The Victorian happiness report

The subjective wellbeing of Victorians

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Suggested citation:

Preface

In July 2011 the United Nations General Assembly passed an historic resolution, whereby it invited its member countries to measure the happiness of their people and to use this to guide their public policies. This was in response to the finding that traditional measures of progress, largely drawn from the field of economics, were no longer adequately reflecting the wellbeing of their citizens. Therefore, there has been an international shift away from evaluating the progress of societies by measuring economic production to measuring people's wellbeing.

Wellbeing is not just the absence of disease or illness. It is a complex combination of a person's physical, mental, emotional and social health. Wellbeing is linked to how you feel about yourself and your life. Wellbeing consists of objective and subjective measures. Indicators of objective measures include measures such as life expectancy and educational achievements. Subjective wellbeing is the scientific term for happiness and as this suggests is measured by examining feelings of happiness and sadness, feelings that life is worthwhile and whether one is satisfied with one's life. Decades of work on the concept of 'subjective wellbeing' have accumulated to show that 'subjective wellbeing' can be measured in population surveys and the measures are valid, robust, and reliable.

People with high subjective wellbeing are mentally and physically healthier, more productive, more cooperative, more pro-social and charitable, have greater coping abilities, and live 4 to 10 years longer than people with low subjective wellbeing. Therefore, understanding the factors that influence health and wellbeing is essential for developing new and effective policies to improve the health and wellbeing of societies.

For the first time in Victoria, we measured the subjective wellbeing of a representative cohort of adults 18 years and older. This report contains the findings and seeks to understand the drivers of subjective wellbeing to enable evidence-based policymaking. It is also hoped that readers of this report will engage in a dialogue with colleagues and members of the community about the report content and the many questions that are raised, which are likely to be of importance to the health and wellbeing of Victorians.

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Executive summary

Background

In recognition that traditional economic indicators, such as gross domestic product, no longer adequately reflect the wellbeing of the citizens of developed nations, developing better indicators of a society's progress has long been a common international goal. Since 2011, a growing number of nations have therefore begun measuring 'subjective wellbeing', the scientific term for 'happiness', which is an internationally recognised measure of the wellbeing of citizens. These data are increasingly being used to guide and inform policymaking.

Subjective wellbeing is a multifaceted concept that incorporates both a person's affective and cognitive evaluations of his or her life. The cognitive component, which was measured in this report, is an information-based appraisal of one's life for which people judge the extent to which their life so far measures up to their expectations (life satisfaction).

Extensive research has shown that people who have high subjective wellbeing are: mentally and physically healthier; recover more quickly from illness and injury; have a greater number of better quality social relationships; are more productive in their jobs; are more cooperative, charitable and tolerant of diversity; have greater coping abilities; and live four to 10 years longer than people with low subjective wellbeing.

For the first time, this report describes the subjective wellbeing of adults in Victoria and identifies the drivers of that subjective wellbeing. This is followed by a discussion of the policy implications of the findings in the context of the current evidence drawn from the international literature.

Extensive research has shown that people who have high subjective wellbeing…live four to 10 years longer

Methodology

The source of data used to produce this report was the 2012 statewide Victorian Population Health Survey. We measured subjective wellbeing by asking the survey respondents to indicate how satisfied they were with their lives. Our work was based on a social determinants approach, underpinned by the theory that health outcomes for an individual are determined by a complex interaction between the social determinants, disease-inducing behaviours and the healthcare system. The social determinants included socio-demographic factors (for example, socioeconomic status), psychosocial risk factors (for example, psychological distress) and social capital (for example, social support). We calculated prevalence rates and odds ratios, adjusted for age and sex, with 95 per cent confidence intervals.

Key findings

Overall subjective wellbeing in Victoria

Approximately 40 per cent of Victorian adults reported very high subjective wellbeing, a further 54 per cent reported high subjective wellbeing, 5 per cent reported low or very low subjective wellbeing, and 1 per cent did not know or did not answer the question.

Subjective wellbeing, by the social determinants

1. Socio-demography

Socio-demographic determinant	Subjective wellbeing	Strength of relationship
Born overseas and speak a language other than English	Low	Weak
One-parent families	Low	Moderate
People who live alone	Low	Moderate
People who live in group households	Low	Moderate
Separated, divorced or widowed	Low	Moderate
Never married	Low	Moderate
Married with or without children	High	Moderate
Household income of less than $40,000	Low	Moderate
Unemployed	Low	Weak
Unable to work	Low	Strong
Did not complete secondary education	Low	Weak
Sex	Not related	N/A
Age	Not related	N/A

2. Psychosocial risk factors

Psychosocial risk factor	Subjective wellbeing	Strength of relationship
Psychological distress	Low	Very strong*
Food insecurity	Low	Moderate
Financial stress	Low	Moderate

* People with very high psychological distress were 45 times more likely to have low subjective wellbeing than people who were not psychologically distressed.

3. Social capital

Indicator of social capital	Subjective wellbeing	Strength of relationship
Social isolation	Low	Strong
Intolerance of diversity	Low	Moderate
Lack of social support	Low	Very strong
Lack of social trust	Low	Very strong
Lack of civic trust	Low	Very strong
Volunteerism	High	Moderate
Belonging to a local community group	High	Moderate

Subjective wellbeing, by disease-inducing behaviours

Disease-inducing behaviour	Subjective wellbeing	Strength of relationship
Smoking	Low	Moderate
Obesity	Low	Moderate
Sedentary	Low	Moderate
Insufficient physical activity (but not sedentary)	No relationship	N/A
Inadequate intake of fruit	Low	Weak
Inadequate intake of vegetables	No relationship	N/A
Daily consumption of sugar-sweetened drinks	No relationship	N/A
Excessive alcohol consumption at least once a year	High	Moderate
Excessive alcohol consumption monthly or weekly	No relationship	N/A

