the loss of quality of life by health states varies substantially between the two approaches, with mental health being much more important when evaluated on a SWB basis.

Figure 2: Loss of QALY by disease estimated using different approaches



Source: Dolan (2011).

[42] Subjective measures may provide a guide to the relative value of non-market goods, even if absolute values cannot yet be placed alongside market goods.

3.2.3 SWB research to inform and guide policy and programs

Because SWB is a direct measure of wellbeing, research on SWB can provide new insights into wellbeing which may be used to inform and guide policy and programs. There are a number of ways this may occur. For example, research on SWB may be used to:

- Identify issues: For example, identify situations of low wellbeing
- Analyse issues: For example, identify underlying causes of low wellbeing
- Assess policies: For example, identify opportunities and risks associated with policies in terms of their impact on wellbeing
- Provide guidance on individual choices that are influenced by government.

Examples of these are discussed below.

Identify issues: situations of low wellbeing

A key use of SWB data is to identify situations and population groups that warrant attention because they are associated with abnormally low wellbeing – that is, wellbeing that is significantly below the normal range, or what may be predicted by other factors.[43]

A simple approach is to examine data sources for cases of abnormally low-wellbeing. An example is illustrated in Case example 5. As shown in the example, there are a number of groups with abnormally low wellbeing; in particular carers of the disabled, who were the subject of a specially commissioned survey. The results shown in this case example also highlight the plight of the unemployed whose wellbeing is significantly below that which can be explained by traditional economic measures (i.e. income).

The example shown involves a simple comparison of selected population groups. A more sophisticated approach could involve multivariate regression including controls for other factors such as age and income that are known to be correlated with SWB. A complementary use of SWB research is to leverage existing research undertaken elsewhere.

Low wellbeing does not in itself provide a justification for government intervention. It is necessary to consider the rationale for intervention; that is, why government involvement can provide better outcomes than what individuals and societal groups can achieve. For example, although a key finding is that being in a stable relationship is associated with high wellbeing, it appears unlikely that direct government intervention is appropriate.[44] Furthermore some causes of low wellbeing (e.g. personality factors) may be largely beyond policy control. Nevertheless, wellbeing research can provide a starting point for identifying issues that may warrant a government response or further research.

---

43 Of course, groups with abnormally high wellbeing are also of interest.

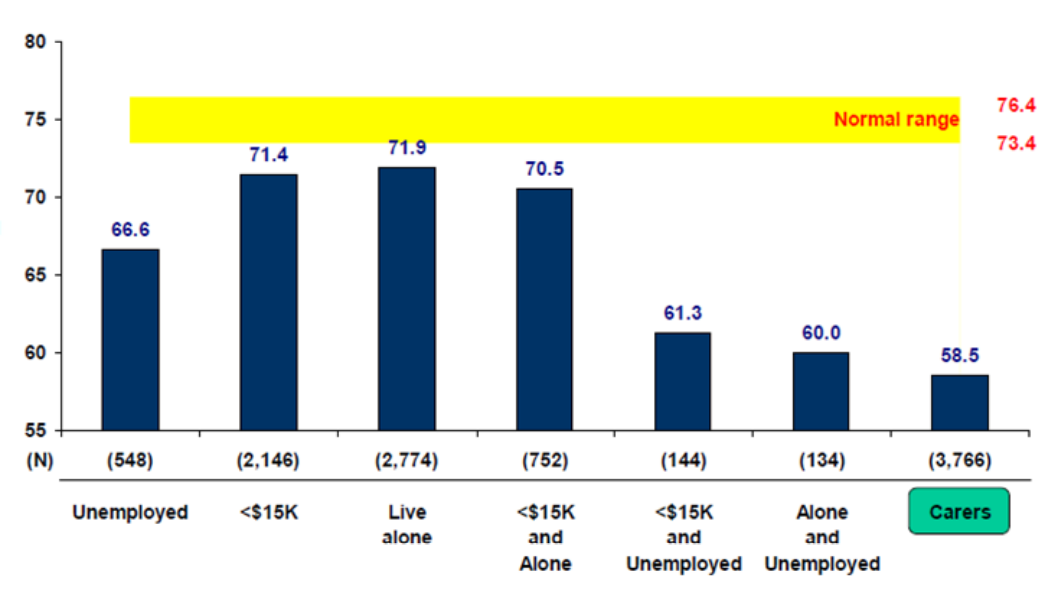
44 However, some indirect policies may be appropriate such as relationship support services.

Case example 5: Using the SWB to identify groups with abnormally low well-being

Figure 3 below illustrates an example based on the PWI. The figure shows the normal range of the PWI from respondents to the AU-PWI and a number of groups obtained from the AU-PWI and a special PWI survey conducted on carers. The figure highlights a number of groups that have abnormally low SWB; that is much lower than the normal range.

The most notable result in the figure is the abnormally low wellbeing of carers — people, usually family members, who provide support to other who have a disability, mental illness, chronic condition, or who are frail aged.

Figure 3: Comparative average PWI scores for select population groups



Source: Cummins et al. (2007, page 4, Figure 2.1.1). The first six groups are drawn from a sample of around 30000 respondents from the first 15 surveys of the AU-PWI. The results for the carers sample are from a special survey conducted in July 2007.

Analyse issues: Causes of low SWB

A related use of SWB measures is to assess and analyse the causes of low SWB. This can be achieved by examining correlations between SWB and potential drivers of low SWB. For example, the specially commissioned survey on carers (refer Case example 5 above) included questions on the nature and extent of care provided and the resources at the carer's disposal. Analysis was also conducted on how SWB for carers varied by circumstance, e.g. by age, other demographics, and the extent of care they were required to provide.

Another contrasting example is recent work on the wellbeing of Indigenous Australians (see Case example 6 below). The analysis was based on a mix of established data sets; in contrast to the carer's example, which was primarily based on a single tailored survey (with comparison to an established data source).

