saxinstitute

Supporting smart decisions. Powered by research.

Wellbeing indicators across the life cycle

Appendix 1

Main Indicators

NSW Family & Community Services

FACSIAR INSIGHTS, ANALYSIS AND RESEARCH

Contents

Domain: Economic

1. Household Income

Measurement Options:

- Household gross income
- Household disposable income
- Equivalised household disposable income
- Poverty

Disposable income — total income, monetary and in kind, less income tax, the Medicare levy and the Medicare levy surcharge (ABS, 2013)

Equivalisation — a method of standardising the income, expenditure or wealth of households to take account of household size and composition differences (ABS, 2013)

Poverty measures are generally based on a percentage of the median income of the population as a whole. Two commonly used measures, in international poverty studies, are to identify people as living in poverty as households with income below either 50% or 60Percentage of the median income for all household (ABS, 2016)

NSW Domain

Economic

Domains in other frameworks:

- Income and Wealth (OECD)
- A Fair Go (ABS, Measuring Australia Progress (MAP)
- The Economy (ONS)
- Socioeconomic (AIHW)
- Personal Finance (ONS children)
- Socioeconomic (CSE)

Indicator type

Objective

Time frame

Usually annual but can be weekly or fortnightly

Unit of analysis

Household level

Reliability (*statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium to High (depending on the specification and context)

We found in the literature mixed evidence of a relationship between income and happiness as summarised in the following discussion.

Rojas (2004) found that Traditional objective indicators of well-being, such as income, do not seem to be good proxies of subjective well-being, however this may be due to the specification of the objective measures being used.

Some literature found a positive association between income and subjective wellbeing. Among a sub-sample of employees only, those who earn higher wages from their job give higher ratings for 'life satisfaction' on average than those earning less (Measuring National Well-Being 2013). ONS (2014) argued that individuals with higher incomes reported higher life satisfaction, happiness and lower anxiety, fixing other variables constant. ONS (2014) found that doubling income associated with increasing life satisfaction by 0.17 (on the 0–10 scale).

- Clark, Frijters and Shields (2008) with their comprehensive review on the relationship between income and subjective wellbeing, suggested a positive but diminishing return to income – due to reverse causation or unobserved individual characteristics.
- Lucas and Schimmack (2008) found that the correlation between income and wellbeing was low. Nevertheless, there were large mean differences between the rich and the poor groups (very large differences between individuals with different levels of income).
- ONS (2014) argued that the biggest gap in wellbeing among people in neighbouring income/expenditure quintiles was between those in the bottom and second-lowest fifths of the income distribution (holding other factors constant). This indicates that wellbeing increases fastest in relation to increases in income (expenditure) from the lower levels of income and expenditure.
- ONS (2014) also argued that income composition matters – an increase in the proportion of household income from cash benefits is associated with lower well-being
- Others have found that relative income matters more for wellbeing than actual income (Easterlin, 1995). Wealthier individuals are happier but on average Subjective Wellbeing remains constant once all members in the society become wealthier.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*
Medium correlation with subjective wellbeing if specified as traditional income measure but more strongly correlated if specified as relative income or as increase in income for the lowest income earners. Direct measure of objective wellbeing in many wellbeing frameworks.

Relevance *(relevance across the life cycle (Q2 -FACS) and relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across population of interest.

Note that while some studies have found little correlation between wellbeing and income for some Indigenous populations (e.g. Biddle 2015), this has usually been in the context of those living in very remote areas who have a higher reliance on subsistence food, and does not apply to the large proportion of Australian Indigenous people living in urban and rural areas rather than remote areas.

Assessment of Useability: High
This assessment is based on three criteria:

1. Frequency used in key frameworks: High
   - All population: High
   - Children: High
   - Youth: High
   - Older adults: High
2. Reliability: Medium to High (depending on specification and context)
3. Availability in NSW data: High
   - ABS Survey Income and Housing, CURF, 2002-2003, 2005–2006, 2007–2008, 2011–2012, 2013–2014 (Gross and Disposable Income, Equivalised income can be calculated)
   - ABS General Social Survey, 2002, 2006, 2010, 2014
   - HILDA, waves 1–15 (Gross and Disposable Income, Equivalised income can be calculated)
   - ABS Census Population and Housing, five yearly data (Gross and Equivalised Income in range)
   - UC Regional Wellbeing Survey (Gross Income)
   - Sax Institute 45 and Up Study Questionnaire (Gross Income)
   - Modelled small area data on poverty rates is available from the NATSEM website using the 2011 Census (http://web.natsem.canberra.edu.au/maps/AUST_SMSM08/atlas.html)

2. Personal Income

Measurement Options:

- Average gross annual earnings of full-time employees
- Average gross annual earnings of part-time employees
- Average gross annual earnings of casual employees
- Source of main income (for example, superannuation, age pension)

NSW Domain

Economic

Domains in other frameworks:

- Jobs and Earning (OECD)

Indicator type

Objective or Subjective

Time frame

Usually annual but can be weekly or fortnightly

Unit of analysis

Employees

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium (please also see the reliability of household income)

Household income is more common in wellbeing frameworks as it is assumed that incomes are shared across the household, so a low-income partner benefits from a high-income partner in terms of their wellbeing.

Kahneman and Deaton (2010) found that high personal income improves an evaluation of one's life but not emotional wellbeing. Life evaluation refers to a person's thoughts about his or her life. Emotional well-being is assessed by questions about the presence of various emotions in the experience of yesterday (e.g., enjoyment, happiness, anger, sadness, stress, worry).

Earning rank is more important than just a simple earning. Brown et al. (2008) argued that employees are more concerned with their income relative to the remuneration in the workplace.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Medium correlation with subjective wellbeing if specified as traditional income measure but more strongly correlated if specified as relative income or as increase in income for the lowest income earners. Direct measure of objective wellbeing in many wellbeing frameworks.

Relevance (*Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant for transition to retirement age group cycles
- Relevant across population of interest except directly for these groups of children:
  - Children living in out-of-home care
  - Children who are vulnerable or at-risk of significant harm

Assessment of Useability: Medium

This assessment is based on three criteria:

1. Frequency used in key frameworks: Low as household income is more common (see reason above).
   - All population: Medium
   - Children: N/A
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA Data, Waves 1–15
   - ABS Survey Income and Housing, CURF, 2002–2003, 2005–2006, 2007–2008, 2011–2012, 2013–2014
   - ABS Census Population and Housing, five yearly data (Gross weekly personal income in ranges)
   - ABS 6302.0 — Average Weekly Earnings, Australia,
   - ATO aggregate data and sample file of taxpayers

3. Financial hardship

Measurement Options:

- Finding it quite or very difficult to get by financially
- Households spend more money than they get
- Could not raise $2000 within a week
- Could not pay electricity on time
- Could not pay registration insurance on time
- Pawned or sold something
- Went without meals
- Could not afford to heat home
- Sought assistance from welfare/community organisations
- Sought financial help from friends/family
- High level of household debt

NSW Domain

Economic

Domains in other frameworks

- Personal Finance (UK ONS)
- Material Resources (NATSEM Older Adults Social Exclusion)

Indicator type

Subjective

Time frame

Depends on question asked — can be fortnightly (e.g., number of households who spend more than they get in a fortnight) or annual (e.g., whether you pawned or sold something in the last year)

Unit of analysis

Depends on question — Individual or household level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

In an Australian context, financial hardship indicators include inability to pay utility bills on time, inability to heat one's home, the need to seek assistance from welfare or community organisations, or family and friends, and having to pawn or sell an asset. Yates (2007) defined a household to be in a high level of financial stress if they reported one or more occurrences of any of the financial hardship indicators. There has been strong evidence in regard to the positive association between socioeconomic deprivation and psychological distress and this has been highlighted in much of the academic literature (Adler and Ostrove, 1999, Marmot and Wilkinson, 1999, Mirowsky and Ross, 2003 and Williams and Collins, 1995). Individuals who experience financial hardship tend to suffer from elevated levels of distress because of greater exposure to chronic and acute stressors, including family and relationship problems, trouble paying monthly bills, physical limitations and poor neighbourhood conditions, among others. These individuals are also more vulnerable to the damaging effects of economic strain because they have fewer and less helpful social ties and support systems, lower levels of self-esteem and personal mastery, and less constructive coping styles and practice (Bradshaw and Ellison, 2010).

O'Neill et al. (2006) indicated a statistical association between financial stress and health. Research shows that financial stress has a negative influence on the psychological health and well-being of the elderly (Chi and Chou, 2000; Chou and Chi, 1999; Krause, 1987; Mendes de Leon, Rapp and Kasl, 1994). For instance, it can contribute to a lower level of life satisfaction (Aquino et al., 1996; Krause, 1993) and an increase in depressive symptoms (Krause, 1987; Mendes de Leon et al., 1994).

Bradshaw and Ellison (2010) found that long-term financial hardship is reflected in a range of health outcomes in later life, even after controlling for the effects of current financial circumstances. Moreover,

the sheer persistence of hardship matters more than its episodic occurrence or timing, so that the health effects of early hardship may be reduced if followed by no further hardship.

Having debt is also one of the indicators of financial hardship. Brown et al. (2005) found those household heads who have outstanding (non-mortgage) credit, and who have higher amounts of this type of debt, are significantly less likely to report complete psychological well-being (i.e. a General Health Questionnaire (GHQ) score of 12). Further, the impact of having outstanding credit to psychological distress is greater when credit is measured at the individual, as opposed to household, level. However, they did not find such significant association is found in the case of mortgage debt (Brown et al., 2005).

Sensitivity *(degree to which measures can distinguish between different states of wellbeing)*
Strongly correlated with subjective wellbeing

Relevance *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across specific populations of interest

Assessment of Useability: High
This assessment is based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: Medium
   - Children: N/A
   - Youth: Medium
   - Old: Low
2. Reliability: High
3. Availability in NSW data: High
   - HILDA data waves, 1–15 (annual)
   - HILDA data, waves 2, 6 and 10 (2002, 2006 and 2010) for the information about debt UC Regional Wellbeing Survey (only covers regional NSW)
   - ABS General Social Survey (every 4 years)

4. Employment

Measurement options:

- Ratio of the employed to the working age population (15-64 years age)
- Employment rates for older people (for older people)

NSW Domain

Economic

Domains in other frameworks

- Jobs and Earning (OECD)

Indicator type

Objective

Time frame

Point in time (number of people employed on a particular date)

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Tait et al. (1989) reviewed studies of job and life-satisfaction across 34 countries and found an average correlation coefficient of 0.44 between measures of the two. Other literature has also argued that happiness in one's working life does 'spill over' into one's non-work life (Dockery, 2005).