Subjective wellbeing, by healthcare

Healthcare	Subjective wellbeing	Strength of relationship
No blood pressure check in past two years	Low	Weak
No blood cholesterol or blood glucose check in past two years	No relationship	N/A
Last visit to general practitioner	No relationship	N/A
Mental healthcare visits	Low	Strong
Avoidance or delay in dental health visits due to cost	Low	Moderate

Subjective wellbeing, by health outcomes

Health outcome	Subjective wellbeing	Strength of relationship
Fair or poor self-reported health	Low	Very strong
Excellent or very good health	High	Very strong
Asthma	Low	Weak
Depression and/or anxiety	Low	Strong
Ever diagnosed with cancer	Moderate	Weak
Osteoporosis	Low	Moderate
Fair or poor dental health	Low	Strong
Excellent or very good dental health	High	Strong
Psychological distress due to physical health problem	Low	Strong
Lack of good-quality sleep	Low	Very strong
Unable to work or perform daily activities due to psychological distress	Low	Very strong

Conclusions

The report shows that people with low subjective wellbeing have poorer mental and physical health. Thus subjective wellbeing is a useful composite indicator of both mental and physical health. The report also shows that the strongest associations are between the social determinants and subjective wellbeing. Yet to date, policymakers working in the area of preventive health have largely ignored the social determinants in favour of addressing disease-inducing behaviours. This report, in combination with the mounting evidence from the international literature, shows that disease-inducing behaviours make a relatively modest contribution to ill-health and subjective wellbeing. Therefore, it is likely that there are large potential gains in health and wellbeing to be made by developing policies that seek to address the social determinants.

Policy implications

The findings of this report suggest we need to consider policymaking beyond the current dominant biomedical risk factor approach. They show that the determinants most strongly associated with subjective wellbeing include psychological distress, social and civic trust, and social support. This suggests we should also be considering policies that seek to reduce psychological distress, increase social and civic trust, and increase social capital. Given that many of these determinants overlap and exist at different points on the causal pathway to ill-health, such an approach is likely to generate beneficial synergies. For example, people who are psychologically distressed are also more likely to be smokers. Eliminating or reducing their psychological distress may subsequently enable them to better address their smoking addiction.

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Limitations of the study

The main limitation of this study is that we may have underestimated the absolute prevalence of low subjective wellbeing by approximately 17 per cent, based on comparison with the National General Social Survey. This was due to differences in the response options available to the survey respondents. We speculate that not having a response option of 'neither satisfied nor dissatisfied' in the subjective wellbeing question used in the Victorian Population Health Survey may have resulted in people choosing the 'satisfied' response option rather than the 'dissatisfied' response option. However, this in no way invalidates the findings of this report because the value of the findings is in the strong statistical associations observed between subjective wellbeing and the determinants of health.

Another limitation of this study is that it is of a cross-sectional study design. In most cases cross-sectional studies cannot be used to ascertain causality or its direction. Therefore one cannot say if 'A' caused 'B', 'B' caused 'A', or if there is a bidirectional causality relationship. However, cross-sectional studies are excellent for generating hypotheses.

Recommendations

- Include three additional questions in the next Victorian Population Health Survey to measure the affective and eudemonic dimensions of subjective wellbeing, sourced from the United Kingdom's Office of National Statistics (ONS). The three additional questions in conjunction with the life satisfaction question used in this report constitute what is commonly referred to as 'the ONS 4', which is widely accepted as best practice for measuring subjective wellbeing.
- Incorporate the routine measurement, monitoring and reporting of subjective wellbeing in Victoria through the Victorian Population Health Survey.
- Support research that helps understands subjective wellbeing.
- Make subjective wellbeing a major criterion in policy choice.

Introduction

Introduction

Aim

The aim of this report is to describe, for the first time, the subjective wellbeing of adults living in the state of Victoria.

Objectives

1. Describe the current state of subjective wellbeing in Victoria.
2. Identify inequalities in subjective wellbeing.
3. Determine the drivers of subjective wellbeing in Victoria.

Background

Traditionally the progress of nations has been measured using various economic indicators, of which the most widely used one is gross domestic product (GDP). GDP measures economic growth. However, the evidence clearly shows that while in the early years of the development of a nation economic growth does bring about increases in life expectancy, wellbeing and happiness, these increases begin to slow and then plateau at approximately $25,000 per capita (Wilkinson & Pickett 2010). Once the benefits of continued economic growth cease to bring about increases in life expectancy, wellbeing and happiness, we begin to observe increases in rates of anxiety, depression and numerous other social problems.

Therefore, developing better indicators of a society's progress has long been a common international goal. However, measuring wellbeing was thought to be beyond statistical measurement until now. Over the past two decades the evidence has accumulated to show that subjective wellbeing can be measured in population surveys, and the measures are valid and reliable.

In 2009 a landmark report was released by the Commission on the Measurement of Economic Performance and Social Progress (CMEPSP). The CMEPSP was commissioned to identify the limitations of GDP as an indicator of economic performance and social progress, and to make recommendations for a new way forward. The authors concluded that policymakers and others have not been focusing on the right set of indicators and recommended shifting from measuring economic production to people's wellbeing (Stiglitz et al. 2009). Consequently, many national surveys across the world now evaluate the wellbeing of their populations.

In July 2011 the United Nations General Assembly passed a historic resolution whereby it invited its member countries to measure the happiness of their people and to use this to guide their public policies (Helliwell et al. 2013). This was followed in April 2012 by the first United Nations high-level meeting on happiness and wellbeing and the publication of the first *World happiness report.*

In 2011 the Organisation for Economic Cooperation and Development began routine monitoring and comparisons of wellbeing across its member states, including Australia (Organisation for Economic Co-operation and Development 2014). Today, many national governments of nations such as the United

Kingdom, Canada, New Zealand, the Netherlands, France, Italy and the United States of America have committed to using the data to better inform policymaking.