Case example 6: Analysis of Indigenous wellbeing

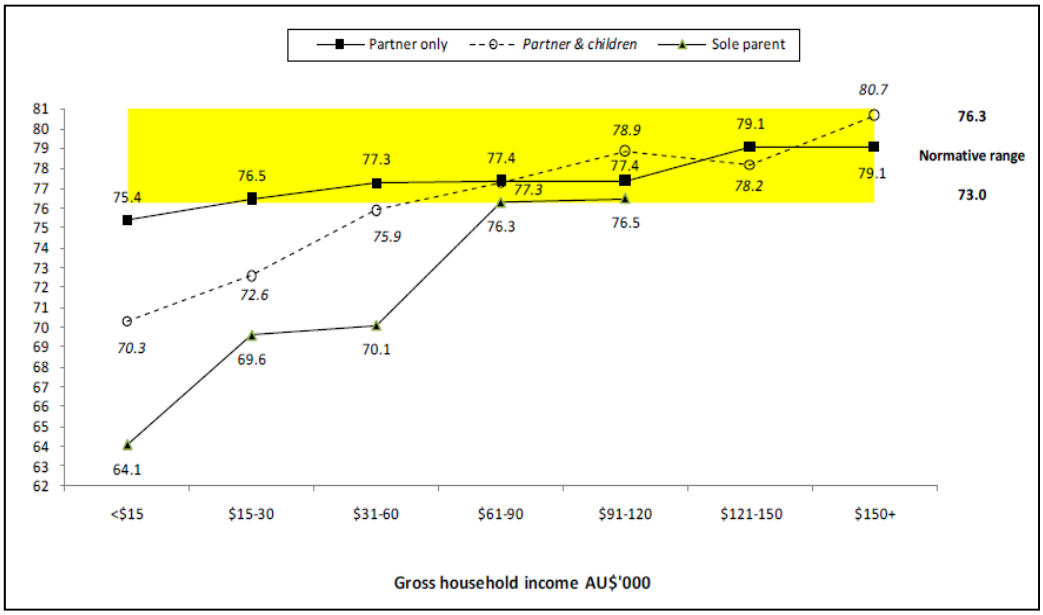
In 2010, supported by Commonwealth and State funding, the Centre for Aboriginal Economic Policy Research (CAEPR) at the ANU began a detailed analysis of the 2008 NATSISS data-set. The analysis included substantial work on Indigenous wellbeing using the NATSISS and other data-sets including the HILDA survey, the NATSIHS and LSAY (see the Appendix for a description of these data sets).

The project led to a greater insight into wellbeing of Indigenous Australians relating to a number of policy areas including health, employment (and the Community Development Employment Projects (CDEP) scheme), crime, cultural maintenance and remote communities.

The work on wellbeing was summarised in a thirteen-part lectures series that can be found at: http://caepr.anu.edu.au/population/lectures2011.php.

Potentially SWB measures may be used to understand in what circumstances government policies are likely to be effective in changing wellbeing and how to tailor policies to achieve the greatest return in wellbeing. For example, Figure 4 illustrates the importance of financial resources to the wellbeing of different populations groups. The figure suggests that greater returns to wellbeing will come from providing support to single-parents on low-incomes.[45]

Figure 4: SWB and income for select population groups



Source: Cummins (2009). Vertical axis is SWB as measured using the AU-PWI.

[45] Care is required in interpretation of the results presented. The graph represents a simple cross-tabulation of income and household composition – it does not take into account other factors that may be correlated with both income and SWB.

Similarly analysis of SWB and causes may be used to identify where other policies (i.e. not requiring financial support) may be most effective in improving wellbeing. For example, the survey conducted on carers, referenced in Case example 5 above, examined the importance of different types of support.

Assessing policies

A potentially valuable use of research on SWB is in assessing and designing policies and programs.

For example, quantitative research on wellbeing may be used to identify potential impacts of policy. For example, information illustrated in Figure 4 above, may be used in informing the level of support that different groups receive.

Another simple and practical use is in qualitatively assessing risks and opportunities to wellbeing of programs and policies based on SWB research. An applied example of this is the Mental Wellbeing Impact Assessment tool developed in the UK (see Case example 7 below).

Case example 7: Mental Wellbeing Impact Assessment (MWIA)

The National MWIA Collaborative (England) published and advocates the use of a Mental Wellbeing Impact Assessment (MWIA) toolkit that "enables people and organisations to assess and improve a policy, programme, service or project to ensure it has a maximum equitable impact on people's mental wellbeing."

The MWIA toolkit was developed by a partnership of specialists and organisations bringing together mental health, well-being and health impact assessment knowledge and skills. There has been a development process over seven years. A national collaborative steering group oversees the development and implementation of MWIA, including capacity building and policy development.

The toolkit includes a checklist of factors that may affect wellbeing to consider in developing policy programs. For example, the toolkit includes a set of questions that may be used to identify potential positive and negative impacts of polices (e.g. users of the toolkit are encouraged to consider 'Will [the] proposal enhance or diminish feelings of security, significance, belonging and connection in young people?)'.

The MWIA has received a very positive reception and has now been used extensively in the UK.

Source: http://www.apho.org.uk/default.aspx?RID=70494

Using SWB research to inform individual choice

Research into SWB provides potentially valuable information that may be used to improve decision making for significant life choices, in particular where it is difficult to forecast what life would be like under different circumstances. For example, research on SWB experienced by people could be used to assess the likely impact to wellbeing of having additional children, choosing a different work environment, moving location and different levels of retirement saving. Decisions on such matters are difficult as people have limited opportunity to learn from their own and others experience. Furthermore, as noted, in the previous section there is substantial research that highlights people are poor at forecasting how they will adapt to different situations.

The benefits of improved life choices largely accrue to individuals and, as such, it is appropriate to consider the role of government in providing or using such information; for example, we might question why, given the private benefits, an efficient market for providing such information would not develop.

There are two broad rationales for government involvement. First, there are already many situations where governments already influence individual choices through setting defaults (e.g. superannuation retirement saving) or use of other 'nudges'. Secondly markets may fail to efficiently provide information due to the public good nature of information and/or the transaction costs of efficient information provision.

3.2.4 Summary of SWB applications

A useful organising structure for considering how SWB measures can be used is to consider their use across the policy process; that is, from the process of issue identification through to policy evaluation.

There are different depictions of the policy process. A common depiction of the policy process is the Australian Policy Cycle depicted in Figure 5 (Bridgeman and Davis 2004).[46] The Australian Policy Cycle presents these phases of the policy process in terms of:

- Issue identification — issues are selected for attention from the myriad of matters pressed on government
- Policy analysis — using research and logic to develop options for decision-maker
- Policy instruments — considering the means to achieve government ends
- Consultation — testing policy with audiences outside the originating policymaking department

[46] A common alternative depiction is

- Agenda setting, includes identifying the problem/demand, getting the problem to the "governing body's" attention, and refining the problem/demand to a policy issue through careful analysis of what is underlying the presenting problem.
- Policy formulation including information collection, analysis, and dissemination; alternative development; advocacy and coalition building; compromise, negotiation and, ultimately, decision.
- Program implementation
- Policy evaluation.