The literature concentrates more on quality of work and working life. People may be employed but wellbeing may depend more on types of jobs they are doing. For example, although being employed, some people may be underemployed (OECD, 2011) or be working long hours (OECD, 2013) which has an effect on wellbeing.

Further, people who do seasonal/casual work are significantly more likely to report lower satisfaction in their jobs (Bardasi and Francesconi, 2004) with odds ratios of 1.3 for women and 2.4 for men respectively than those who work in full time permanent jobs. These significant associations disappear for women once the fixed effects of unobserved heterogeneity of the individuals are included, but the effect remains for men.

For the older adult population, Hao (2008) found that full-time employment and low-level volunteering had independent protective effects against a decline in psychological well-being.

Only a few studies have directly addressed the effects of late-life work, and some of them have documented that working to an older age has a number of psychological benefits (Bossé, Aldwin, Levenson, Workman-Daniels, and Ekerdt, 1990; Calvo, 2006; Duncan and Whitney, 1990; Erikson, Erikson, and Kivnick, 1986).

Social gerontologists using activity theory (Herzog and House, 1991; Lemon, Bengtson, and Peterson, 1972) address the association between activities and mental health among older participants. Activity theory suggests that frequency of activities and the importance of the level of engagement to these activities is associated with wellbeing (Lemon et al., 1972). According to this theory, older people who engage in productive work have a higher level of personal control and mastery (Hayward, Friedman, and Chen, 1998) and can have a fulfilling experience that bolsters meaning in later life (Su and Ferraro, 1997; Wethington, Moen, Glasgow, and Pillemer, 2000).

Sensitivity *(degree to which measures can distinguish between different states of well-being)*

Low correlation with subjective wellbeing but direct measure for objective wellbeing

Relevance: *(Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant for transition to retirement age group cycles
- Relevant across population of interest, except directly for children

van Campen and Iedema (2007) argued that persons with disabilities are at a greater disadvantage in terms of labour force participation. They reject the hypothesis that higher participation by people with disabilities is associated with higher subjective wellbeing.

Assessment of Useability: High

This assessment is based on three criteria:

1. Frequency used in key frameworks: High
   - All population: High
   - Children: N/A
   - Youth: Medium
   - Old: High
2. Reliability: Medium
3. Availability in NSW data: High
   - ABS, Labour Force Survey, monthly
   - HILDA, waves 1–15, Annual
   - ABS Census Population and Housing, five yearly

5. Unemployment

Measurement Options

- Unemployment rate / Ratio of the employed to the working age population (15-64)
- Long term unemployment rate (Those who have been unemployed for one year or more over the labour force of the same age)
- Probability of becoming unemployed (The annual inflow into unemployment)

NSW Domain

Economic

Domains in other frameworks

- Jobs and Earning (OECD)
- What we do (UK ONS)
- Job (ABS MAP)

Indicator type

Objective

Time frame

Point in time (number of people unemployed on a particular date)

Unit of analysis

Individual level, aged 15–64 years old.

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

Unemployment can have a negative impact on an individual's well-being. In 2014, the Office for National Statistics (ONS) found that unemployed people rated their life satisfaction significantly lower on average than employed people. The average life satisfaction of unemployed people was 6.7 out of 10 compared with 7.6 for employed people. (Human capital estimates 2015). Stutzer (2004) argues that unemployed people have around 5-15% lower scores in life satisfaction rather than the employed. Carroll (2007) found that being unemployed rather than employed was associated with a 44 per cent lower probability of reporting high life satisfaction, while it was higher at 63 per cent lower probability for women. In addition, unemployment in general is reliable as a predictor of wellbeing as defined in the SF-36 quality of life indicator (Cole et al., 2009).

Short Form Health Survey (SF-36) or usually called as SF-36 is a set of Quality-of-Life (QoL) measures across eight domains covering both physically and emotionally based domains. The eight domains that the SF36 measures are as follows: physical functioning; role limitations due to physical health; role limitations due to emotional problems; energy/fatigue; emotional well-being; social functioning; pain; general health.

At a personal level, the unemployed are significantly more likely to suffer: anxiety; depression; hostility; paranoia; loss of confidence; reduction in self-esteem; poorer cognitive performance; loss of motivation; learned helplessness; lower happiness; suicidal ideation; lower levels of coping; psychosomatic problems; and, behavioural problems (Theodossiou, 1998, Goldsmith et al., 1997a, Goldsmith et al., 1997b, Layard et al., 2005, Morrell et al., 1998, Flatau et al., 2000, Creed et al., 1999; 2003, Shamir, 1986, Murphy and Athanasou, 1999 and Clark, 2003). Unemployment is also associated with loss of self-esteem, depression, anxiety and social stigma (Frey and Stutzer, 2002).

Milner, Page and La Montagne (2013) in their meta-analysis found that long term unemployment is associated with a greater incidence of suicide with a pooled relative risk of 1.70 using the DerSimonian and Laird method.[1] Boyce et al. (2010) argued that the personality trait of individuals matters in terms of

[1] See Dersimonian and Laird (1986) for further information

wellbeing. They found that after 3 years of unemployment, individuals high in conscientiousness, (i.e. one standard deviation above the mean) experienced a 120% higher decrease in life satisfaction than those at low levels, so long term unemployment had a greater effect on conscientious people compared to those who are not as conscientious.

There is also a possibility of reverse causality in some of this analysis, in that unhappy people tend to also be unemployed, or find it harder to get a job, but empirical evidence on this is rare (Lucas et al. 2004; Winkelmann and Winkelmann, 1998).

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*
Strongly correlated with subjective wellbeing and strong objective measure of wellbeing

Relevance: *(Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant for transition to retirement age group cycles
- Relevant across population of interest except directly for children

Assessment of useability: High

1. Frequency used in key frameworks: High
   - All population: High
   - Children: NA
   - Youth: Medium
   - Older adults: Medium
2. Reliability: High
3. Availability in NSW data: High
   - HILDA Data, Waves 1–15, annually since 2001, which includes a variable to measure duration of unemployment
   - ABS, Labour Force Survey, monthly
   - ABS Census Population and Housing, five yearly data

6. Working hours

Measurement Options:

- Percentage of employees working more than a specific threshold in a week (for example 50 hours).

NSW Domain

Economic or Health

Domains in other frameworks

- Work-life balance (OECD)

Indicator type

Objective

Time frame

Weekly

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Meier and Stutzer (2008) mentioned that life satisfaction increases the longer a person works.

Schaufeli et al. (2008) defined excess working time as working beyond what is required. Caruso (2006) found that longer work hours was associated with a wide range of risks to workers, families, employers and community. Risks to workers include sleep deprivation, obesity, injuries and chronic diseases.

Golden and Wiens-Uers (2006) found that overtime was generally associated with increased work stress, fatigue and work-family interference.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being*

Not clear in the literature

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant for those who are in transition and employment age.
- Relevant across population of interest except directly for children.

Assessment of useability: Medium

This assessment is based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: N/A
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA data, waves 1–15, annually since 2001
   - ABS Census Population and Housing, five yearly data

7. Job satisfaction

Measurement Options:

- Self-reported satisfaction with work
- Satisfaction with component of jobs such as:
  - pay, hours of work, future prospect such as promotion and job security, difficulty of the job, job content such as interest, prestige and independence and interpersonal relationships (with co-workers and with management).

NSW Domain

Economic

Domains in other frameworks

- What we do (UK ONS)

Indicator type

Subjective

Time frame

Depends on question, usually asked about previous year

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Faragher et al. (2005) calculated the correlation between job satisfaction and wellbeing indicators. They found that the overall Schmidt-Hunter adjusted correlation coefficient combined across all health measures was 0.370. Job satisfaction was most strongly associated with mental/psychological problems; strongest relationships were found for burnout with a correlation coefficient of 0.478, self-esteem ($r = 0.429$), depression ($r = 0.428$), and anxiety ($r = 0.420$). These are all reasonable correlations for social research. The correlation with subjective physical illness was more modest at $r = 0.287$.

People's sense of choice and contentment with their situation appear to be associated with personal well-being. For example, people who are employed but want a different or additional job have lower levels of personal well-being (including higher 'anxious yesterday' levels) than employed people who are not looking for another job (OECD, Measuring National Well-Being 2013).

Job satisfaction will also depend on characteristics of employees. Employees with high level of emotional stress tend to have decreased job satisfaction (Pugliesi, 1999)

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Medium

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the population of interest including people with disability.

De Beer (2001) argued that for people with a disability, it is not about objective aspects of the work such as number of hours worked per week, but it is more about the psychological aspects of the work, such as routine and future expectations that determine job satisfaction.

Assessment of useability: Medium

This assessment is based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: N/A
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW Data: High
   - HILDA, Waves 1–15, annual e.g. Overall job satisfaction

8. Household Wealth

Measurement Options

- Net household financial wealth/net worth per capita
- Median wealth per household, including pension wealth

NSW Domain

Economic

Domains in other frameworks

- Income and Wealth (OECD)
- Personal finance (UK ONS)
- Prosperity (ABS MAP)

Indicator type

Objective

Time frame

Point in time — usually about stock of wealth at the time of a survey

Unit of analysis

Household level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Brandoloni, Magri and Smeeding (2010) argued that wealth affects current wellbeing and is a major determinant of the longer-term prospect of households and individuals

Headey, Muffels and Wooden (2008) found that net worth is a significant determinant of life satisfaction and standard of living satisfaction. Headey and Wooden (2004) also found that net worth is associated with stronger life satisfaction compared to income with the coefficient of 0.57 for net worth (in logarithmic term) compared to 0.04 for income in the case of Australia although as highlighted in the income section, the relationship between income and wellbeing is complex, and any relationship identified will depend on how income is specified in the analysis. Contrary to this finding, Roszkowski and Grable (2007) found that the correlation between wealth and wellbeing was low. Using product moment correlations, they found that the correlation between income and mood was 0.01 while the correlation between wealth and mood was 0.06 for the United States. Senik (2014) confirmed that household wealth has been shown to improve individual well-being by providing a safety net of protection against negative income shocks.

Plagnol (2011) suggested that increases in assets and decreases in debt contribute substantially to financial satisfaction.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Stronger correlation with subjective wellbeing compared to income and direct measure for objective wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle and has become increasingly relevant for the retirement age group or those close to retirement.
- Relevance across specific population of interest (Q3 – FACS) in NSW – Indigenous population, CALD etc.
- Relevant across population

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: High
   - Children: Low
   - Youth: Low
   - Old: Medium
2. Reliability: Medium
3. Availability in NSW data: High
   - ABS Survey Income and Housing, CURF, 2002–2003, 2005–2006, 2007–2008, 2011–2012, 2013–2014
   - HILDA data, waves 2, 6, 10, 14

9. Inflation rate

Measurement Options:

- Inflation rate (as measured by the Consumer Prices Index)

NSW Domain

Economic

Domains in other frameworks

- The economy (UK ONS)

Indicator type

Objective

Time frame

Quarterly aggregated to Annual

Unit of analysis:

Area level (usually national level but in Australia is also Capital City)

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Di Tella et al. (2001) found that people are happier (measured by average life satisfaction in a country) when inflation and unemployment are low.