In Victoria, we measured subjective wellbeing using the Victorian Population Health Survey by asking the survey respondents about life satisfaction.

Theoretical framework of the report

A public health model of the social determinants of health provided the theoretical framework for this report (Ansari et al. 2003). The model is illustrated in Figure 1 and is based on three components that interact directly and indirectly to affect a person's health.

Essentially, the model predicts that the underlying social determinants of health, which includes socioeconomic determinants, psychosocial risk factors and social capital (community and societal characteristics), impact on the health of individuals both directly and indirectly via the healthcare system and disease-inducing behaviours.

Figure 1: Public health model of the social determinants of health

Healthcare system attributes

Social determinants
- Socioeconomic determinants
- Psychosocial risk factors
- Community and societal characteristics

Health outcomes
- Morbidity
- Mortality
- Integrated measures of health

Disease-inducing behaviours

Source: Ansari *et al*. 2003
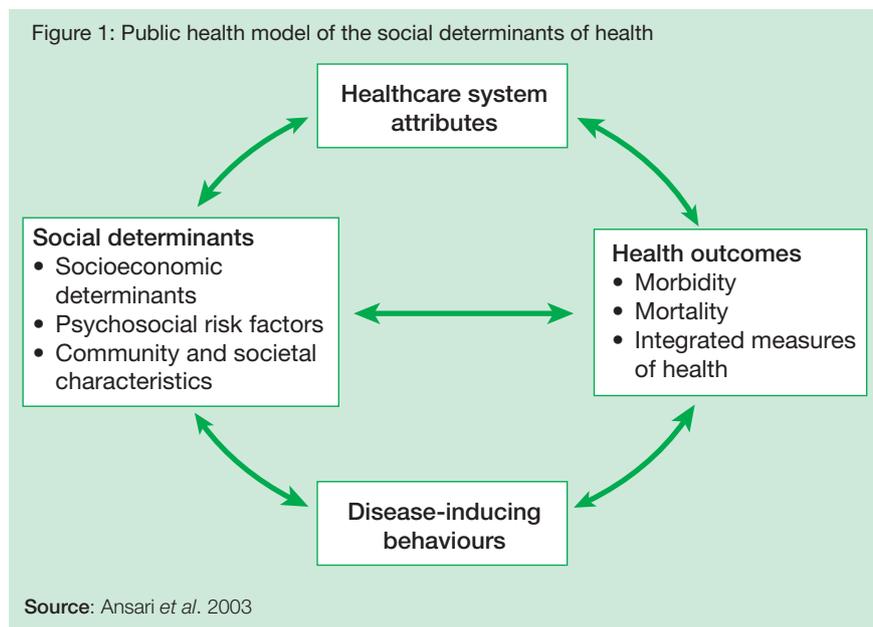
Structure of the report

Section 1 describes the survey methodology, statistical methods used, and the demographic profile of the survey respondents.

Section 2 explains the concept of subjective wellbeing and describes its distribution across the state, by age and sex.

Section 3 reports on the first component of the public health model of the social determinants of health – the social determinants. It describes what is meant by the social determinants and investigates the relationship, if any, between subjective wellbeing and each social determinant. The social determinants are

further broken down into three subcomponents: socioeconomic determinants; psychosocial risk factors; and community and societal characteristics ('social capital').

Section 4 reports on the second component of the public health model of the social determinants of health – disease-inducing behaviours (lifestyle risk factors). It investigates the relationship, if any, between subjective wellbeing and the disease-inducing behaviours of: smoking; alcohol consumption; physical activity; overweight and obesity; fruit and vegetable consumption; and sugar-sweetened soft drink consumption.

Section 5 reports on the third component of the public health model of the social determinants of health – the healthcare system. It evaluates the use of various healthcare services as indicators of availability, access and healthcare-seeking behaviour and determines if there is a relationship with subjective wellbeing.

Section 6 reports on the fourth and final component of the public health model of the social determinants of health – health outcomes. It investigates the relationship, if any, between subjective wellbeing and various health outcomes.

Section 7 discusses the strengths and limitations of the study, the policy implications, the conclusions reached, and suggestions for the way forward.

Each section includes a discussion of the findings and interprets them in the context of the wider literature, with a careful evaluation of the current balance of evidence. Where available we searched the literature for the highest level of evidence – a systematic review with or without a meta-analysis. The National Health and Medical Research Council considers a systematic review to be the highest level of evidence because it draws upon all the literature and assesses the quality of the studies to determine where the balance of the evidence lies. The literature is strewn with many small studies of variable quality and diverse study design that can give conflicting results. Systematic reviews use the highest level of critical evaluation to determine which results are the most credible. Where a systematic review was not available we searched for large studies of good quality.

Appendix 1 contains tables of age-adjusted prevalence estimates.

Appendix 2 contains tables of odds ratios.

1. Methods

1. Methods

Data source

The source of data used to produce this report was the 2012 statewide Victorian Population Health Survey.

Study design

The Victorian Population Health Survey is a cross-sectional population-representative computer-assisted telephone interview survey. The survey has been conducted annually since 2001 for the purpose of providing relevant, timely and valid health and wellbeing information to inform planning and policymaking. In 2012, 7,533 adults (18 years or older) who lived in private dwellings in Victoria were interviewed. The sample was stratified by the eight Department of Health regions of Victoria, with a split between rural and metropolitan Victoria of 60 and 40 per cent respectively.

The then Department of Health's Human Research Ethics Committee approved the survey methods and questionnaire content, and the fieldwork was outsourced to a market research organisation.

Sampling frame

Given the shortfalls associated with list-assisted approaches to random digit dialling (RDD), the market research company advocated a switch to an 'exchange-based' approach to RDD for the Victorian Population Health Survey in 2010, as offered by a commercial provider.