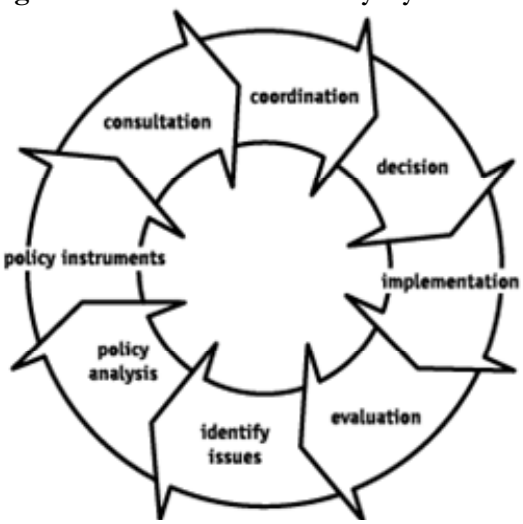
- Coordination — achieve 'tolerable compatibility' across government activities in an attempt to minimise harmful inconsistencies
- Decision— analysts' work is judged by the authoritative actors in the cycle
- Implementation — 'the machinery of government smoothly implements the Cabinet's wish—in theory'
- Evaluation — during which the utility of policy is questioned.

As reflected in the figure the process is a cycle. The stage of evaluation naturally leads to identification of issues and further policy analysis.

While in practice the formation of policy may vary substantially from the rational approaches described above, these provide a useful framework for describing the ways in which SWB may be used.

The three key uses of SWB measures described in the previous section broadly align to the different stages of the policy cycle. For example, program evaluation using SWB measures clearly aligns well with the 'Evaluation' stage of the policy cycle.

Figure 5: The Australian Policy Cycle



Source: Bridgman & Davis, 2004

There are however, some additions and modifications that are worth noting. For example, during the evaluation stage, research on SWB measures may also be used to assess the significance of measured changes. These are explored below and summarised in Table 4.

Table 4: Potential application of SWB research across policy cycle

Stage	Application
Issue identification	• Examine data sources, to identify groups and situations where wellbeing is abnormally low (or high) • Leverage established SWB research to identify likely causes, and situations, of low wellbeing • Use SWB progress measures to identify adverse trends
Policy analysis	• Use SWB as a common metric to weight or rank significance of issues • Use SWB research to understand underlying causes of low-wellbeing that may have policy relevance • Undertake tailored surveys on specific issues to investigate factors affecting wellbeing • Use SWB-valuation techniques to analyse issues
Policy instruments	• Use SWB research to identify policy instruments that are likely to impact wellbeing • Evaluate alternative policy instruments based on impact to SWB e.g. to estimate cost-benefit analysis of alternative interventions • Conduct detailed design on policy instruments using research on SWB
Consultation and coordination	• Seek coordination of SWB measurement and analysis across different agencies and programs • Improve consultation by providing an evidence base for policy/programs based on wellbeing
Decision	• Use impact on SWB as basis for decision making
Implementation	• Undertake opportunity and risk assessments of policies • Configure and refine policies for maximum benefits e.g. in setting defaults, based on SWB research
Evaluation	• Estimate performance and impact of programs based on changes in SWB • Evaluate programs based on relative impact on SWB • Establish SWB as a general progress measure

3.3 Practical application

Practical application of SWB for policy purposes requires analysis of SWB measures, which in turn requires SWB data and resources to review, undertake, or apply analysis. This section considers some of the practical issues in doing so.

Broadly there are three ways in which SWB information can be used for research and policy services. In order of increasing cost and time, the options are:

1. Leverage the existing research undertaken.
2. Conduct new analysis on:
   (a) established data-sets
   (b) on tailored (bespoke) surveys.

3.3.1 Leveraging existing research

There has been a wealth of research that has examined causes and correlates on SWB. The abstracts of most studies can be found in the World Database of Happiness (Veenhoven 2012). The database is described as 'an ongoing register of scientific research on the subjective enjoyment of life.' At the time of writing the database held information on over 15000 correlation research findings, observed from over 1400 studies.[47] The Australian Centre for Quality of Life (ACQOL) also maintains a database of useful publications.

3.3.2 Data sources

Established surveys capturing SWB in NSW

In Australia there are a number of established surveys that include SWB measures. The main public surveys are summarised in Table 5 in Appendix 1 . These main broad-population surveys are:

- Household, Income and Labour Dynamics in Australia (HILDA) Survey — a longitudinal survey that has been operating since 2001.
- Australian Unity Personal Wellbeing Index (AU-PWI) — a cross-sectional survey applied twice annually since 2001.
- The Australian Bureau of Statistics (ABS) General Social Survey (GSS) — a cross-sectional survey applied every 4 years (but with SWB only in the most recent survey).

In addition, there are a number of population specific surveys. These include:[48]

- ABS National Aboriginal and Torres Strait Islander Social Survey (NATSISS) — a survey of Aboriginal and Torres Strait Islander populations for a wide range of areas of

[47] Reported as at 1 January 2012; about half as many eligible findings have not yet been entered.

[48] In addition there are surveys conducted outside of NSW. Most notably Community Indicators Victoria, see Case example 2 on page 22.

social concern including health, education, culture and labour force participation. Conducted in 2002 and 2008.

- Longitudinal Surveys of Australian Youth (LSAY) — a longitudinal survey since 1995 that tracks young people from around age 15 to 25 years with a new cohort set started each 3 years.
- The Hunter Valley Research Foundation Wellbeing Watch (HVWW) — a cross-sectional survey of residents in the Hunter Region and some NSW residents.
- The City of Sydney, 2011 Residential Surveys include some measures of SWB.

Additional detail about each of these can be found in Appendix 1.

Each survey has its unique features that may make it applicable for some uses. Key distinguishing features include:

- *The population covered*. Some surveys used (the AU-PWI and HILDA) are based on the general adult population. Others are specific to population groups (e.g. youth or Indigenous). Of note the NATSISS has good coverage across all ages.
- *The SWB measures* (i.e. the survey instruments used). Most surveys include some measure of life satisfaction.
- *The survey approach*; whether the survey is longitudinal (i.e. repeated observations on individual respondents, e.g. HILDA) or cross-sectional (with a new random sample selected in each survey, e.g. AU-PWI).
- *The other information captured in the survey*. For example, other social-economic factors.
- *The accessibility of the data*. Generally confidentialised unit records are available for download from most data-sets. However ABS data surveys are generally only available through submitting code to the ABS's Remote Access Data Laboratory, which, as noted by Biddle (2011), can be limiting.

An alternative to using the public surveys is to use commissioned surveys. This may be necessary to target specific population groups (e.g. program participants) and/or include specific control variables.

Finally, it is possible to influence the content/focus of the public surveys that are undertaken. For example, in surveys such as HILDA, supplementary questions are included in each wave. The time from consideration of new questions to the data being available can be several years. However, while this process may be slow, it has the advantage of being a very cost-effective.

Other Australian data sources

There are a few other Australian data sources outside of NSW that contain SWB information. For example, Community Indicators Victoria includes the results of the PWI from a survey on 24,900 Victorians.