Welsch (2007) found that unemployment affects life satisfaction more strongly than does inflation.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the whole life cycle
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - ABS, Consumer Price Index, quarterly data, Australia and Capital Cities

Domain: Home

10. Overcrowding

Measurement Options:

- Average number of rooms per person [2]
- Ratios of persons to rooms [3]
- The Canadian National Occupancy Standard [4]

NSW Domain

Home

Domains in other frameworks

- Housing (OECD; NATSEM Child Social Exclusion)
- Environment (AIHW)
- Context (UNICEF)

Indicator type

Objective

Time frame

Yearly

Unit of analysis

Please see the measurement options above

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

Bradshaw et al. (2007) included crowding as one indicator of child-wellbeing. Solari and Mare (2012) found that housing crowding effects negatively on children wellbeing (educational outcomes in math or reading, internal behaviour, external behaviour and health outcomes), even after controlling for socioeconomic status. For example, they found that a one standard deviation increase in housing crowding (equivalent to .98 persons per room) reduces math scores by 2 percentiles.

Studies have also found that higher levels of residential density (people per room) is associated with elevated levels of psychological distress among adults (Marsella et al., 1970; Hassan, 1977; Gove et al., 1983; Gabe and Williams, 1987; Jain, 1987; Evans et al., 1989; Lepore et al., 1991).

---

[2] Persons occupying a dwelling are living in crowded conditions. It is measured as the number of rooms in a dwelling divided by the number of persons living in the dwelling (OECD)

[3] Crowding is typically assessed by the ratio of persons to rooms, with ratios greater than one considered overcrowded. This common research definition is intended to capture a lack of personal space or privacy, enforced intimate proximity to people in the home with communicable diseases, and potentially excessive social or external demands (UK ONS)

[4] The number of bedrooms required depending on age and sex of occupants. The rule is that a no more than two people shall share a bedroom; parents or couples may share a bedroom; children under 5 years, either of the same sex or opposite sex may share a bedroom; children under 18 years of the same sex may share a bedroom; a child aged 5 to 17 years should not share a bedroom with a child under 5 of the opposite sex; single adults 18 years and over and any unpaired children require a separate bedroom; and couples require 1 bedroom (usually one more or two more bedrooms required). Require at least one additional bedroom is considered to experience some degree of overcrowding (Canadian National Occupancy Standard, this definition is used by Australian Census)

Sensitivity *(degree to which measures can distinguish between different states of well-being)*

Strongly correlated with subjective wellbeing and strong indicator of objective wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- A large majority of the research on crowded housing conditions centres on adults rather than children (Evans, 2003; Newman, 2008).
- Nevertheless, the issue has been increasingly significant for children.
- Relevant across group of population of interest

Booth and Carroll (2005) found that among the Indigenous community, overcrowding of adults is associated with worse health and this contributed around 30Percentage of the health gap between the Indigenous population living in remote areas and the non-Indigenous population (Booth and Carrol, 2005).

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
   - All population: High
   - Children: High
   - Youth: High
   - Older adults: Low
2. Reliability: High
3. Availability in NSW data: High
   - ABS, Census of Population and Housing, five yearly data for a variable called *Number of Bedrooms in Private Dwelling*
   - Special data request to calculate — household where one bedroom or two bedrooms are required based on the Canadian National Occupancy Standard (CNOS).

11. Housing Affordability

Measurement Options:

- Housing expenditure
- Percentage of household gross adjusted disposable income spent on housing and house maintenance
- Housing stress
- Rental costs as a proportion of household income for low income rental households

A typical cut off is spending more than 30Percentage of gross household income on housing is considered 'unaffordable' Alternatively –housing stress if its housing costs exceed 30 per cent of gross income and the household is in the bottom 40 per cent of the equivalised disposable income distribution (Yates, 2007; Nepal et al, 2010).

Rowley et al. (2015) argue that the term housing stress is not used outside Australian literature on affordability, but the concept is common: a certain share of households pays more than a certain share of income on housing-related expenditure items (Heylen and Haffner, 2013).

NSW Domain

Home

Domains in other frameworks

- Housing (OECD, NATSEM Child Social Exclusion)

Indicator type

Objective

Time frame

Usually calculated using annual income and housing costs, however can also use weekly or fortnightly income and housing costs as it is a ratio.

Unit of analysis

Household

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

We would normally expect that living in households where housing costs are very high will be detrimental to child wellbeing. However, the research shows that the relationship is much more complicated than this.

Leventhal and Newman (2010) found that there was no evidence that unaffordable housing markets were associated with adverse outcomes for poor and near poor children.

Coley et al. (2013) found limited evidence linking housing cost burdens to child functioning which provides some support for recent debates in the housing literature questioning the perspective that high housing costs are consistently detrimental for children and families (Harkness and Newman, 2005). It is argued that higher housing costs mean that people have a greater quality of housing or neighbourhood characteristics such as safety, resources, or social capital and this leads to benefits that outweigh the additional cost of housing. This then means that the housing costs have an insignificant association with child wellbeing (functioning).

Rowley et al. (2015) found that housing stress is, at best, only weakly correlated with financial stress. Similar results can be found from Burke (2007); Lester et al., (2013); Rowley and Ong, (2012)

Yates (2007) found that when controlling for socio-demographic factors using multivariate analysis, the relationship between housing stress and financial stress becomes insignificant.

Deidda (2015) found that housing cost is a determinant of economic hardship which is defined as material deprivation if a household is not able to afford at least three of the following items:

- To pay rent, mortgage or utility bills
- To keep the home adequately warm
- To face unexpected expenses
- To eat meat or proteins regularly
- To go on holiday

- To own a television set
- To own a washing machine
- To own a car
- To own a telephone.

Studies from the UK, Australia, China, Flanders and the Netherlands argue that the housing cost to income ratio itself does not identify whether households can afford to pay for their housing (Chen et al., 2010; Haffner and Heylen, 2011; Hancock, 1993; Hulchanski, 1995; Stone, 2006) and it remains difficult to assess whether housing expenditures are affordable or not for an individual household, so 30Percentage of income spent on housing costs for households with higher household incomes may be affordable compared to households with lower household incomes.

Sensitivity *(degree to which measures can distinguish between different states of well-being)*

Medium with subjective wellbeing, but strong indicator of objective wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevance across the life cycle
- Relevant across specific population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
   - All population: High
   - Children: Low
   - Youth: Medium
   - Older adults: High
2. Reliability: Medium
3. Availability in NSW data: High
   - ABS, Household Expenditure Survey (HES), 2003–04, 2009–10
   - ABS, Census Population and Housing, five yearly data, data can be estimated through special data request to the ABS
   - For housing stress: ABS Survey of Income and Housing (SIH), CURF, 2002–2003, 2005–2006, 2007–2008, 2011–2012, 2013–2014
   - Modelled small area data is available from the NATSEM website using the 2011 Census (http://web.natsem.canberra.edu.au/maps/AUST_SMSM08/atlas.html)

12. Homelessness

Measurement Options:

- Homeless rate (all population)
- Youth homelessness (12–18, or 12–24 years old)
- Percentage of population in Transitional Housing

ABS definition: "When a person does not have suitable accommodation alternatives they are considered homeless if their current living arrangement:

- Is in a dwelling that is inadequate
- Has no tenure, or if their initial tenure is short and not extendable
- Does not allow them to have control of, and access to space for social relations.

NSW Domain

Home or Safety

Domains in other frameworks

- Housing (OECD, NATSEM Child Social Exclusion)
- Home (ABS MAP)

Indicator type

Objective

Time frame

Point in time, e.g., number homeless on Census night

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium to High

The relation between homelessness and mental health is strong. The experience of homelessness is described as traumatic, disempowering, socially isolating (Smith et al., 2008) and impoverishing (Shelter, 2004; Smith et al., 2008). Homeless young people have high levels of mental health problems, including anxiety, depression, behavioural disorders, self-harm, and alcohol and drug misuse (Moore et al. 2007; Vostanis 2002).

Further, research on homeless children found poor health and nutrition, mental health problems, developmental delays, and problems in educational attainment among homeless children (see reviews by Molnar, Rath, and Klein, 1990; Rafferty and Shinn, 1991). Masten et al. (1993) found that homeless children are likely to experience greater stress exposure, more disruptive schooling and friendship than poor children who have a place of residence. Masten et al. (1993) also argued that behavioural issues are also found among the homeless children, but this is more due to other factors such as parental distress, rather than to their homelessness status.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Strong correlation with subjective wellbeing and possibly with objective wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across specific population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: Low
   - Children: N/A
   - Youth: Medium
   - Older adults: High
2. Reliability: Medium to High
3. Availability in NSW data: High
   - ABS Census Population and Housing, 5 yearly data. Small area estimates of homelessness are modelled from each Census.
   - Alternatively, national and State estimates can be derived from the ABS General Social Survey, conducted every 4 years.

13. Sanitary facilities

Measurement:

- Dwelling without basic sanitary facilities[5]

NSW Domain

Home or Health

Domains in other frameworks

- Housing (OECD)

Indicator type

Objective

Time frame

Point in time

Unit of analysis

Household

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Low

The indicator is usually used as one of the indicators of multidimensional child poverty (Minujin et al. 2006; Roelen et al. 2010) or severe deprivation (Delamonica and Minujin, 2007).

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Not enough evidence in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across life cycle particularly for children but may not be as relevant in developed countries
- Relevant across specific population of interest, particularly Indigenous population

Assessment of useability: Low

This assessment was based on the following criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Low, perhaps not relevant that much for developed countries
3. Availability in NSW data: Low
   - In 1994 and 1999, the ABS conducted an Australian Housing Survey which covered housing quality; and in 2006 a Community Housing and Infrastructure Needs Survey was conducted which covered quality of housing; but there was little data found after this 2006 survey. NSW Government may have some internal information, particularly with regard to indigenous housing.

[5] Two basic facilities are considered here: a lack of indoor flushing toilet (measured as the percentage of dwellings not having indoor flushing toilet for the sole use of their household); and the absence of a bathroom (measured as the percentage of people having neither a bath nor a shower in their dwelling) (OECD definition).