The starting point of the exchange-based approach is the 'number ranges' identified in the Australian Communications and Media Authority numbering plan. The sample generation process involves:

- generating 10 random numbers per number range on an 'as required' basis
- 'testing' numbers to assign a 'working' or 'disconnected' status via a SS7 signal link, to build up a pool of 'working' numbers that is representative of the actual distribution of working landline numbers across all number ranges
- randomly selecting numbers from the pool of working numbers at any given point in time.

The survey has been conducted annually since 2001 for the purpose of providing relevant, timely and valid health and wellbeing information to inform planning and policymaking.

The commercial provider claims that the frame is refreshed on a 12-monthly basis, whereby previously 'disconnected' numbers are re-tested and those numbers that are found to be working (as a result of re-testing) are added to the pool of working numbers. The advantages of this exchange-based approach to RDD sample generation, particularly over less robust and less transparent list-based approaches, include:

- improved coverage in areas where new phone number ranges have been activated
- improved coverage in growth corridors, peri-urban areas and central business district developments
- each bank of phone numbers being represented in the frame in proportion to the current population of working landline numbers
- high connection rates and therefore greater fieldwork efficiency.

Following on from the landline RDD frame optimisation process, the sample for the 2012 Victorian Population Health Survey was drawn from the expanded pool of working numbers used for the 2011–12 survey.

RDD was used to generate a sample of telephone numbers that formed the household sample. All residential households with landline telephone connections were considered 'in-scope' for the survey. The RDD sampling frame resulted in certain population groups being excluded. These included people who were homeless or itinerant, people in hospitals, the frail, the aged and people with disabilities living in institutions.

Data collection

Almost two-thirds of all completed interviews were achieved within the first three calls. This proportion is consistent with the national experience on similar surveys. The algorithm used spread call attempts over different times of day and days of the week, with up to six calls to establish contact with the household and a further nine calls to achieve an interview with the selected person in the household (15 calls in total).

Interviewing across all departmental regions progressed equitably over the entire fieldwork period, with a view to spreading any bias resulting from seasonal or environmental factors (rather than, for example, completing all metropolitan interviewing in the first half of the fieldwork period, then all regional interviewing in the second half).

Interviews were conducted in nine community languages specified by the department. As for previous surveys in the series, the department provided translated survey questionnaires in Italian, Greek, Mandarin, Cantonese, Vietnamese, Arabic, Turkish, Serbian and Croatian.

The average interview length was 20.3 minutes, and interviewing was conducted between 12 September and 9 December 2012.

Interviews were conducted in nine community languages specified by the department.

Participation

The overall response rate was 68.7 per cent. As for previous surveys in the series, the response rate was higher in regional locations (70.5 per cent) relative to metropolitan locations (66.3 per cent). There was some variation in response rate by departmental region, ranging from 72.8 per cent in Hume region to 65.3 per cent in North & West metropolitan and Southern metropolitan regions.

Weighting

We weighted the survey data to reflect the probability of selecting the respondent within the household and to match the age, sex and geographic distribution of the Victorian population.

Although a single respondent was randomly selected from within a household, the size of any household can vary upwards from one person. To account for this variation, we treated each respondent as representing the whole household, so his or her weight factor included a multiplier of the number of people in the household. Moreover, a household may have more than one telephone line (that is, landlines used primarily for contact with the household), which would increase that household's probability of selection over those households with only one telephone line. To ensure the probability of contacting any household was the same, we divided the weight factor by the number of telephone lines connected to the household.

The formula for the selection weight (sw) component:

$$sw = nah/npl$$

where:

nah = the number of people 18 years of age or older in the household

npl = the number of telephone lines in the household.

We applied a population benchmark (*pbmark*) component to ensure the adjusted sample distribution matched the population distribution for the combined cross-cells of age group and sex by departmental regions, based on the 2011 estimated resident population of Victoria. The categories used for each of the variables were:

age group: 18–24, 25–34, 35–44, 45–54, 55–64 and 65 years or older
sex: male, female
geography: eight departmental regions.

We calculated the *pbmark* component by dividing the population of each cross-cell by the sum of the selection weight components for all the respondents in the sample within that cross-cell. For each cross-cell, the formula for this component was:

$$pbmark_i = N_i / \Sigma sw_{ij}$$

where:

i = the i th cross-cell

j = the j th person in the cross-cell

N_i = the population of the *i* th cross-cell

Σsw_{ij} = the sum of selection weights for all respondents (1 to *j*) in the *i* th cross-cell.

We assigned each respondent a weight factor (*pwt*) by multiplying the selection weight (*sw*) value by the population benchmark value (*pbmark*):

$$pwt_{ij} = sw_{ij} \times pbmark_i$$

where:

i = the *i* th cross-cell

j = the *j* th person in the cross-cell.

Statistical analysis

We analysed the survey data using the Stata statistical software package (Version 12.1, StatCorp LP, College Station Texas). We computed crude and age-standardised prevalence estimates with 95 per cent confidence intervals and relative standard errors (RSEs).

Crude prevalence

Crude prevalence is an estimate of a proportion of a population that experiences a specific event over a specified period of time. It is calculated by dividing the number of events recorded for a given period by the number at people in the population during that period. Crude prevalence (expressed as a percentage) is presented in the report in cases where estimates are broken down by age group. Crude prevalence is useful for service planning purposes.

Age-standardised prevalence

In making comparisons of estimates, crude prevalence can be difficult to interpret because the age distribution of the population may be different between the groups being compared. If one does not take into account the age distribution, any observed difference between two groups may just reflect differences in the age distribution. For example, the risk of heart disease increases with age; a difference in the prevalence of heart disease between two groups could be due to (a) more people with heart disease in one group compared with the other due to a difference in the prevalence of a predisposing factor or (b) a higher proportion of older people in one group compared with the other. There is no way to distinguish between the two possible explanations. However, if we take into account (adjust for) the age distributions of the two groups and still see a higher prevalence of heart disease in one group compared with the other, then we can rule out explanation (b). To adjust for age, we calculated an age-standardised/adjusted prevalence (described below) using the direct method of standardisation. The direct age-standardised prevalence is based on the weighted sum of age-specific prevalence applied to a standard population – the 2011 estimated resident population of Victoria using 10-year age groups.