There are other surveys that have included subjective measures related to wellbeing. In particular there are health surveys that capture subjective measures of physical and mental health. Of note, these include:

- NSW Health conduct yearly health surveys (see http://www.health.nsw.gov.au/surveys) on Adults, School students and Children. The surveys include some subjective measures of health and mental health but no measures of life satisfaction or positive affect.

- The ABS Australian Health Survey (See www.abs.gov.au, catalogue number 4364.0.55.001is a general population survey includes questions from the Kessler Psychological Distress Scale.
- The ABS National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), (See www.abs.gov.au, catalogue number 4715.0) is a survey of the health circumstances of Indigenous Australians from remote and non-remote areas across Australia. Conducted in 2004–05. The SWB measures captured are selected questions from the SF–36 (4 positive aspects of social and emotional wellbeing) and the Kessler Psychological Distress Scale.

There are other surveys that include a range of subjective measures related to wellbeing. These include, for example, measures of financial stress contained in the ABS Household Expenditure Survey.

Other data sources of data and information

There are a large number of other surveys conducted international. The ACQOL provides a list of data-sources.[49] Notable data sources include:

- Eurobarometer data, a series of cross-sectional survey collecting data on life satisfaction since 1972 for an increasing number of countries along with the entry of new member states to the European Union.
- European Community Household Panel, a longitudinal study since 1994
- German Socioeconomic Panel is one of the longest running surveys of SWB. It is a representative longitudinal survey of approximately 11000 private households in the Federal Republic of Germany from 1984 (and eastern German Länder since 1990).
- The UK Office of National Statistics (ONS). In November 2010, the ONS set up the Measuring National Wellbeing programme to 'develop and publish an accepted and trusted set of National Statistics which help people understand and monitor wellbeing'. In April 2011, ONS included SWB questions for the first time in the constituent household surveys. The SWB questions cover 'evaluative', 'eudemonic' and 'experience' approaches. (Source: www.ons.gov.uk).

[49] See http://www.deakin.edu.au/research/acqol/data-sites/.

Commissioning surveys

For many purposes such as ongoing progress measurement, analysis of the impact of specific programs and population groups, existing established data-sources will be insufficient. In such case specific surveys may be undertaken.[50]

Conducting surveys on SWB can be reasonably straight-forward. The set of SWB questions themselves take a short time to administer (e.g. less than a minute) and can be generally administered using any mode (e.g. internet, telephone, face to face)[51] and administration can be outsourced to a market research firm.[52]

A key issue in establishing a survey is deciding on the measure of SWB. For consistency with other surveys it is desirable to use an existing SWB question set.[53] Given the rapidly growing application of SWB in surveys, there would be benefit from coordination and standardisation of the survey instruments used. However, as noted earlier, there is no agreed standard SWB instrument. There is also a risk that standardisation hampers innovation.

Within Australia, there is little consistency. The PWI, which is also used internationally, is perhaps the most frequently used instrument but it has not been the SWB measure of choice for a number of national data sources. In some cases consistency is compromised to meet other requirements. For example, due to time requirements and in order to maintain consistency with other questions, the HVWW (see Case example 1 on page 21) used only a subset of the questions contained in PWI and used a 5 point (rather than 11 point) scale. There are also other instruments that have been applied or been strongly advocated internationally.

The time and cost to undertake a commissioned survey will depend significantly on circumstance. As with all surveys, there can be additional requirements and complications. Generally a broader range of questions (e.g. demographic and other control questions) will need to be asked (again preferably to be consistent with other established sources). Design and testing of the survey can be a significant cost factor.

The costs of administrating the survey will depend on a number of factors including:

- The costs of recruiting survey participants.
- The mode of administration (e.g. whether internet, phone or face to face survey is used). For some population groups including young people and those with disabilities, face to face interviews are necessary.[54]
- The survey length (which can affect recruitment costs). It is likely that a minimum length survey will be 20 to 30 questions and take at least 8 to 10 minutes.[55]

---

50 Another alternative is to supplement existing surveys. For example, Carers Australia commissioned a supplementary study to the AU-PWI to target carers of the disabled.

51 As noted earlier, care is required as the mode of administration appears to be important.

52 For example, implementation of the HILDA survey is current outsourced to Roy Morgan Research.

53 For the use of some SWB instruments a licence fee may apply.

54 As noted above the mode of administration can influence results (Dolan and Kavetsos, 2012).

55 The HVRF reports that the average interview length was 15 minutes and the overall response rate for the study was 61 per cent (Hunter Valley Research Foundation, 2011).

3.3.3 Considerations and issues in using SWB measures

In using SWB measures, there are a number of considerations and issues.

First, the research on wellbeing is a rapidly developing field; while there are some very clear conclusions, there is some uncertainty as to the influence of some factors. There is a risk that SWB measures are used to justify pre-determined views rather than inform and guide policy. For this reason, it is preferable that consideration of SWB be used early in the policy process.

Second, there are a number of methodological challenges in collecting and analysing SWB measures. While this can be true with any measure, there are some particular considerations when using SWB measures. For example, being subjective, SWB responses may be influenced by the context, question order, question wording and interview mode. As such, care is required in designing and administering surveys and interpreting survey responses.[56]

Analysis of SWB can be challenging due to the complex relationship of SWB to other factors. There are a broad range of influences on wellbeing which makes it relatively difficult to isolate the impact of a particular factor. Furthermore, there is the challenge of reverse causality; whereby wellbeing is also a predictor of a factor of interest.[57] As a result, multivariate analysis may be required to isolate the impact of factors of interest.[58] This may be less of an issue for evaluating programs where there is little change to other factors.

Third, there are some practical issues. Given the broad range of factors affecting wellbeing, it may be rare that an existing data source will be sufficient. There can be significant costs in designing and commissioning additional surveys and conducting analysis.

An important limitation is that there is no established standard for SWB measures. As a result, there is a risk that results from surveys will not be comparable with other sources. While some standardisation is desirable, there are some challenges: there is no agreement internationally or within Australia as to what should be measured and different survey needs have different requirements.

3.4 Conclusions and recommendations

There is now general consensus that SWB measures capture important information not contained within traditional measures. As such, the insights from SWB research are likely to be of relevance to all government services and policies that are concerned with individual wellbeing. Consistent with the recommendation of the Stiglitz-Sen-Fitoussi commission (Stiglitz et al. 2009), SWB should be

---

56 A concern raised about the usefulness of SWB measures is that the results are not cardinal; that is, for example a using a scale 0 to 10, nothing can be inferred about the difference between two integer responses. A lack of cardinality is potentially limiting issue for undertaking some research. However, Kristoffersen (2009) notes that evidence suggests that people interpret the scales as being cardinal and that most common statistical analysis it is reasonable to assume cardinal measurement.

57 For example, in addition to unemployment being a determinant of wellbeing, wellbeing may be a predictor of unemployment.