14. Access to key services

Measurement Options:

- Average minimum travel time to reach the nearest key services
- ARIA+ classification of remoteness

NSW Domain

Home or Social and Community or Empowerment

Domains in other frameworks

- Where we live (UK ONS)
- Systems and services (AIHW)

Indicator type

Objective

Time frame

None – indicator is fairly constant over time

Unit of analysis

Household or area for ARIA (Accessibility/Remoteness Index of Australia)

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Low

Limited evidence

Ettema et al. (2011) showed that STS (self-report satisfaction with travel) scale is reliable and differentiates between changes in travel conditions. STS, mood, and to some extent SWB were shown to be affected by travel mode (bus vs. car), travel time, access to bus stops, and the number of activities in the daily agenda

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Low

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across population of interest

Assessment of useability: Low

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Low
3. Availability in NSW data: Low
   - Travelling time data from BITRE. The data is available for commuting distance
   - 1270.0.55.005 — Australian Statistical Geography Standard (ASGS): Volume 5, Remoteness Structure, July 2011 (based on ARIA classifications)

Domain: Health

15. Life expectancy

Measurement Options:

- Life expectancy at birth
- Healthy life expectancy at birth (male/female)

NSW Domain

Health

Domains in other frameworks

- Quality of Life (OECD)
- Health (UK ONS; ONS Children)

Indicator type

Objective

Time frame

Point in time, usually calculated as life expectancy at a given age

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

All literature supported the evidence of an association between wellbeing and life expectancy. Perenboom et al. (2002) argued that life expectancy was a useful indicator to assess a population's quality of life. D'Acci (2011) used life expectancy at birth in a Well-Being and Progress Index. The United Nations Development Programme (UNDP) has also used this variable as an indicator of the dimension of long and healthy life. http://hdr.undp.org/en/content/human-development-index-hdi

Berenger and Verdier-Chouchane (2007) proposed two components of wellbeing which are Standard of Living (SL) and Quality of Life (QL) — supporting Sen's capability approach, where life expectancy at birth is an indicator in the quality of health domain.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

High for both subjective and objective wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across specific population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: High
   - Children: Low
   - Youth: Medium
   - Older adults: Low
2. Reliability: High
3. Availability in NSW data: High
   - ABS, Life Tables, States, Territories and Australia, 2009–11, 2010–12, 2011–13, 2012 –14, 2013–15
   - The Australian Institute of Health and Welfare's National Perinatal Data Collection, Data availability: Annual from 1991 onwards. See http://www.aihw.gov.au/perinatal-data/
   - The AIHW National Mortality Database
   - ABS 3302.0 — Deaths, Australia, 2015

16. Self-reported health status

Measurement Options:

- Percentage of people reporting excellent/very good/good/fair/poor

NSW Domain

Health

Domains in other frameworks

- Health (UK ONS)

Indicator type

Subjective

Time frame

Depending on the question asked – can be point in time (e.g., some of the SF36 set of questions), or annual if asked as a quality of life type question (e.g., in the past year, how happy have you been with your health).

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Benitez-Silva et al. (2004) discussed the reliability of self-reported health. In some countries, the subjective health measure is associated with wellbeing however after controlling for additional objective health indicators it does not seem to add much explanatory power to the analysis. In other countries, however, self-reported health is clearly endogenous due to omitted objective health indicators.

Anger et al. (2009) found that as a function of self-reported health, median happiness increased at a decreasing rate; and the variability in happiness was decreasing at a decreasing rate.

Stutzer (2004) found that lower satisfaction rate is recorded for people with lower/bad health status where bad health was an important illness or disability that forced the respondent to change their profession or to reorganize their life completely.

Dolan et al. (2008) mentioned that psychological health seems to be more highly correlated with subjective wellbeing (SWB) than physical health.

Okun et al (1984) found that self-reported physical health correlated positively but with a moderate to low correlation with SWB of 0.32.

Another study found that self-reported health had the strongest association with all the measures of personal well-being (Measuring National Well-Being – What Matters Most to Personal Well-Being? 2013)

Self-assessed health status can be influenced by several factors besides actual presence or absence of disease, for example:

- Individual's own expectations and aspirations
- Knowledge of and information about health
- Socioeconomic status
- Level of education
- Employment
- Housing conditions
- Remoteness
- Indigenous status (Sibthorpe et al. 2001; Ahn 2002)

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Medium — some literature found this indicator correlates highly with subjective wellbeing, other studies found medium to low correlations

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across specific population of interest.

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
   - All population: High
   - Children: Low
   - Youth: Medium
   - Older adults: High
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA data, waves 1–15
   - UC Regional Wellbeing Survey
   - Sax Institute 45 and Up Study Questionnaire

17. Disability

Measurement Options:

- Proportion of population who reported a disability
- Proportion of population who reported profound or severe disability
- Labour force participation rate for people with disability
- Experience of discrimination for people with disability

NSW Domain

Health

Domains in other frameworks

- Health (UK ONS)

Indicator type

Objective

Time frame

Point in time

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

Oswald and Powdthavee (2006) as discussed in Dolan et al. (2008) mentioned that disability reduced life satisfaction for those who do not have a past disability, even several years after the disability.

Freedman et al. (2012) focused on disability and subjective wellbeing among older couples. The results show that no matter what the measure of wellbeing used, older married adults with a disability report worse subjective wellbeing than those without a disability, and neither different demographic and socioeconomic profiles nor differences in participation fully account for these disparities.

Tinghög et al. (2007) found that immigrants' excess risk for low subjective wellbeing was completely accounted for by adjustment for known risk factors in all the immigrant groups. Further, the association between immigrant status and mental illness appears to be an effect of a higher prevalence of social and economic disadvantage.

Sensitivity

High

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the whole life cycle.
- Relevant across population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
   - All population: Medium
   - Youth: High
   - Children: Low
   - Older adults: High
2. Reliability: High
3. Availability in NSW data: High
   - ABS Census Population and Housing, 5 yearly data
   - HILDA waves 1–15, Long term health condition, disability or impairment
   - ABS 4430.0.30.002 — Microdata: Disability, Ageing and Carers, Australia, Survey of Disability, Ageing and Carers

18. Smoking behaviour

Measurement Options:

- Proportion of population who currently smoke tobacco by age and sex
- Frequency of use (daily vs non-daily, and units per day)
- Type of product used

NSW Domain

Health

Domains in other frameworks

- Health system performance (AIHW Young Australians: their health and wellbeing 2011)
- Health (ONS children)

Indicator type

Objective.

Time frame

Point in time or daily for frequency of use

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

Adolescent tobacco use is associated with a range of problems in adulthood such as problematic alcohol use, mental health, academic and sleep problems (Pitkänen et al. 2005 and Mathers et al. 2006). However, the impact of smoking is confounded with mental health. Lawrence et al. (2012) found mental illness in the past 12 months was the most important determinant of smoking, affecting one fifth of the population and with an odds ratio of 2.43. This is in line with Robson (2010) who argued that high smoking rates were the main factor in terms of the mortality of people with a severe and prolonged mental illness.

Venning et al. (2013) argued that young individuals who were flourishing in life were less likely to report engaging in behaviours such as smoking cigarettes or drinking alcohol than those who were not flourishing.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevance for all lifecycle
- Relevant across specific population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Low
   - Children: Low
   - Youth: Medium
   - Older adults: Low
2. Reliability: High
3. Availability in NSW data: High
   - The 2005 Australian Secondary Students Alcohol and Drug (ASSAD) Survey for youth
   - ABS National Health Survey, 2001, 2004–05, 2007–08
     ABS Australian Health Survey: Updated Results, 2011–12 (cat no. 4364.0.55.003)

19. Overall life satisfaction/Self-rated happiness

Measurement Options:

- Life evaluation (life as a whole)
- Affect (typically measured with reference to a particular point in time. Captures how people experience life rather than how they remember it. Positive affect captures emotions such as the experience of happiness, joy and contentment. Negative affect comprises the experience of unpleasant emotional states such as sadness, anger, fear and anxiety.
- Eudaimonia (good psychological functioning, flourishing)

NSW Domain

Health

Domains in other frameworks

- Personal well-being
- Psychological/emotional development (UNICEF)
- Life satisfaction (ONS children)

Indicator type

Subjective

Time frame

Depending on the question, point in time or annual if asked about previous year

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Life satisfaction captures a reflective assessment of how things are going in one's own life, and allows an assessment of which life circumstances and conditions are important for an individual's overall well-being (Kahneman and Krueger, 2006). Looking at life satisfaction measures also assists to understand the gap between objective living conditions of people and their own evaluation of these conditions (Helliwell, 2008). Diener and Chan (2011) find that life satisfaction is a significant determinant of health and longevity. Further, Helliwell (2007) suggests that low levels of average national life satisfaction are related to higher suicide rates.

Conceicao and Bandura (2008) argue that the reliability of SWB measures such as life satisfaction is lower than other objective variables such as income. Diener et al. (2013) argues that life satisfaction is found to be reliable across short time periods, but may change over time as life circumstances are likely to change. Diener et al. (2013) argue that the scales of life satisfaction are stable under unchanging conditions, but are sensitive to changes in people's living situation. Cummins (1995) found that life satisfaction can be summarised as a value of 75.0 +/- 2.5Percentage of the measurement scale maximum score on a scale of 0 - 100.

Yap et al. (2011) found that life satisfaction changed following specific life events such as childhood or the death of a partner. Edwards and Klemmack (1973) found that the best predictors of life satisfaction were socioeconomic status, perceived health status, and informal participation.

Interestingly, the Australian National Development Index (ANDI) is one of the few summary measures of national wellbeing that incorporates measures of subjective wellbeing and life satisfaction in its framework (http://www.andi.org.au/the-index-in-a-nutshell.html). This Australian national index is still in development phase.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Strong

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: High
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA data, Waves 1–15, on life satisfaction
   - HILDA has a variable about happiness — and asking for those who have retired (Waves 3, 7 and 11): *Better or worse since you retired - Your overall happiness*
   - Regional Wellbeing Survey
   - Australian Unity Personal Wellbeing Index

---

20. Mental Health

Measurement Options:

- Mental health: been a nervous person, felt so down, been a happy person etc.
- SF 36: Mental health, vitality, emotional role functioning
- Levels of psychological distress: measured by the Kessler 10 (K10) scale
- Prevalence of mental disorders among young people aged 16–24 years old
- Health service (GP, hospitalisation, community health service) use for mental health problems
- Diagnosed with serious illness — Depression or anxiety
- Takes prescription medication for — Depression or anxiety
- Depression Anxiety

NSW Domain

Health

Domains in other frameworks

- Personal well-being (UK ONS)
- Health (UK ONS)
- Psychological (AIHW)
- Individual wellbeing (ONS children)

Indicator type

- Subjective (for self-rated response such as when mentioning feeling nervous, down, happy etc.)
- Objective (for medical evidence indicating depression or anxiety)

Time frame

Usually point in time data, however some questions may refer to the past week, fortnight, etc.