The standard error is a measure of the variation in an estimate produced by sampling a population. The standard error is used to calculate 95 per cent confidence intervals and the RSE, providing the likely range of the true value of an estimate and an indication of the reliability of the estimate, respectively.

Confidence interval (95 per cent)

A confidence interval is a range in which it is estimated that the true population value lies. A common confidence interval used in statistics is the 95 per cent confidence interval. This is interpreted as: if we were to draw several random samples from the same population, on average, 19 of every 20 (95 per cent) such confidence intervals would contain the true population estimate and one of every 20 (5 per cent) would not. Ninety-five per cent confidence intervals are reported for all estimates throughout the report and used to ascertain statistical significance (see below). The width of a confidence interval expresses the precision of an estimate; the wider the interval the less the precision.

Statistical significance

Only statistically significant trends and patterns are reported for the survey. Statistical significance provides an indication of how likely a result is due to chance. With the exception of trends over time (see below), statistically significant differences between estimates were deemed to exist where the 95 per cent confidence intervals for prevalence estimates (expressed as a percentage) did not overlap. The term 'significance' is used to denote statistical significance. It is not used to describe clinical significance, the relative importance of a particular finding or the actual magnitude of difference between two estimates.

Only statistically significant trends and patterns are reported for the survey. Statistical significance provides an indication of how likely a result is due to chance.

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Odds ratios

We used multivariable logistic regression to compute odds ratios. An odds ratio is a relative measure of effect that enables a comparison to be made between two groups. If there is no difference between two groups the odds ratio will be 1.0. However, if a prevalence estimate is higher in group A compared with group B, the odds ratio will be greater than 1.0. Conversely if a prevalence estimate is lower in group A compared with group B, the odds ratio will be less than 1.0. Whether this is statistically significant, however, will depend on the confidence interval. If the confidence interval includes 1.0 then the difference between the two groups is not significant; for example, odds ratio (OR) = 1.2, 95% confidence interval (CI) = 0.8 to 1.4. If the confidence interval does not contain 1.0 then the two groups are statistically significantly different; for example OR = 4.0, 95% CI = 2.0 to 6.0 and is interpreted as meaning that the prevalence of the parameter being investigated in group A is four times more likely to occur in group A than group B.

Relative standard error

The relative standard error provides an indication of the reliability of an estimate. Estimates with an relative standard error less than 25 per cent are generally regarded as 'reliable' for general use. Prevalence estimates presented in tables and graphs in this report have an relative standard error less than 25 per cent unless otherwise stated. Prevalence estimates that have an relative standard error between 25 and 50 per should be interpreted with caution, while those with an relative standard error over 50 per cent is not considered reliable.

Profile of survey respondents

There was a substantial decrease in the proportion of people aged 44 years or younger who were interviewed in 2012 (relative to 2010), as well as a decrease in the proportion of respondents who were 'separated', lived in group households or were short-term residents (length of tenure less than five years). These changes are likely to be most strongly linked to changes in coverage offered by the landline sample frame as, increasingly, more households choose not to opt for landline telephones in favour of the mobile telephone only option.

Table 1.1 shows estimates obtained from the survey; the survey data indicate the following:

- Females were more likely than males to participate in the survey.
- People 18–34 years old were less likely to participate in the survey.
- People 45 years or older were more likely to participate in the survey.

Table 1.1: Profile of respondents in the Victorian Population Health Survey, 2012

Item		Per cent
Gender	Male	39.6
	Female	60.4
Age group	18–24 years	3.4
	25–34 years	5.7
	35–44 years	14
	45–54 years	19.3
	55–64 years	21.9
	65+ years	35.7
Marital status	Married	58.8
	Widowed	13
	Divorced	7.9
	Separated	3
	Never married	10.5
	Other	6
Country of birth	Australia	77.7
Labour force status	Employed	50.7
	Unemployed	2.3
	Not in the labour force	46.7
Length of tenure	1 year or less	1.5
	> 1 up to 5 years	13.5
	> 5 up to 10 years	16.7
	> 10 years	68.1
Household type	Couple only	33.7
	Couple with dependent children	24.6
	Couple with non-dependent children	6.9
	One-parent family with dependent children	3.9
	One-parent family with non-dependent children	3.2
	Group household	3.7
	One person household	21.9

2. Overall subjective wellbeing in Victoria

2. Overall subjective wellbeing in Victoria

What is subjective wellbeing?

The term 'wellbeing' is often equated with 'happiness'. However, happiness is just one aspect of wellbeing and is measured by asking people about their feelings, known as 'subjective wellbeing' (Office for National Statistics 2011). Wellbeing includes both objective and subjective measures. Objective measures include indicators such as life expectancy.

Subjective wellbeing, the focus of this report, is a multifaceted concept that incorporates both a person's affective and cognitive evaluations of his or her life (Diener *et al*. 2002). The affective component refers to both the presence of positive emotions and feelings and the absence of negative emotions and feelings, while the cognitive component is an information-based appraisal of one's life for which people judge the extent to which their life so far measures up to their expectations.

How is subjective wellbeing measured?