58 For example, to analyse the impact of loss of income due to unemployment on wellbeing it is necessary to consider other factors related to unemployment such as health, relationships and education.

considered as a key progress measure alongside objective measures. This recommendation is relevant to all levels of government.

There are some situations in which SWB will be of greater relevance.

- In identifying and analysing issues of vulnerable people who have abnormally low wellbeing.
- For work on policies and programs that directly impact on wellbeing, in particular:
  - In prioritising issues, policies and programs in terms of their impact on wellbeing
  - In assessing risks and opportunities to policies and programs.
  - In evaluating programs that aim to directly address causes of low wellbeing.
- In analysing situations where preferences are difficult to measure and/or likely to be unreliable.

There are some limitations in using SWB measures and there is general consensus that SWB measures alone are not sufficient for measuring wellbeing and progress. For example, SWB measures will be of lesser use when the key impacts are over the longer term such as is the case for preventative smoking; or environmental degradation.

It is appropriate that each area of government evaluate its own needs as the relevance and importance of SWB measures will vary by use and circumstance. Some generic steps for conducting an initial assessment of need and opportunities are as follows:

1. Review implications of existing wellbeing research
   (a) Conduct a literature review of existing research findings on wellbeing that are relevant to the area of government
   (b) In the light of this research, review existing policies and programs for potential implications and areas for further research and monitoring.
2. Review information and analysis strategy for use of SWB measures
   (a) Review established SWB data sources against needs
   (b) Review existing surveys and other opportunities to capture SWB to address identified gaps
   (c) Review resources required to analyse and apply SWB information.

There is also a need for some coordination across government agencies. In particular:

- Development of a broader strategy for information collection. As noted earlier, there is a need to consider coordination and standardisation of SWB measurement across government areas.
- Development of standards for analysis and assessment. For example, for purposes of assessing priorities on the basis of improvements to wellbeing there is benefit of having consistency across agencies.
- Development of common tools and resources. These might include, for example:
  - A wellbeing assessment toolkit (potentially similar to that described in Case example 7).
  - Toolkits and directories of resources to support analysis.

References

Biddle, N. (2011a). 'Definitions of wellbeing and their applicability to Indigenous policy in Australia', Lecture 1, Measures of Indigenous wellbeing and their determinants across the lifecourse, 2011 CAEPR Lecture Series, CAEPR, ANU, Canberra.

Biddle, N. (2011b). 'Measuring and analysing Indigenous wellbeing', Lecture 2, Measures of Indigenous wellbeing and their determinants across the lifecourse, 2011 CAEPR Lecture Series, CAEPR, ANU, Canberra.

Biddle, N. (2011c). 'Summary and conclusions', Lecture 13, Measures of Indigenous wellbeing and their determinants across the lifecourse, 2011 CAEPR Lecture Series, CAEPR, ANU, Canberra.

Brazier, J., Roberts, J. and Deverill, M. (1999). The estimation of a preference based measure of health from the SF-36, *Journal of Health Economics*, 21, 2, 271-292.

Carlsson, F., Johansson-Stenman, O. and Martinsson, P. (2007), 'Do You Enjoy Having More than Others? Survey Evidence of Positional Goods.', *Economica*, 74: 586–598.

Carroll, N. (2007), 'Unemployment and Psychological Wellbeing', *The Economic Record*, 83(262), 287–302.

Clark, Andrew E. and Oswald, Andrew J. (1996), "Satisfaction and comparison income", *Journal of Public Economics*, 61, 359-381.

Cummins, Robert A. (2000), 'Objective and Subjective Quality of Life: an Interactive Model', *Social Indicators Research*, Vol. 52, No. 1.

Cummins, Robert, Hughes, Joan, Tomyn, Adrian, Gibson, Adele, Woerner, Jacqueline and Lai, Lufanna (2007), *Wellbeing of Australians : carer health and wellbeing*, Deakin University, Geelong, Vic.

Cummins, Robert A. (2009), Measuring population happiness to inform public policy, The 3rd OECD World Forum on "Statistics, Knowledge and Policy", Charting Progress, Building Visions, Improving Life, 2009.

Cummins, Robert A, Ning Li, Mark Wooden & Mark Stokes, (2012), 'A demonstration of set-points for subjective wellbeing', Submitted to the *Journal of Happiness Studies*.

Diener, E., Emmons, R.A., Larson, R.J., & Griffin, S. (1985), The satisfaction with life scale. *Journal of Personality Assessment*, 1985, 49(1):71–5.

Diener, E. & M.Y. Chan (2011) 'Happy people live longer: Subjective well-being contributes to health and longevity' *Applied Psychology: Health and Well-Being* 3(1), 1-43.

Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. E. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, 125, 276-302.

Diener, E., Oishi, S., & Lucas,R. E. (2002), 'Subjective well-being: The science of happiness and life satisfaction.' in C.R. Snyder & S.J. Lopez (Ed.), *Handbook of Positive Psychology*. Oxford and New York : Oxford University Press.

Diener, E., R. Lucas, U. Schimmack & J.F. Helliwell (2009) *Well-Being for Public Policy*, New York: Oxford University Press.

Dolan, Paul (2007), *Finding a NICEr way to value health: From hypothetical preferences to real experiences.* Social Market Foundation.

Dolan, Paul and Kavetsos, Georgios (2012), 'Happy talk: mode of administration effects on subjective wellbeing' CEP discussion paper, no. 1159. London School of Economics and Political Science, London, UK.

Dolan, Paul, Richard Layard, and Paul Metcalfe (2011), 'Measuring Subjective Well-Being for Public Policy', UK Office for National Statistics.

Dolan, Paul, Tessa Peasgood, Mathew White (2008), 'Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective wellbeing.' *Journal of Economic Psychology* 29 (2008) 94–122.

Alkire, S. (2008), The Capability Approach to the Quality of Life, Working paper for the Commission on the Measurement of Economic Performance and Social Progress.

Frank, Robert H. and Sunstein, Cass R., "Cost-Benefit Analysis and Relative Position," *University of Chicago Law Review*, Vol. 68, No. 2, Spring 2001, pp. 323-374. Also available as Working Paper 00-05, Washington, DC: AEI-Brookings Joint Center for Regulatory Studies, June 2000.

Fujiwara, Daniel and Ross Campbell (2011), Valuation Techniques for Social Cost-Benefit Analysis: Stated Preference, Revealed Preference and Subjective Wellbeing Approaches A Discussion of the Current Issues, July 2011.

Forgeard M., Jayawickreme E., Kern M. and Seligman M. (2011), 'Doing the right thing: Measuring wellbeing for public policy', International Journal of Wellbeing, 1(1), 2011, pp 79-106.