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

Life satisfaction is a component of mental health (Alston and Dudley, 1973) and is quite strongly correlated with a distress dimension, depression (Headey et al., 1993).

Mental health problems in children are linked to "suffering, functional impairment, exposure to stigma and discrimination, and increased risk of premature death" (AIHW 2011). Conditions such as ADHD, depressive disorder, or conduct disorder may impact psychosocial growth and development, health care requirements, education and occupational attainment, and involvement with the justice system (Bhatia and Bhatia 2007; Leslie and Wolraich 2007).

Depression in childhood and adolescence creates a significant burden on individuals, families, and societies by increasing morbidity, increasing mortality, and negatively affecting quality of life during times of significantly depressed mood (Lynch and Clarke 2006).

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Strongly related to wellbeing.

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

School age onwards — Relevant across specific population of interest including the following:

- Indigenous population

Jorm et al. (2012) argues that there is an inequality in mental health between Indigenous and non-Indigenous Australians that starts from an early age. Adermann and Campbell (2007) found that for Indigenous youth, their parents and teachers believe excessive anxiety is a significant issue, and that appropriate anxiety assessment needs to be implemented.

- Children living in out-of-home care

Homeless young adults with a history of foster care were found to be at greater risk of problems related to mental health and addiction than homeless young adults who have never experienced foster care (Lenz-Rashid, 2006). Unrau and Grinnell (2005) found that at-risk youth with a history of out-of-home care had more physical and mental health problems compared to comparison groups with no history of out-of-home care.

- Children and young people who are vulnerable or at-risk of significant harm
- People experiencing or at risk of experiencing domestic and family violence

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: Medium
   - Children: Low
   - Youth: Medium
   - Older adults: High
2. Reliability: High
3. Availability in NSW data: High
   - There are a couple of HILDA variables to represent this:
     - Diagnosed with serious illness Depression or anxiety (W9 and W13)
     - Takes prescription medication for Depression or anxiety (W9 and W13)
     - Experience long term health condition: Depression and anxiety (W7 and W9)
     - Kessler Psychological Distress, Waves, 7, 8, 9, 11, 13, 15

21. Leisure activities (such as sports participation)

Measurement Options:

- Participation in 30 minutes of moderate intensity sport, once per week

NSW Domain

Health or Social and Community

Domains in other frameworks

- What we do (UK ONS)

Indicator type

Objective

Time frame/frequency

Depends on question, usually assessed over a short period that can be remembered like a week or two weeks

Unit of analysis

Children aged 14 years and older

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

The evidence for the impact of sports on wellbeing is mixed, partly due to the negative impact that team sports can have on youth alcohol abuse; but also, because the impact of physical activity on wellbeing seems to occur through mental and physical health.

Holder et al. (2009) found that active leisure was positively correlated with well-being but with a low R^2. Using a regression which estimates the impact of sport and activities on children's self-ratings of happiness using the Faces Scale, a correlation coefficient of between 0.16 and 0.18 was estimated.

Passive leisure (e.g. television and video games) has been found to be negatively correlated with well-being as discussed in Holder et al. (2009).

Aspects of active leisure (e.g. the importance of sport to the child and how sports made the child feel) as judged by both parents and children accounted for unique variance in children's wellbeing, while passive leisure pursuits like television and video games did not (Csikszentmihalyi and Hunter, 2003; Hills and Argyle 1998)

These findings appear to be activity specific, as participation in team sports has been found to be associated with higher levels of alcohol use (Eccles and Barber, 1999; Fredericks and Eccles, 2005). Eccles and Barber (1999) found that participation in team sports predicted an increase in alcohol use and getting intoxicated in the 12th grade, even after controlling for gender, intellectual aptitude, and mothers' education (it is not clear the size of the association). However, sports participation has also found to have a positive impact on students between the 10th and 12th grades by increasing the likelihood that they like school, achieving a higher than expected 12th-grade GPA, and a greater than expected likelihood of being enrolled full-time in college at 21 years of age (Eccles and Barber, 1999).

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Weak, the impact seems to be indirect from sports > health > wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
   - All population: Medium
   - Children: High
   - Youth: Medium
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA, Waves 1–15 has the following
   - Currently an active member of a sporting/hobby/community based club or association
   - Number of active memberships in sporting/hobby/community based clubs or associations
   - Total time spent in moderate physical activity over last 7 days, Wave 13
   - Australian Bureau of Statistics (ABS):
     - ABS 4324.0.55.001 — Microdata: Australian Health Survey, National Health Survey
     - ABS 4177.0 — Participation in Sport and Physical Recreation, Australia

22. Time devoted to leisure and personal care

Measurement Options:

- Time use for recreation and leisure as time or percentage of total time

NSW Domain

Health or Social and Community

Domains in other frameworks

- Work-life balance (OECD)

Indicator type

Objective

Time frame

Hours per day or hours per week

Unit of analysis

Population aged 25–64 years old

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Leisure involves the fact that activities need to be freely chosen (Lu and Hu, 2005) based on individual interest.

Iwasaki (2007) argued that there has been significant discussion in the literature on the role of leisure in promoting people's quality of life through pathways or mechanisms that can facilitate meaning-making and life-quality-enhancement. The pathways are identified as follows: (a) positive emotions and wellbeing experienced from leisure; (b) positive identities and self-esteem gained from leisure; (c) social and cultural connections and a harmony developed through leisure; and (d) leisure's contribution to learning and human development across the lifespan.

Leisure increases overall psychological well-being (Caldwell, 2005) and leisure during adolescence predicted wellbeing 15 years later (Sacker and Cable, 2006).

Agate et al. (2009) found that family leisure satisfaction is related to satisfaction with family life.

Type of leisure activity may matter (see the previous indicator). For example, active participation in voluntary organisations is positively and significantly associated with higher life satisfaction, with an effect that is quantitatively similar to that of moving up by one decile in the income scale. The voluntary activities where the dimension of genuineness (non-instrumentality) is stronger, such as charity, church and art-related activities, matter most for life satisfaction (Bruni and Stanca, 2008)

Among children, Holder et al. (2009) examined the relationship between leisure and wellbeing. Active leisure (e.g. physical activity) was positively correlated with well-being but passive leisure (e.g. television and video games) was negatively correlated with wellbeing. The findings are in line with Argyle (2001); Csikszentmihalyi and Hunter (2003); Shaw and Gant, 2002) for the relationship between passive activities and wellbeing (Csikszentmihalyi and Hunter, 2003); Hills and Argyle (1998) for the active activities and wellbeing.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Medium

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Evidence stronger for older people and children
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
    - ABS Cat no. 4150.0, Time Use Survey
    - ABS Cat no 41530DO001 How Australians Use Their Time, 2006 which has data on 1992, 1997 and 2006
    - HILDA data, annually

23. Exposure to air pollution

Measurement Options:

- Annual exposure to fine particulate matter (PM) air pollution
- Average air quality index for capital cities

NSW Domain

Health

Domains in other frameworks

- Environmental Quality (OECD)

Indicator type

Objective (for measured), Subjective (for perceived)

Time frame

Point in time

Unit of analysis

PM10 concentrations, micrograms per cubic meter

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

The evidence suggests that even when controlling for a range of other factors, higher local air pollution and noise levels significantly diminish subjective well-being (Rehdanz and Maddison, 2008).

Similarly, MacKerron and Mourato (2009) found that both perceived and measured air pollution levels are significantly negatively associated with the life satisfaction of the survey respondents, even when controlling for a wide range of other effects. An increase of 10 µg/m3 in nitrogen dioxide concentration is associated with a drop of nearly half a point of life satisfaction on an 11-point rating scale.

Welsch (2006) found that air pollution plays a statistically significant role as a predictor of inter-country and inter-temporal differences in subjective well-being.

Goldberg et al. (2006) also found positive associations between most air pollutants and daily mortality from diabetes as well as among subjects diagnosed with diabetes 1 year before death

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Strongly correlated with subjective wellbeing

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: High
3. Availability in NSW data: Potentially Medium
   - NSW Environment Protection Authority

24. Climatic variability and climatic change

Measurement Options:

- CO2 emissions from motor vehicles, industry and agriculture
- greenhouse gas (GHG) emissions

NSW Domain

Health

Domains in other frameworks

- The natural environment (UK O NS)

Indicator type

Objective

Time frame/frequency

Point in time

Unit of analysis

Carbon dioxide equivalent.

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

A small body of literature suggests that natural environments are a key driver of life satisfaction (see for example Brereton, Clinch, and Ferreira, 2008; Smyth, Mishra, and Qian, 2008) as highlighted in Ambrey and Fleming (2012)

Maddison and Rehdanz's (2011) findings suggest that in countries with climates characterised by months of weather involving very high and low temperatures, their residents have significantly lower levels of life satisfaction. This finding is robust to a wide variety of model specifications.

Wilson et al. (2013) found that respondents with lifestyles that generate higher direct greenhouse gas (GHG) emissions did not report to be healthier, happier, or more connected to their communities which then suggest that individuals can experience similar degrees of well-being regardless of the amount of GHG emissions associated with their respective lifestyle.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the whole life cycle
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: Potentially Medium
   - http://climatechange.environment.nsw.gov.au/About-climate-change-in-NSW/NSW-emissions

25. Waste from households that is recycled

Measurement Options:

- Solid waste/capita
- Sewage/capita
- Hazardous waste

NSW Domain

Health or Safety and Community

Domains in other frameworks

- The natural environment (UK ONS)

Indicator type

Objective

Time frame

Usually assessed over a time period like a month or a year

Unit of analysis

m3 of waste recycled

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

This indicator may influence wellbeing indirectly.

Newman (1999) proposed an extended metabolism model of human settlements where waste output is one of the components of the model. The waste indicator is included as one of the sustainability indicators for cities covering metabolic and livability. Livability is about the human requirement for social amenity, health and wellbeing and includes both individual and community wellbeing.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across population of interest

Assessment of useability: Low

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Low
3. Availability in NSW data: Potentially Medium
   - http://www.epa.nsw.gov.au/waste/

Domain: Empowerment

26. Voter turn-out

Measurement Options:

- Number of votes cast over the voting-age population[6]
- Number of votes cast over the population registered to vote
- Number of spoilt ballots

NSW Domain

Empowerment

Domains in other frameworks

- Civic Engagement and Governance (OECD)
- Participation (ABS MAP)
- Civic engagement (UNICEF)

Indicator type

Objective

Time frame

Point in time, assessed for election day and before if pre-polling permitted

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Weitz-Shapiro and Winters (2011) found a positive correlation between voting and happiness in Latin America (Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela) noting, however, that the relationship is attenuated in those countries that have enforced compulsory voting.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Low at individual level, moderate at national.