There is no absolute consensus on how to measure subjective wellbeing, and the exact wording of questions, out of necessity, will vary by culture and language. Typically, questions are asked to assess an individual's positive and negative affective state (conscious experience of emotions), eudemonic state (conducive to happiness) and cognitive evaluations of his or her life. In the United Kingdom, the Office for National Statistics (ONS) has incorporated the following four questions, known as the 'ONS 4', into the annual Integrated Household Survey to measure subjective wellbeing:

1. Overall, how happy did you feel yesterday? (positive affect)
2. Overall, how anxious did you feel yesterday? (negative affect)
3. Overall, to what extent do you feel the things you do in your life are worthwhile? (eudemonic)
4. Overall, how satisfied are you with your life nowadays? (cognitive evaluation)

Each question is measured on a scale from 0 to 10.

In Victoria in 2012, for the first time, the fourth question on life satisfaction was included in the Victorian Population Health Survey. However, this was not measured on a scale of 0–10 because it was originally sourced from the Behavioral Risk Factor Surveillance System, an annual survey conducted across the United States by the Centers for Disease Control and Prevention. The response options included 'very satisfied', 'satisfied', 'dissatisfied', 'very dissatisfied', and 'do not know'.

The life satisfaction question was asked by the Australian Bureau of Statistics in its General Social Survey. However, the Australian Bureau of Statistics also used different response options: 'delighted', 'pleased', 'mostly satisfied', 'mixed', 'mostly dissatisfied',' unhappy' and' terrible'. Therefore, the General Social Survey findings are not directly comparable with the Victorian Population Health Survey findings, and nor are the findings from the United Kingdom.

> Subjective wellbeing… is a multifaceted concept that incorporates both a person's affective and cognitive evaluations of his or her life.

The life satisfaction question is also asked by the Organisation for Economic Cooperation and Development across all its member states (including Australia) as part of its 'Measuring the Progress of Societies' initiative, using the 0–10 scale. Consequently its findings are also not directly comparable with the General Social Survey or the Victorian Population Health Survey findings. Commencing in 2015, all four questions will be included in the Victorian Population Health Survey and all will be measured on a scale of 0–10.

Why measure subjective wellbeing?

The following is a summary of the evidence on the importance of subjective wellbeing and its impact on health:

- People with high subjective wellbeing live four to 10 years longer than people with low subjective wellbeing (Diener & Chan 2011).
- High subjective wellbeing lowers the risk of mortality in *both* healthy and diseased populations (Chida & Steptoe 2008).
- Low subjective wellbeing directly stimulates proinflammatory cytokines that cause inflammation and mediate a spectrum of diseases and conditions such as cardiovascular disease, osteoporosis, arthritis, type 2 diabetes and some cancers (Kiecolt-Glaser et al. 2002).
- Low subjective wellbeing impedes wound healing (Christian *et al.* 2006).
- The lower a person's subjective wellbeing the more likely he or she is to engage in disease-inducing behaviours such as consuming a poor diet, smoking and inadequate physical activity (Grant et al. 2009).
- Low subjective wellbeing is a short- and long-term predictor of suicide (Bray & Gunnell 2006).
- Not only do the benefits of high subjective wellbeing accrue to the individual, they also accrue at the societal level; places with high subjective wellbeing have higher life expectancies and lower levels of mortality from heart and liver disease, homicide, diabetes and cancer (Lawless & Lucas 2011).
- High subjective wellbeing speeds up recovery from illness (Diener & Chan 2011).
- Low subjective wellbeing puts people at high risk of clinical depression (Wood & Joseph 2010).
- High subjective wellbeing reduces healthcare use and its associated costs and may result in substantial savings in overall healthcare expenditure (Sears *et al.* 2013).

Subjective wellbeing also has impacts on the determinants of health:

- High subjective wellbeing is associated with stronger and better social relationships (Tay & Diener 2011).
- High subjective wellbeing is beneficial to workplace success by promoting productivity and creativity (Davis 2009; Peterson *et al*. 2011).
- High subjective wellbeing increases cooperation and collaboration (Barsade 2000; Lount 2010).

High subjective wellbeing reduces healthcare use and its associated costs and may result in substantial savings in overall healthcare expenditure

- Higher subjective wellbeing predicts higher future income (De Neve & Oswald 2012).
- People with high subjective wellbeing exert greater self-control and appropriate risk taking (Fredrickson & Branigan 2005).
- People with low subjective wellbeing are more likely to be intolerant of cultural diversity (Nelson 2009).
- High subjective wellbeing increases good citizenship, where people with high subjective wellbeing are more likely to give to their communities in both time and money (Aknin *et al.* 2013).

Overall subjective wellbeing in Victoria

Overall, most adults (93.8 per cent; 95% CI 92.8–94.8%) who lived in Victoria in 2012 had high or very high subjective wellbeing. However, 5.1 per cent (95% CI; 4.3–6.1%) had low or very low subjective wellbeing and a further 1.1 per cent (95% CI; 0.7–1.6%) either did not know or did not want to answer the question (Figure 2.1). There was no difference between the sexes and we did not observe a difference by age (Figure 2.2).