Galloway, Susan (2006), Section 1 of 'Quality of Life and Wellbeing: Measuring the Benefits of Culture and Sport: Literature Review and Thinkpiece', Available at http://www.scotland.gov.uk/Publications/2006/01/13110743/1.

Gehring, Kai (2012), 'Benefit or burden? Unraveling the effect of economic freedom on subjective wellbeing', University of Heidelberg, Discussion Paper Series No. 531, July 2012.

Hunter Valley Research Foundation (2011), Wellbeing Watch A monitor of health, wealth and happiness in the Hunter, 2011 Edition 3, available at hvrf.com.au.

Powdthavee, Nattavudh; van den Berg, Bernard (2011), Putting different price tags on the same health condition: Re-evaluating the wellbeing valuation approach, Discussion paper series // Forschungsinstitut zur Zukunft der Arbeit, No. 5493, urn:nbn:de:101:1-201104113663 , http://hdl.handle.net/10419/52088.

Seligman, M. (2011), *Flourish*. New York: Simon & Schuster.

Solnick, Sara J. and David Hemenway (2005), "Are Positional Concerns Stronger in Some Domains Than in Others?" *American Economic Review*, 95(2): 147-151.

Stoll, L., Michaelson, J., and Seaford C., (2012), 'Wellbeing evidence for policy: A review', available for www.neweconomics.org, 03 April 2012.

Stutzer, A. and Frey, B.S. (2010), Recent Advances in the Economics of Individual Subjective Well-Being, *Social Research* Vol 77: No 2 : Summer 2010.

Taylor, M.P. (2006), 'Tell me why I don't like Mondays: Investigating day of the week effects on job satisfaction and psychological wellbeing.' *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 169, 127-142.

Thaler, Richard H. and Cass R. Sunstein, (2008), *Nudge: Improving Decisions about Health, Wealth, and Happiness*. Yale University Press.

Veenhoven R. (2012), 'Correlates of Happiness, World Database of Happiness', Erasmus university Rotterdam: assessed on 6 Dec 2012 at: http://worlddatabaseofhappiness.eur.nl/hap_cor/cor_fp.htm.

WHO Europe [WHO Regional Office for Europe] (2012a), Measurement of and target-setting for well-being: an initiative by the WHO Regional Office for Europe. First meeting of the expert group, Copenhagen, Denmark, 8–9 February 2012. Copenhagen, WHO Regional Office for Europe, 2012.

WHO Europe [WHO Regional Office for Europe] (2012b), Measurement of and target-setting for well-being: an initiative by the WHO Regional Office for Europe. Second meeting of the expert group, Paris, France, 25–26 June 2012, WHO Regional Office for Europe, 2012. Available at http://www.euro.who.int/__data/assets/pdf_file/0003/180048/E96732.pdf.

Appendix 1 Australian data sources

Table 5: Key SWB data-sources with NSW information

	AU-PWI	HILDA	GSS	LSAY	NATSISS	HVWW	City of Sydney
Period / frequency	Bi-annual since 2001	Since 2001	Conducted every 4 years Only 2010 has SWB data	First cohort in 1995. Cohorts surveyed yearly for 12 years. New cohort every 3 years	2002 and 2008	2006, 2007, 2009 and in-progress	2011 Expected to be annual
Longitudinal	Yes	Yes	No	Yes	No	No	No
Respondents; (in initial wave if longitudinal)	≈2000 annually aged18+ >34000 in total	>12000 aged 18+	15,028 adults	6 Cohort groups >10000 from ages 15–24	>13000 Indigenous across multiple age groups	2000 adults in each wave, 1500 from Hunter Region, 500 from NSW	8000 residents Not a random selection
SWB measures							
- Evaluative (domains)	Overall + PWI	Y+8 domains	Y	Y+ 10 domains	N	Y + 2 domains	PWI (5 point scale)
- Emotional experience	N	N	Y	Y	Y	Y	N
Mode of administration	Telephone	Face to face, some phone	Face to face	Telephone	Face to face	Telephone	Mixed

Source: Technical documentation of data sources, Biddle (2011b).

The Australian Unity Personal Wellbeing Index (AU-PWI)

The Australian Unity Personal Wellbeing Index (AU-PWI) refers to a measure of personal wellbeing based on a twice yearly survey using the PWI set of questions. The survey is also used to capture information to form a National Wellbeing Index, which is the average level of satisfaction across six aspects of national life (increased from three in the first survey). The wellbeing surveys also include two general questions about satisfaction with personal life and life in Australia overall, and two trend questions on whether personal life and national life are getting better or worse.

The AU-PWI is based on twice yearly surveys since 2001 of around 2000 adults. The same core questions are asked in each survey so that the Index can be reported regularly. However, each survey includes additional questions to allow specific aspects of life – either personal or national – to be explored in finer detail, or to examine other issues. These questions change from survey to survey.

The PWI is constructed as the average measure from satisfaction measured across seven or eight domains captured on an 11 point scale (a 0-10 Likert Response Scale, from 0-Completely dissatisfied to 10 – Completely Satisfied). The questions are:

> How satisfied are you with…?
>
> 1. your standard of living? [Standard of Living]
> 2. your health? [Personal Health]
> 3. what you are achieving in life? [Achieving in Life]
> 4. your personal relationships? [Personal Relationships]
> 5. how safe you feel? [Personal Safety]
> 6. feeling part of your community? [Community-Connectedness]
> 7. your future security? [Future Security]
> 8. your spirituality or religion?¨ [Spirituality – Religion]*
>
> If the last item is deemed to be not-applicable then the PWI is constructed as the average over the first seven items.
>
> An additional question life-as-a-whole question is generally asked "Thinking about your own life and personal circumstances, how satisfied are you with your life as a whole?".

The domains have been selected as reflecting the first-level deconstruction of satisfaction with 'Life as a Whole'; that is each question aims to captures a unique aspect of life satisfaction and collectively they capture the main sources of variation.

The PWI is primarily used on the adult population (referred to as PWI-A), however variants have been designed for used with school-age children and adolescents, pre-school age children and people who have an intellectual disability or other form of cognitive impairment. The variants of the PWI are:

- PWI-A: designed for use with the general adult population, aged at least 18 years.
- PWI- SC: designed for use with school-age children and adolescents.
- PWI-PS: designed for use with pre-school age children.

- PWI-ID: designed for use with people who have an intellectual disability or other form of cognitive impairment.

Detail response information from the AU-PWI can be freely downloaded for use.

Further information can be found at:
http://www.deakin.edu.au/research/acqol/auwbi/index.php

The Household, Income and Labour Dynamics in Australia (HILDA) Survey

See (www.melbourneinstitute.com/hilda/)

The Household, Income and Labour Dynamics in Australia (HILDA) survey is a household-based panel study which began in 2001.