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant from transition age
- Relevant across population of interest except for children directly

[6] The voting-age population is generally defined as the population aged 18 or more, while the registered population refers to the population listed on the voters' register (OECD, 2011)

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
    - All population: High
    - Children: Low
    - Youth: Medium
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
    - Electoral Commission NSW
    - ABS General Social Survey, 2002, 2006, 2010, 2014

Domain: Education and Skills

27. Educational attainment

Measurement Options:

- Percentage of adults with at least upper secondary education
- Proportion of people aged 25-64 years old with a vocational or higher education qualification
- Mean Years of Schooling (UNDP uses this indicator as an HDI component)
- The average number of completed years of education of a country's population, excluding years spent repeating individual grades for the population aged 25 years and older.
- Percentage of older people who completed Year 12
- Percentage of older people who completed Year 10
- School enrolment and retention
- Proportion of people aged 25-64 years old with a vocational or higher education qualification

NSW Domain

Education and Skills

Domains in other frameworks

- Educational and skills (OECD; UK ONS children)
- Community (AIHW)
- Cognitive development & education (UNICEF);
- Education (CSE)
- Learning and knowledge (ABS MAP)

Indicator type

Objective

Time frame

Point in time

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Like income, the relationship between education and wellbeing is complex. Going from a very low level of general education (for example, Year 10) to a higher one (for example, Year 12) will most likely increase wellbeing, but going from a Masters (for example) to a PhD will not have such a large impact on wellbeing. The impact also seems to be through other variables, so education may be acting as a proxy for social mobility and economic standing. Desjardin (2008) argued that the evidence of a link between education and well-being is complex and often not well supported by rigorous evidence.

The positive association between education and wellbeing has been supported by many researchers. Bradshaw et al. (2007) found that Children's educational attainments were indicators of both their well-being today and their future life chances. Michalos (2008) argued that education has an impact on overall human wellbeing (measured by happiness – eudaimonic). Further, according to the OECD (2011), human capital has the following characteristics:

- It tends to improve health (itself a form of human capital). An additional year of schooling has been estimated to reduce daily cigarette consumption by 1.6 for men and 1.1 for women
- It seems to make people happier
- It promotes the education of the next generation. Children of parents with upper secondary attainment are themselves more likely to complete upper secondary education
- It is associated with higher civic participation, volunteering and charity giving, and a lower risk of criminal activity.

There are also studies that have found mixed results, as identified in the first paragraph of this section. Ovaska and Takashima (2006) found that the evidence of an association between educational attainment

at the secondary level of education and self –perceived wellbeing (happiness and life satisfaction) was mixed. Similar mixed results have been found by other empirical studies which examine the relationship between education and happiness (Hartog and Oosterbeek 1998; Hickson and Dockery 2008; Michalos 2008; Ross and Van Willigen 1997; Stevenson and Wolfers 2008; Witter et al. 1984). Some of these studies find a positive association between educational attainment and subjective wellbeing in that country; and some find a parabolic relationship in which happiness is highest for individuals with higher-level secondary education, after which it declines.

Frey and Stutzer (2002a, 2002b) noted that even high educational attainment does not guarantee happiness, however it does help people cope better with setbacks in any given life situation. Blanchflower and Oswald (2000) also confirmed this result. Middle level education has also been found to be related to the highest level of life satisfaction (Stutzer 2004). There is also some evidence that education has a more of a positive impact on wellbeing in low income countries (Fahey and Smyth 2004; Ferrer-i-Carbonell 2005)

The OECD (2013) has also found that once other variables such as income and social trust are included in a regression of education and wellbeing, the correlation between education and other variables falls although it is not clear the size of association, suggesting the impact of education on subjective well-being is partly through the impact on other intermediate variables.

Dolan et al (2008) note some of the issues with measuring the relationship between education and life satisfaction including that education qualifications may be related to unobservable traits at the individual level (motivation, intelligence or family background), and so studies need to control for unobserved heterogeneity.

Helliwell (2003) fails to find any significant direct relationship between education levels and subjective wellbeing in his data. A similar finding was found by a study in Latin America (please see the main report) which found that years of education increases overall happiness, but the effect becomes insignificant once social mobility and relative economic standing is included, indicating that the benefits to education may be positional rather than absolute (Graham and Pettinato 2001, in Dolan et al. 2008).

Some studies exploring the indirect effect of education on subjective wellbeing have found that the positive coefficient on high school and attending college increases by about one third compared to those who did not graduate from high school, suggesting that the indirect effect is considerable (Bukenya et al. 2003; Gerdtham and Johannesson 2001).

Overall, the relationship between education and wellbeing is obviously complex, and depends on how education is specified. If being used as a proxy for economic standing and the ability to solve problems, then it will be associated with an increase in wellbeing, but in a framework, that explicitly includes some of these indicators, it may be unnecessary. For most frameworks, it is a good proxy to include to capture indicators that may not be captured due to a lack of data, and many international frameworks include it for this reason.

The final point to make in this complex relationship is that it depends on age. For many older people, a degree was not necessary to work, so there are fewer older people with degrees compared to younger people, where a degree is now a requirement for many jobs. Many older people will have left school at Year 10 and gone into a trade, whereas now a Year 12 certificate is more common for a tradesperson. So, the level of education required for a younger person is increasing, and this may directly affect their wellbeing; but the impact of higher education on wellbeing for an older person is negligible – for this group, health and income is more important.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Medium correlation with subjective wellbeing depending on how specified and who is the target group but strong indicator of objective wellbeing.

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
    - All population: High
    - Children: Low
    - Youth: High
    - Older adults: Medium
2. Reliability: Medium
3. Availability in NSW data: High
    - ABS Census Population and Housing, five yearly data
    - ABS Survey of Income and Housing (SIH), CURF, 2002–2003, 2005–2006, 2007–2008, 2011–2012, 2013–2014
    - HILDA, waves 1–15, annually since 2001
    - ABS, Education and Work, annually 1998–2015, Census
    - ABS, Schools, annually since 1969

---

28. Cognitive skills

Measurement Options:

- Programme for International Student Assessment (PISA): mean score for reading, mathematics and science
- NAPLAN — Literacy and Numeracy
- International Mathematics and Science Study (TIMMS) and Progress in International Reading Literacy Study (PIRLS)
- Australian Early Development Index (AEDI) and Australian Early Development Census (AEDC) — Language and Cognitive Skills component

NSW Domain

Education and skills

Domains in other frameworks

- Education and skills (OECD; ONS children)
- Community (AIHW)
- Cognitive development & education(UNICEF)
- Education (NATSEM Child Social Exclusion, Youth Social Exclusion)
- Learning and knowledge (ABS MAP)

Indicator type

- Objective

Time frame

- Point in time

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Research has identified that cognitive skills in terms of academic personal beliefs and attachment to school are associated with a student's life satisfaction which is linked to a students' satisfaction with school (Suldo et al., 2008).

Kirkcaldy et al found that happiness was consistently related to the three literacy scores, with the magnitude of the association being the highest for reading literacy (Kirkcaldy et al., 2004).

Cross-sectional studies have also demonstrated an association between school success and subjective wellbeing (Gilman and Huebner 2003; Verkuyten and Thijs 2002). Quinn and Duckworth (2007) conducted a longitudinal study to explore the direction of causality in this relationship, and found that participants reporting higher wellbeing were more likely to earn higher final grades, even when controlling for IQ, age, and previous wellbeing, suggesting that the relationship between wellbeing and academic performance may be reciprocally causal.

The results from two simultaneous cross-sectional surveys among university students in the UK suggests reciprocal relationships between health, health behaviour and educational achievement (Ansari and Stock 2010).

Findings from a small study (N = 121) of ninth-graders show that striving for perfection in adolescent school students is associated with positive characteristics and adaptive outcomes, and thus may form part of a healthy pursuit of excellence. However, negative reactions to imperfection and perceived parental pressure to be perfect were associated with negative characteristics and maladaptive outcomes, and thus may reduce an adolescents' wellbeing (Stoeber and Rambow 2007).

A small study (N=79) of 5th-7th graders found that recent school grades did not correlate significantly with global life satisfaction (Huebner 1991).

Freeman et al. (2011) found that countries with lower inequality scores have higher average test scores in PISA.

The link between lack of literacy skills and later social exclusion is well established (Bird and Akerman 2005), with poor literacy associated with loss of employment opportunities, lower income and consequent disadvantage in terms of housing and health.

Other research has found that educational outcomes are not static, but a result of the interplay between resources and risk factors – children create their wellbeing by mediating these different factors (Bradshaw et al. 2007).

Australian research has found that student outcomes in Australia are related to the socioeconomic status of the school with a correlation of 0.31 (Perry and McConney 2013).

A study of efficiency and funding equity for government schools in Australia found that social disadvantage in primary schools exerts a strong negative impact on students' achievement scores causing inefficient use of available resources (Chakraborty and Blackburn 2013).

Sensitivity *(degree to which measures are able to distinguish between different states of well-being)*

Medium correlation with subjective wellbeing based on an assessment of the literature but strong indicator of objective wellbeing.

Relevance: *Relevance across the life cycle (Q2 - FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant for school age
- Relevant across population of interest except children

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
   - All population: Medium
   - Children: High
   - Youth: High
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - https://www.acer.edu.au/ozpisa/ on PISA data
   - http://www.acara.edu.au/contact-us/acara-data-access (for NAPLAN data)
   - https://www.aedc.gov.au/ for AEDC/AEDI data

29. Those not in education, employment or training (NEET)

Measurement Options:

- Percentage of the population of a given age group and gender who are not employed and not involved in further education or training.
- NEET rate (%) is calculated as = [(number of unemployed youth + number of youth not in the labour force) – (number of unemployed youth who are in education or training + number of youth not in the labour force who are in education or training)] / total number of youth (ILO, 2013).

NSW Domain

Economic or Education and skills

Domains in other frameworks

- Education and skills (OECD)Education (NATSEM Youth Social Exclusion)
- Cognitive development & education (UNICEF)

Indicator type

Objective

Time frame

Point in time

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Longitudinal research with adolescents has indicated that youths who leave school and do not subsequently become employed report lower levels of self-reported activity, perceived competence, and life satisfaction, and increased depressive affect (see Feather and O'Brien 1986).

Other longitudinal research has also revealed that unemployed school-leavers have increased levels of depression, external locus of control and decreased self-esteem in comparison to employed school-leavers (Patton and Noller, 1984; Proctor et al. 2009).