Figure 2.1: Subjective wellbeing in Victoria in 2012, by sex
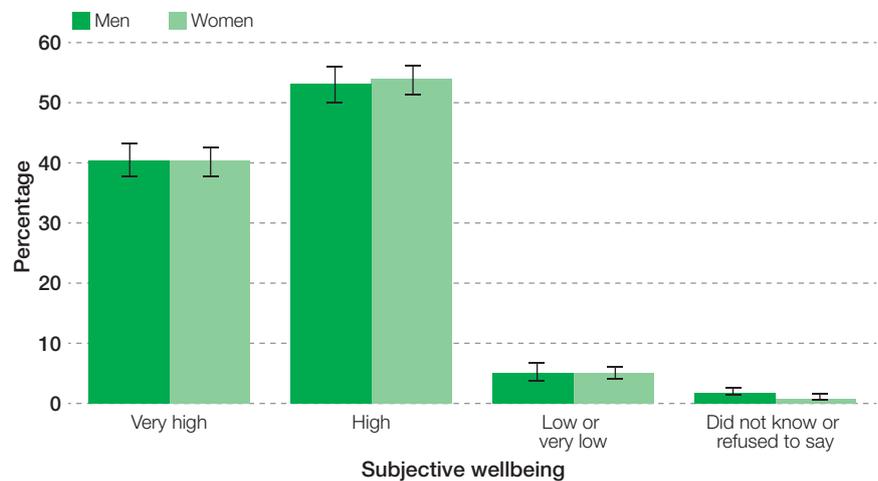
Figure 2.2: Subjective wellbeing in Victoria in 2012, by age
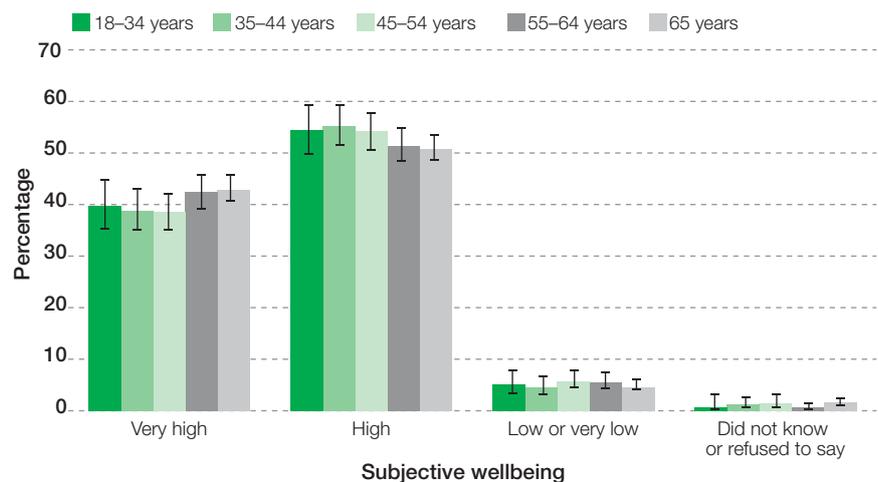
Interpretation of the results

The majority of Victorian adults enjoy high or very high subjective wellbeing, and this is similar between the sexes and across the age spectrum. However, data from the national General Social Survey, conducted in 2010 by the Australian Bureau of Statistics, reported that 77 per cent of Australians had high or very high subjective wellbeing (Australian Bureau of Statistics 2012). This is significantly lower than the approximately 94 per cent of Victorians who reported high or very high subjective wellbeing in the Victorian Population Health Survey.

Given that it is unlikely that a substantially higher proportion of Victorians have high or very high subjective wellbeing compared with the average Australian, this probably reflects the different response options used in the two surveys. We speculate that not having a response option for 'neither satisfied nor dissatisfied' in the subjective wellbeing question used in the Victorian Population Health Survey may have resulted in people choosing the 'satisfied' response option rather than the 'dissatisfied' response option, resulting in misclassification bias. Therefore the Victorian Population Health Survey may have underestimated the true proportion of people with low or very low subjective wellbeing by approximately 17 per cent.

Nevertheless, we observed some important associations between the subjective wellbeing of Victorian adults and their health, and the drivers of that health that are consistent with the international literature. Put in context, self-reported body mass index also results in an underestimation of the true prevalence of overweight and obesity due to misclassification error; however, this does not affect the relationship of overweight and obesity to other factors. For example, the prevalence of obesity increases with decreasing socioeconomic status irrespective of whether obesity is self-reported or measured.

In future Victorian Population Health Surveys we will change the response options of the indicator of subjective wellbeing to that used by the Organisation for Economic Cooperation and Development across all its member states (including Australia) using the Cantril ladder, which consists of rating subjective wellbeing from 0 to 10.

This report only focuses on the cognitive evaluation of subjective wellbeing (life satisfaction). Future Victorian Population Health Surveys will include three additional questions that will assess the affective and eudemonic evaluations of subjective wellbeing (see section 7).

We did not find differences in subjective wellbeing by sex, which is consistent with the international literature and the findings of the 2010 national General Social Survey of Australia. However, the 2010 General Social Survey found that people 45–54 years of age had lower subjective wellbeing than any other age group. Yet our findings are consistent with the balance of evidence from international studies that have examined subjective wellbeing across the life span in more than 40 countries; subjective wellbeing does not change across the adult life span (Diener et al. 1999).

Key findings

- **Subjective wellbeing in Victorians who are 18 years or older did not differ by age or sex.**

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3. Social determinants of health

3. Social determinants of health

What are the social determinants of health?

This section investigates the relationship between subjective wellbeing and the social determinants of health. According to the World Health Organization:

> 'The social determinants of health are the conditions in which people are born, grow, live, work and age, including the health system. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels, which are themselves influenced by policy choices. The social determinants of health are mostly responsible for health inequities – the unfair and avoidable differences in health status seen within and between countries' (World Health Organization 2011b).

In their public health model of the social determinants of health, Ansari et al. (2003) identified three distinct components of the social determinants of health: socioeconomic determinants; psychosocial risk factors; and community and societal characteristics. Table 3.1 summarises the social determinants according to whether they are socioeconomic, psychosocial or characteristics pertaining to social capital – the community and society in which the individual resides. The list is by no means exhaustive.