It collects information about economic and subjective well-being, labour market dynamics and family dynamics. It has the following key features:

- Special questionnaire modules are included each wave.
- The wave 1 panel consisted of 7,682 households and 19,914 individuals. In wave 11 this was topped up with an additional 2,153 households and 5,477 individuals.
- Interviews are conducted annually with all adult members of each household.
- The panel members are followed over time.
- The funding has been guaranteed for sixteen waves, though the survey is designed to continue for longer than this.
- Academic and other researchers can apply to use the General Release datasets for their research.

The HILDA Survey was initiated, and is funded, by the Australian Government through the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA). Responsibility for the design and management of the survey rests with the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne.

Data collection for waves 9 to 12 is being undertaken by Roy Morgan Research (a private market research company). The Nielsen Company collected waves 1 to 8.

The HILDA Survey is based on similar studies conducted in both Germany and the UK (the German Socio-Economic Panel and the British Household Panel Survey respectively).

The HILDA Survey includes a number of SWB measures. (See the questionnaire available at www.melbourneinstitute.com/hilda/ for exact format) These include:

- How satisfied or dissatisfied are you with [the following domains in your life] (on a scale 0 and 10)
  - The home in which you live
  - Your employment opportunities
  - Your financial situation
  - How safe you feel
  - Feeling part of your local community

  - Your health
  - The neighbourhood in which you live
  - The amount of free time you have
- "All things considered, how satisfied are you with your life?" (on a scale 0 and 10)
- How important each of the above domains are – on a scale between 0 and 10.
- How satisfied or dissatisfied are you with aspects of your job.

General Social Survey (GSS)

The Australian Bureau of Statistics (ABS) General Social Survey (GSS) is multifaceted survey that has been conducted every 4 years. In the most recent survey (2010, the third survey) a question relating to life satisfaction was included that asked:

> How do you feel about your life as a whole, taking into account what has happened in the last year and what you expect to happen in the future?
>
> 1 – Delighted; 2 – Please; - Mostly satisfied; 4 – Mixed; 5 - Mostly dissatisfied; 6 – Unhappy; 7 – Terrible; 8 - Don't know; 9 – Refused

An advantage of the GSS is that the survey includes a large range of social indicators including questions regarding: health, work and family life; community involvement, and volunteering; social networks, support, and trust; crime and safety; access to services; financial stress and income; housing mobility and homelessness; transport and IT use.

It is also a relatively large sample: The most recent survey covered 15,028 adults.

Longitudinal Surveys of Australian Youth (LSAY)

LSAY — funded by the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) with support from state and territory governments — is a research program that tracks young people from around age 15 to 25 years and captures information on how they move from school to post-school destinations. It uses large, nationally representative samples of young people and covers a wide range of education, employment and social aspects of the school-to-work transition.

Survey participants (collectively known as a 'cohort') enter the study when they turn 15 years of age, or in Year 9 (prior to 2003). Studies began in 1995 (Y95 cohort), 1998 (Y98 cohort), 2003 (Y03 cohort), 2006 (Y06 cohort) and more recently in 2009 (Y09 cohort). Over 10000 students start out in each cohort.

Respondents are asked to indicate (on a scale 0-10) how happy they are with different aspects of their life being:

a. Your future

b. The work you do, at study, at home or in a job

c. What you do in your spare time

d. How you get on with people in general

e. The money you get each week

f. Your social life

g. Your independence - being able to do what you want

h. Your career prospects

i. Your life at home

j. Your standard of living

k. Where you live

l. Your life as a whole.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

See http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/4714.0/

The ABS National Aboriginal and Torres Strait Islander Social Survey (NATSISS) provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation.

The survey has been conducted twice: A 2002 survey conducted between August 2002 and April 2003; and a 2008 survey was conducted between August 2008 and April 2009. The 2008 survey included for the first time children aged under 15.

Several measures, designed to provide a broad understanding of social and emotional wellbeing, were collected in the 2008 NATSISS. The two SWB measures include:

- Psychological distress; and
- Feelings of happiness and energy levels.

Psychological distress was captured using the Kessler-5 (K5) measure of psychological distress is a subset of five questions from the Kessler Psychological Distress Scale-10 (K10). People aged 15 years and over were asked about how often in the four weeks prior to interview they felt:

- nervous;
- without hope;
- restless or jumpy;
- everything was an effort; and
- so sad that nothing could cheer them up.

Feelings of happiness and energy levels were captured using the Short Form 36 (SF-36), an international survey instrument containing questions which provide an indication of general health status. People aged 15 years and over were asked about their feelings in the four weeks prior to interview and how often they:

- felt calm and peaceful;
- had been a happy person;
- felt full of life; and
- had a lot of energy.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

NATSIHS provides information about the health circumstances of Indigenous Australians from remote and non-remote areas across Australia, and about how these circumstances have changed compared with results from Indigenous components of the 1995 and 2001 National Health Surveys (NHS(I)). In this publication summary health status and health risk characteristics are also compared with results from the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS). The NATSIHS also provides for comparison with results for non-Indigenous Australians from the 2001 and 2004–05 NHSs.

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians. It is planned to repeat the NATSIHS at six-yearly intervals as part of a cycle of Indigenous household surveys. Together with the six-yearly NATSISS, conducted between each NATSIHS cycle, this will provide a wide range of regular information about the health circumstances and outcomes of Aboriginal and Torres Strait Islander peoples.

The SWB measures captured are selected questions from the SF–36 (4 positive aspects of social and emotional wellbeing) and the Kessler Psychological Distress Scale.

Hunter Valley Wellbeing Watch (HVWW)

www.hvrf.com.au/download-publications/wellbeing-watch

The Hunter Valley Wellbeing Watch (HVWW) is a research program which commenced in 2006. It aims to assess the quality of life in the Hunter, explain trends in how people live and provide an understanding of the influences on wellbeing and how regional wellbeing can be improved.

Wellbeing Watch is based on the results from a telephone survey of 2000 households conducted every two years and will ultimately help answer an underlying research question: is life in the Hunter Region improving?

This study captures SWB by asking the following six questions (on a 5 point scale):

- Overall, how happy or unhappy are you with the circumstances of your life in the past four weeks?
- If you looked back on your life now, how satisfied would you be with what you have achieved?
- Overall, how valued do you feel by those who know you?
- How satisfied are you with your current standard of living?
- How optimistic are you about your future?
- How satisfied are you with your life as a whole?

The City of Sydney, 2011 Residential Surveys

In 2011, the City of Sydney conducted Household and Residential Surveys that captured information on a broad range of issues related to community wellbeing. The Residential Survey contained questions on SWB that are aligned with the PWI.

There are, however, limitations to the use of the SWB information. While the SWB questions are identical to the PWI, a 5 point (rather than the standard 11 point) scale was used. A

further issue is that a random population sampling method was not used to capture information.