An economic recession dramatically increases the number of young people in NEET in the EU and OEDC countries (Children of the Recession 2014 – UNICEF report card).

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant from upper school age (16 years old) onwards
- Relevant across specific population of interest except for children directly due to the inclusion of employment in the indicator.

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
    - ABS Census of Population and Housing, every 5 years HILDA, waves 1–15, annually since 2001

Domain: Social and community

30. Trust in Government

Measurement Options:

- Percentage of population in certain age group who report trust in government (local/federal/the parliament/politicians/the judicial system)

NSW Domain

Social and Community

Domains in other frameworks

- Governance (UK ONS)
- Trust (OECD)

Indicator type

Subjective

Time frame

Point in time

Unit of analysis

Individuals

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Hudson (2006) suggested that happiness does not solely lie within the realm of the individual, but that institutional performance also has a direct impact upon subjective well-being.

Helliwell and Putnam (2004) argued that trustworthiness and trust both appear independently and robustly related to happiness and life satisfaction, both directly and through their impact on health.

Previous studies have consistently shown that people living in countries with more effective public institutions report higher levels of subjective wellbeing than people living in countries where the quality of institutions is low (Helliwell, Layard, and Sachs, 2015).

Jovanovic (2016) found that institutional trust had a limited predictive value for subjective wellbeing (life satisfaction, positive affect and negative affect) in Serbia.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Medium

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- Relevant across population of interest except for children

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Medium
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - 'Power of Us' survey — Survey of Australian Democracy IGPA
   - Australian Survey of Social Attitudes (AuSSA) http://aussa.anu.edu.au/questionnaires.php

31. Social network/support

Measurement Options:

- Percentage of people who have relatives or friends they can count on
- Percentage of people who report having to lean on someone in times of trouble or that they have someone to confide in

NSW Domain

Social and Community

Domains in other frameworks

- Social Connections (OECD)
- Family/peers (AIHW)
- Context (UNICEF)
- Our relationships (ONS children)
- Social Support (NATSEM Older Adults Social Exclusion)

Indicator type

Subjective

Time frame

Depends on question asked, however mostly point in time

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

As highlighted by Siedlecki et al. (2014) there have been mixed findings in the literature regarding social support. Some literature has linked social support to measures of subjective well-being (Newsom and Schulz 1996; Pinquart and Sorensen 2000; Thomas 2010), while some researchers have found negative or no association between social support and SWB (Lakey et al. 2010; Lee et al. 1995; Lepore et al. 2008). One possibility for the variation in findings is how researchers conceptualize and operationalize social support and subjective well-being - both of which are often used as umbrella terms for complex constructs.

Wan et al. (1996) found that the correlation between social support and life satisfaction differed depending on the person providing the support.

The AIHW (2012) has found that families with rich social networks have increased access to information, material resources and friends and neighbours to help them manage their daily lives and problems. Strong social networks may protect children against the adverse effects of socioeconomic disadvantage (Ferguson 2006; Stone and Hughes 2000; Zwi and Henry 2005). Similarly, among older adults, Kafetsios and Sideridis (2006) found that perceived satisfaction with support was more strongly related with well-being in older adults.

Further Fiori et al. (2006) found two types of networks, a non-family network and a non-friends network. Depressive symptoms were highest for individuals in the non-friend's network and lowest for individuals in the diverse network (support from various sources). Fiori et al. (006) results suggest that the absence of family in the context of friends is less damaging than the absence of friends in the context of family, and that support quality is one mechanism through which network types affect mental health.

Social network support for youth adolescence include Oberle et al., 2011 which found that the following were correlated with life satisfaction

- Perceived neighbourhood support
- Parental support
- Positive peer relationship
- School connectedness

The level of support from teachers also links to higher life satisfaction (Suldo and Huebner, 2006)

Chu et al. (2010) reviewed 246 studies and found a positive but small association between social support and well-being.

Sensitivity *(degree to which measures are able to distinguish between different states of well-being*

Medium — there is an association identified in the literature but it is not strong

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: High
   - All population: Medium
   - Children: High
   - Youth: Medium
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA data, waves 1–15, annually
   - ABS General Social Survey, 2002, 2006, 2010, 2014
   - ABS Census of Population and Housing, five yearly data

32. Relationship with partner

Measurement Options:

- Percentage of population who report that they are satisfied with their partner

NSW Domain

Social and community

Domains in other frameworks

- Our relationships (UK ONS)

Indicator type

Subjective

Time frame

Depending on question asked but most commonly point in time

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Kim and McKenry (2002) argued that the effect of the quality of marital (cohabiting) relationship on psychological well-being was significant, but the strong effect of marital status remained unchanged after controlling for relationship quality. Kim and McKenry (2002) also found that the transition to cohabiting did not have similar impacts on psychological well-being as marriage. This suggests that marriage has a higher protective effect compared to a cohabiting relationship.

Hawkins and Booth (2005) found that staying unhappily married is more detrimental than divorcing, as people in low-quality marriages are less happy than people who divorce and remarry. They also have lower levels of life satisfaction, self-esteem and overall health than individuals who divorce and remain unmarried.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Low — links to wellbeing are not strong

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant from transition age onwards
- Relevant across population of interest except for children

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: N/A
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HIILDA data, waves 1–15; Satisfaction with Partner

33. Feeling of loneliness

Measurement Options:

- Percentage of population who report often feeling lonely

NSW Domain

Social and community

Domains in other frameworks

- Our relationships (UK ONS)
- Family/peers (AIHW)
- Context (UNICEF)
- Our relationships (ONS children)

Indicator type

Subjective

Time frame

Depending on the question asked — can be point in time or over a period (e.g., *"have you felt lonely over the last week?)"*

Unit of analysis

Individual level (adults)

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Living alone is significantly negatively correlated with personal well-being, regardless of relationship status. All household types where two or more people live together give higher ratings for life satisfaction than those living alone (Measuring National Well-Being – What Matters, 2013).

Chu (2010) found that young and older participants who reported the greatest amount of loneliness experienced significantly less positive affect than those reporting the least amount of loneliness.

The correlation between loneliness and positive affect among older adults was significant at -0.412 while it was -0.296 for the younger age group. The correlation between loneliness and negative affect among older adults was 0.339. However, higher levels of loneliness were correlated with increased negative affect only within the older adult group. Increased loneliness was also correlated with poorer reports of physical health exclusively in older adults with a statistically significant correlation coefficient of 0.227.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Low — not a direct link, but affects wellbeing through other influences, and affects different people's wellbeing in different ways

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: High
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
    - HILDA data, waves 1–15" *I often feel very lonely"*

34. Volunteering

Measurement options:

- Percentage of population who have volunteered more than once in the last 12 months

NSW Domain

Social and community

Domains in other frameworks

- What we do (UK ONS)
- Relationships (UNICEF)
- Connectedness (NATSEM Child Social Exclusion)
- Economic and Social Participation (NATSEM Older Adults Social Exclusion)

Indicator type

Objective

Time frame

Depending on question, usually assessed over a time period so can measure multiple acts of volunteering

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

High

Hao (2008) found that people who participated in volunteering generally had better mental health at the beginning of the study. Full-time employment and low-level volunteering had independent protective effects against decline in psychological well-being.

Volunteers report fewer symptoms of anxiety, a higher level of life satisfaction, and better personal control (Fengler, 1984; Greenfield and Marks, 2004; Hunter and Linn, 1981; Jirovec and Hyduk, 1999).

Volunteering is found to be associated with increased life satisfaction with some evidence that older people having greater mental health benefits from volunteering than younger age groups. Volunteering enables older people to make a contribution and is a means in which to participate socially and engage in community life, which reduces the likelihood of depression and increases life satisfaction, improves morale and self-esteem, and creates a larger social network (Burr et al., 2005).

Morrow-Howell et al. (2003) argued that older adults who volunteered and who engaged in more hours of volunteering reported higher levels of well-being.

Wilson (2000) found that positive effects of volunteering were found for life-satisfaction, self-esteem, self-rated health, and for educational and occupational achievement, functional ability, and mortality. Wilson (2000) also suggested that volunteering reduces the likelihood of disruptive behaviours such as school truancy and drug abuse among youth.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

High

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- This indicator is also used to examine Older Adults Social Exclusion (Miranti and Yu, 2015)
- Relevant across population of interest

Assessment of useability: High

This assessment was based on three criteria:

1. Frequency used in key frameworks: Medium
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: High
2. Reliability: High
3. Availability in NSW data: High
    - ABS, Census of Population and Housing, every 5 years
    - HILDA, waves 1-15; *Combined hrs/mins per week — Volunteer/Charity work*
    - ABS General Social Survey, 2002, 2006, 2010, 2014

35. Feeling a sense of belonging to their neighbourhood

Measurement Options:

- Percentage of population who feel they belong to their community/neighbourhood

NSW Domain

Social and community

Domains in other frameworks

- Where we live (UK ONS)
- Environment (AIHW)
- Context (UNICEF)
- Where we live (ONS children)
- Community Engagement (NATSEM Older Adults Social Exclusion)

Indicator type

Subjective

Time frame

Point in time

Unit of analysis

Individuals

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Young et al. (2004) concluded that sense of neighbourhood and feelings of safety form valid measures of aspects of the social environment for older women. Better sense of neighbourhood is associated with better physical and mental health, lower stress, better social support and being physically active. O'Brien and Ayidiya (1991) found that feeling part of the neighbourhood community has a strong association with subjective quality of life.

Oktay et al. (2009) found that satisfaction with neighbourhood is not necessarily associated with place attachment, and that even though a neighbourhood may lack certain facilities such as parks and green spaces, recreational facilities and walkability in the neighbourhood, people may feel attached to the place because of certain attributes. However, there was a positive relationship between satisfaction with neighbourhood (such as safety and street maintenance) and feelings of a neighbourhood as home. Further, the correlation coefficient between home attachment and feeling of belonging is significant at 0.18.

Farrell et al. (2004) demonstrated that sense of community mediates the relationship between neighborhood stability (as defined by the marital status and mobility) and residents' well-being. The frequency of engaging in neighbourly behavior was not directly predictive of a resident's sense of personal well-being, but was predictive of an increased sense of community. Consistent with previous research, the findings highlighted the importance of building a sense of community among residents in a neighborhood.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Medium — links to wellbeing are good, but not a direct indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- Relevant across the population

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: Medium
    - Not the same indicator, but HILDA has the following indicator, HILDA, Waves 1–15:
        - *Satisfaction — The neighbourhood in which you live*
        - *Satisfaction — Feeling part of your local community*

36. Engagement with/participation in arts or cultural activities

Measurement Options:

- Percentage of people attending events such as fetes, shows, festivals or other community events

NSW Domain

Social and Community or health

Domains in other frameworks

- What we do (UK ONS)
- (Cognitive development and education (UNICEF)

Indicator type

Objective

Time frame

Depends on question but usually has a time period associated with it, e.g., participation over the past month/year

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Nimrod (2005) indicated that there were 13 factors of leisure activities and five factors of leisure benefits, all of which are interrelated. Six of the activity factors contribute significantly to retirees' life satisfaction (high culture and 'dolce-vita', free out of home activities, spirituality and enrichment, popular culture, following generation, and independent home activities).

Cohen et al. (2006) discussed the positive impact of participatory art programs for older adults on overall health, doctor visits, medication use, falls, loneliness, morale, and activity. The results showed important health promotion and prevention effects and a reduction of risk factors driving the need for long-term care.

Lowis (2011) conducted a small sample of 102 retired men and women who completed a self-report questionnaire to assess their active and passive involvement with each of six forms of artistic pursuits, plus measures of well-being and self-rated health (SRH). They found that there were no significant correlations between involvement in the arts and either well-being or self-rated health. (Lowis et al. 2011). Note that the small sample size for this study means the results may not be reliable.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- Relevant for population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
    - HILDA Waves 6, 10, 14:
        - *Community participation, attend events that bring people together such as fetes, shows, festivals or other community events*

---

37. Accessing natural environment/outdoor activities

Measurement options:

- Accessing natural environment at least once a week in the last 12 months

NSW Domain

Health

Domains in other frameworks

- Where we live (UK ONS)

Indicator type

Objective

Time frame

Depends on question asked, usually some aspect of time included in the question, either in the last month or 12 months

Unit of analysis

Individual level

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Compared with exercising indoors, exercising in natural environments was associated with greater feelings of revitalization and positive engagement, decreases in tension, confusion, anger, and depression, and increased energy (Thompson Coon et al., 2011).

Björk et al. (2008) found that the number of recreational areas near a residence was strongly associated with neighbourhood satisfaction and physical activity. The effect on satisfaction was especially marked among tenants and the presence of recreational values was associated with low or normal body mass index in this group. A less marked positive association with vitality among women was observed.

Sugiyama and Thompson (2005) introduced three ways of conceptualising environmental support focusing on the following variables: personally, meaningful outdoor activities, environmental attributes found relevant to people's activities, and unmet needs for daily activities. Unfortunately, this conceptualisation has not been empirically tested in terms of its link to quality of life.

Korpela (2014) found that the amount of social company or the duration of the most recent nature-based recreation visit did not mediate the association between the average time spent on nature-based recreation and emotional well-being.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the whole life cycle
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: Medium
    - HILDA has this variable, Waves 1–15:
        - *Combined hrs./mins per week - Outdoor tasks*

38. Energy consumption from renewable sources

Measurement Options:

- Solar energy as percentage of total energy production
- Geothermal energy as percentage of total energy production
- Wind energy as percentage of total energy production
- Hydropower energy as percentage of total energy production

NSW Domain

Social and Community

Domains in other frameworks

- The natural environment (UK ONS)

Indicator type

Objective

Time frame

Usually measured over a period like a month or a year

Unit of analysis

Tonnes of oil equivalent (TOE)

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.) (Low)*

Mazur (2011) found that energy use is correlated with diverse indicators of quality of life among the world's nations. This analysis used cross sectional data and found a Pearson correlation coefficient of 0.62 between consumption of electricity per capita and GDP per capita and 0.55 for a correlation between consumption of electricity per capita and life satisfaction. Mazur (2011) using longitudinal data showed that among industrial nations, increases in per capita energy and electricity consumption over the past three decades are not associated with corresponding improvements in quality of life. In this analysis, the indicators of quality of life included both objective and subjective indicators such as life expectancy and (infant mortality rate); physicians and hospital beds per capita; rate of enrollment in college (tertiary education); internet users per capita; fixed and mobile phone subscribers per capita; percent of households with television; passenger cars per capita; GDP per capita (based on purchasing power parity, in constant international dollars), male suicides per capita, divorce rate, and percentage of population satisfied with their lives.

There was no evidence found in the literature on an association between renewable energy and individual level wellbeing. The national frameworks incorporating this indicator are looking at it more as representing a countries wellbeing in terms of progress reducing greenhouse gas emissions.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Not enough information in the literature to assess the sensitivity of the indicator

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle
- Relevant across population of interest

Assessment of useability: Low

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Low
   - Older adults: Low
2. Reliability: Low
3. Availability in NSW data: Low
   - http://www.environment.nsw.gov.au/households/renewable-energy.htm

Domain: Safety

39. Self-reported victimisation

Measurement options:

- The percentage of people who declare that they have been a victim of an assault crime in the last 12 months. The data presented here are drawn from the Gallup World Poll.
- Physical assault victimisation rate
- Malicious property damage victimisation

NSW Domain
Safety

Domains in other frameworks
Personal Security (UK ONS)

Indicator type
Subjective

Time frame
Usually assessed over 12 months, but can be a shorter time

Unit of analysis
Individuals

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Sundaram et al. (2008) found there was an association between sexual victimisation and poor health outcomes for both genders.

Hanslmaier (2013) found that fear of crime and victimisation is associated with lower respondents' life satisfaction, however the county crime rate had no significant impact (so it was fear of crime that affected wellbeing, rather than actual crime rates). However, the local crime rate increases fear of crime, so there is an association through this indirect pathway.

Michalos and Zumbo (2000) argued that criminal victimisation, beliefs, feelings and worries about safety, and special defensive behaviour related to personal safety has relatively little impact on life satisfaction or happiness.

Turner et al. (2006) found that sexual assault, child maltreatment, witnessing family violence, and other major violence exposure each made independent contributions to levels of both depression and anger/aggression. Cumulative exposure to multiple forms of victimisation over a child's life-course represents a substantial source of mental health risk.

Greenfield (2010) found that sexual, physical, and emotional abuse in childhood are risk factors for poorer adult health—independently and in conjunction with each other, as well as independently and in conjunction with other types of childhood adversity.

There is evidence that survivors of childhood sexual abuse are significantly at risk of a wide range of medical, psychological, behavioural, and sexual disorders (Maniglio, 2009).

Sensitivity *(degree to which measures can distinguish between different states of well-being)*

Medium

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the life cycle. Self-reported victimisation covers many types of victimisation such as bullying, sexual victimisation and crime victimisation
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Low
   - Youth: Medium
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - ABS, Recorded Crime - Victims, Australia, 2003–2015
   - Crime Victimisation Survey – latest from the ABS is 2014–15
   - HILDA, Waves 1–4

40. Crimes against people

Measurement Options:

- Crimes against the person (per 1000 adults)
- The number of police-recorded intentional homicides reported each year, per 100,000 people
- Death due to assaults

NSW Domain

Safety

Domains in other frameworks

Where we live (UK ONS)

Indicator type

Objective

Time frame

Usually annual so assaults per 100,000 people per year, etc.

Unit of analysis

Individual

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

Cohen (2008) argued that the impact of crimes on life satisfaction is mixed. The effect of a home burglary on life satisfaction is quite large while county-level crime rates have little impact on overall life satisfaction.

Michalos and Zumbo (2000) found that crime-related issues have relatively little impact on people's satisfaction with quality of their lives.

As highlighted in Hanson et al. (1995), violent crime is a predominant contributing factor to the development of mental health problems, most commonly, posttraumatic stress disorder (PTSD) (Breslau, Davis, Andreski, and Peterson, 1991; Kilpatrick et al., 1989; Resnick, Kilpatrick, Dansky, Saunders, and Best, 1993). These mental health problems are then significantly associated with lower wellbeing (see above), so the impact of crime is through mental health.

Crime may lead to loss of life and property, as well as engendering physical pain, post-traumatic stress and anxiety. It may also cause impairment in occupational activities (e.g. lower productivity and higher absenteeism) and disruption in social functioning (e.g. restriction in freedom of movement and erosion of social cohesion within communities). The biggest impact of crime on well-being appears to be through the feeling of vulnerability that it causes (Anand and Santos, 2007).

Deaths from assault are a major cause of concern due to the association with domestic violence, drug and alcohol abuse and mental health issues (AIHW 2007) which may reflect lower levels of wellbeing.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Medium — depends on crime

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- Relevant across the whole life cycle
- Relevant across the population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
    - All population: Medium
    - Children: Low
    - Youth: Low
    - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: Medium
    - HILDA has the following: HILDA, Waves 2–15
        - Life events in past year
        - Victim of a property crime
    - ABS, Recorded Crime — Victims, Australia, 2003–2015

41. Feeling safe

Measurement Options:

- Percentage of population who report feeling safe walking alone after dark

NSW Domain

Safety

Domains in other frameworks

- Where we live (UK ONS)
- Environment (AIHW)
- Context (UNICEF)
- Where we live (ONS children)

Indicator type

Subjective

Time frame

Point in time

Unit of analysis

Individuals

Reliability *(statistical evidence as predictor of wellbeing, validated against other indicators, etc.)*

Medium

The sense of neighbourhood and feelings of safety have been valid measures of aspects of the social environment (Young et al., 2004)

Fearful people are more likely to restrict their behavior, feel alienated and distressed, perceive themselves to be in poorer health, and express a lower internal locus of control (Lavrakas 1982; Lewis and Salem 1986; Ross 1993; Skogan and Maxfield 1981).

Fear of crime "*produces a loss in personal well-being*" and leaves people anxious (Moore and Trojanowicz, 1988).

Quine and Morrel (2008) found that feeling safe in one's neighbourhood or local area is an important aspect of well-being, particularly in old age.

Green et al. (2002) found there is significant association between fear of crime and health status, that feeling of safety when out alone after dark is the most consistent predictor of mental health status and wellbeing. Those feeling safe score significantly higher on all five dimensions of the SF-36 measure which covers mental and social wellbeing. Mental health is the strongest correlate and is probably a consequence rather than cause of feelings of safety.

Lorenc et al. (2012) argued that fear of crime may mediate some impacts of environmental factors on wellbeing.

Sensitivity *(degree to which measures are able to distinguish between different states of wellbeing)*

Medium — does affect wellbeing but not direct measure

Relevance: *Relevance across the life cycle (Q2 -FACS) and Relevance across specific population of interest (Q3 – FACS)*

- School age onwards
- Relevant across population of interest

Assessment of useability: Medium

This assessment was based on three criteria:

1. Frequency used in key frameworks: Low
   - All population: Medium
   - Children: Medium
   - Youth: Low
   - Older adults: Low
2. Reliability: Medium
3. Availability in NSW data: High
   - HILDA has the following: HILDA, Waves 1–14; *Satisfaction — How safe you feel*
   - ABS General Social Survey, 2002, 2006, 2010, 2014