On 18 June 2012, Council resolved to adopt the City of Sydney Community Wellbeing Indicators, which included a recommendation for annual collection of SWB as measured by the PWI.

For more information on the 2011 surveys see http://www.cityofsydney.nsw.gov.au/AboutSydney/CityResearch/HouseholdAndResidentialSurveys.asp

For more information about City of Sydney's Community Wellbeing Indicators see: http://www.cityofsydney.nsw.gov.au/AboutSydney/CityResearch/CityOfSydney/CommunityWellbeingIndicators.asp

Appendix 2 Findings from SWB studies

Table 6: Summary of findings from SWB research (Stoll et al. 2012)

Area	Key findings
Economy	• Across countries, higher income nations generally experience higher average levels of SWB at any given point in time (cross-sectional data). • The correlation across countries between high national income and wellbeing is substantially reduced once quality of government, democracy and social capital is controlled for. • Within countries, individual income and life satisfaction are positively related at any point in time (cross-sectional data). • However, at any given time, once a certain level of income (which varies from country to country) has been reached, the relationship between an individual's income and wellbeing within a country weakens. • Across developed nations there is not always a relationship between changes in national income and changes in levels of wellbeing over time (longitudinal data) – suggesting that once a certain level of national income per capita has been reached (which varies from country to country) general increases in national income per capita do not necessarily translate into substantial increases in SWB. • Relative income has been found to have a substantial and important effect on wellbeing and explains much of the income-wellbeing relationship. • The satisfaction with life measure and Cantril's Ladder seem to be more strongly related to income than other measures of wellbeing, for example overall happiness or 'emotional wellbeing'. • Higher income-growth countries seem to experience higher levels of SWB although this relationship is complex and depends on the national income per capita. • At the individual level, lower household income appears to lead to lower children's wellbeing. • Although not wholly conclusive, evidence suggests that a higher level of income inequality in a country seems to reduce the average SWB of its citizens. • Higher public spending and benefit entitlements appear to be associated with higher wellbeing at the national level. • In Europe, there is a positive relationship between child wellbeing and both national spending on family services and benefits, and GDP. • Unemployment is strongly negatively correlated with various measures of SWB. This relationship exists over a range of national and international datasets. • Unemployment is negatively associated with wellbeing across a range of nations but the size of its effect seems to vary across countries and across studies. • Although some people with lower wellbeing may be more likely to become unemployed, these 'selection effects' do not explain the size of the relationship between unemployment and wellbeing. • Although people may adapt somewhat to being unemployed, the effect does not seem to

Area	Key findings
	completely disappear. • The loss of wellbeing far exceeds that expected from the reduction in income associated with unemployment. • National and regional unemployment rates have been found to reduce SWB. • However the effects of individual unemployment on wellbeing seem to be partially 'neutralised' in high-unemployment regions. • After controlling for individual personal characteristics, inflation has been found to have a consistent negative effect on individuals' wellbeing. • There appears to be a positive effect of being self-employed on wellbeing, but the evidence is mixed. • When workers function well and feel secure in their job they are more satisfied with their work. • There seems to be a U-shaped relationship between hours worked and SWB. • In general, credit card and 'unmanageable' debt is associated with lower wellbeing. This relationship, however, does not hold for mortgages or investment debts. • Commuting is associated with negative affect and a reduction in life satisfaction.
Community:	• Strong social networks and time spent socialising are positively associated with SWB. • There appears to be a positive relationship between volunteering and SWB, and altruistic behaviour promotes SWB. • There is a positive relationship between SWB and membership of (non-church) organisations. • Regular engagement in religious activities is positively related to wellbeing. • Social trust (trust in other people) is found to be associated with higher life satisfaction and happiness, and a lower probability of suicide. • Trust in key public institutions – for example, government, the police and the legal system – is associated with higher life satisfaction. • There is a positive link between democracy and life satisfaction. • Being single is worse for wellbeing than being in a stable relationship. • Family conflict is associated with lower children's wellbeing.
Health	• Poor self-reported health is associated with lower SWB and better self-reported health is associated with higher SWB. • Poor objective health and disability are associated with lower SWB, although this relationship is weaker than that of self-reported health and SWB. • Although people may adapt somewhat to chronic illness, complete adaptation does not seem to occur. • Higher SWB is associated with improved health and longevity. • Psychological health has a very strong relationship with SWB, and seems to be more highly correlated with wellbeing than physical health.

Area	Key findings
	• Physical activity has a beneficial effect on wellbeing (as well as on health). • Sleep problems are associated with lower life satisfaction, lower happiness and a reduction in other measures of SWB. • In addition, optimum sleep levels are associated with positive benefits to most of the measures of SWB.
Education and care:	• Many (but not all) studies have found that more education is often associated with higher SWB, when controlling for other variables (particularly income and health). • However, some studies reveal no significant relationship or a negative relationship between education level and wellbeing, and in several cases it appears the relationship is non-linear. • There is a positive association between positive features of children's learning environments and their wellbeing. • More time spent in informal care-giving is associated with lower SWB.
The built environment	• Living in a deprived area, even after controlling for income, is detrimental to life satisfaction and affects other dimensions of wellbeing. • A positive perception of the surrounding landscape is linked to other dimensions of wellbeing. • Natural landscapes appear to be more restorative than urban ones. • There is evidence that aspects of neighbourhoods such as 'walkability' and street layout are positively related to wellbeing; it seems likely that this relationship operates indirectly via benefits to social capital for residents. • High housing quality is positively associated with wellbeing; low housing quality is associated with lower wellbeing and psychological stress. • Multi-dwelling housing is associated with adverse psychological health. • Overcrowding is associated with lower wellbeing. • Living on a higher floor level is associated with lower wellbeing. • Home ownership is associated with higher wellbeing; renting is associated with lower wellbeing. • SWB appears to be lower in more densely populated areas and higher in rural areas. • The concentration of air pollutants in the region where an individual lives has a negative impact on SWB. • Noise pollution is associated with lower SWB. • Crime is negatively associated with wellbeing, both for victims and for residents in areas of high crime rates. • Climate has an effect on SWB and extreme weather is detrimental to wellbeing.
Personal characteristics	• There is a U-shaped relationship between age and SWB: as young people grow older their SWB reduces, until a wellbeing minimum is reached between the ages of 35 and 50, and after that age SWB increases again. • There are international differences in SWB across genders.

Area	Key findings
	• Race is an important predictor of current happiness and life satisfaction in the United States, where the White population has higher levels of average wellbeing than the Black population. However, the lack evidence from other countries means this cannot be generalised to Europe and other regions. • Studies suggest that up to half of the variation in SWB between individuals can be explained by genetics. • Personality traits are strongly related to SWB • There is a negative relationship between materialist values and SWB.

Source: Stoll et al. (2012)