Table 3.1: Social determinants of health

Socioeconomic determinants	Psychosocial risk factors	Social capital (community and societal characteristics)
Age	Poor social networks	Social networks and support structures
Sex/gender	Low self-esteem	Social and community participation
Ethnicity	Self-efficacy	Civic and political involvement and empowerment
Education	Psychological distress	
Occupation	Anxiety	Trust in people and social institutions
Income	Insecurity	Tolerance of diversity
Employment	Loss of sense of control	Altruism, philanthropy and voluntary work
Religion	High physical/psychological demand	Poverty
Housing	Chronic stress	Residence (rural, urban, remote)
(affordability, security of tenure, structure and maintenance of building, occupancy, including overcrowding)	Isolation	Income inequality
	Anger/hostility	Crime rate
	Coping	Domestic violence
	Perception/expectations	Unemployment rate

Source: Ansari et al. 2003

Socio-demographic determinants

Marital status

People who were separated, divorced, widowed or never married were more than twice as likely to have low or very low subjective wellbeing than those who were married or lived with a partner (Figure 3.1)

Figure 3.1: Marital status of Victorian adults with low or very low subjective wellbeing
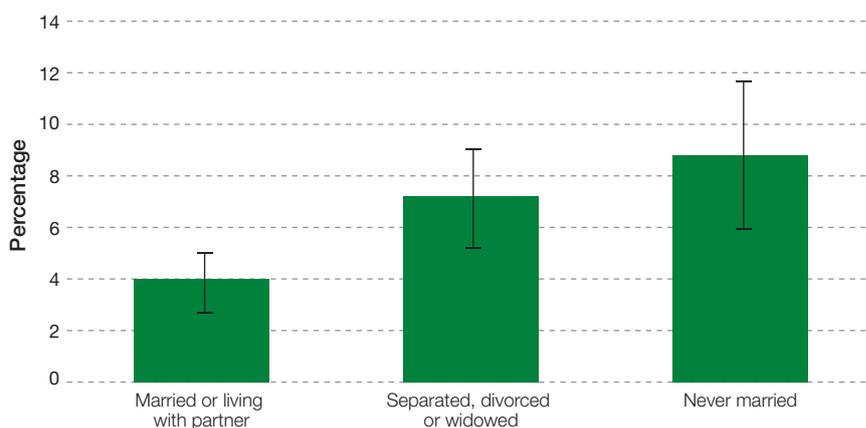
Ethnicity

The sample size of the survey was not large enough to allow for analysis by specific country of birth. Therefore four categories were derived that took into account whether the person spoke a language other than English and whether they were born in Australia or overseas. People who were born overseas and spoke a language other than English at home were significantly less likely to have very high subjective wellbeing than people who were born in Australia and only spoke English at home (Figure 3.2).

Figure 3.2: Ethnicity of Victorian adults with very high subjective wellbeing
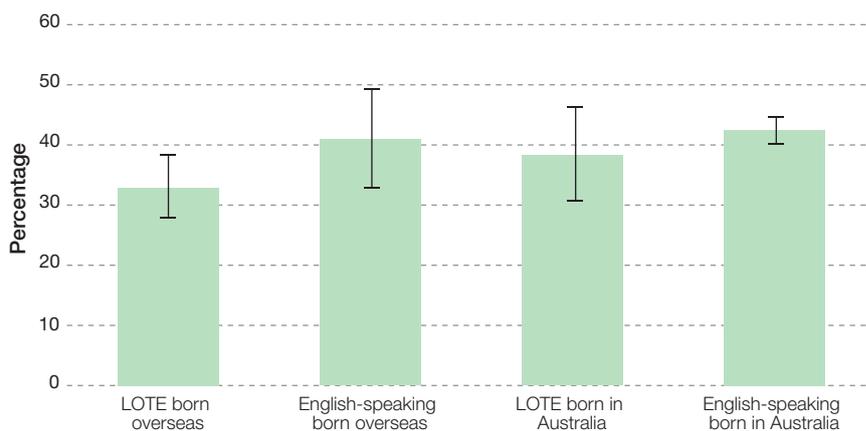
LOTE = language other than English

Household composition

Lone and group households, as well as households occupied by a one-parent family with a dependent child, were more than twice as likely as households occupied by a couple without children to have low subjective wellbeing. Households occupied by a one-parent family with a non-dependent child were more than three times more likely than households occupied by a couple without children to have low subjective wellbeing. There was no difference between households occupied by couples with or without dependent or non-dependent children. However, caution should be exercised in interpreting these results as five of the seven categories had relative standard errors exceeding 25 per cent, most likely reflecting the very small numbers in each category. However, conversely, one-parent, lone and group households were all less likely to have very high subjective wellbeing compared with households occupied by a couple with or without children (Figure 3.3). Overall there was no difference in subjective wellbeing whether a household had children or not.

Figure 3.3: Household composition of Victorian adults with very high subjective wellbeing
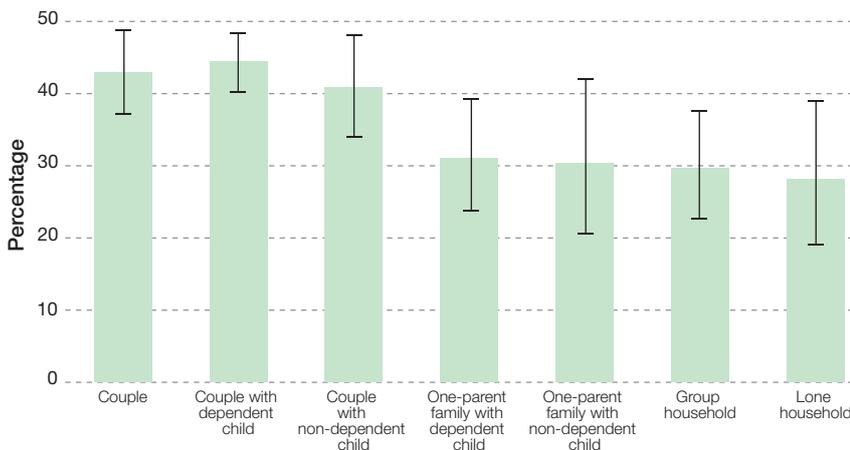
Socioeconomic determinants

The Victorian Population Health Survey collects household and individual-level information on a number of socioeconomic indicators including total annual household income (before tax), employment status, highest level of educational attainment, occupational status and home ownership (a proxy for wealth).

We predicted that subjective wellbeing would be subject to a socioeconomic gradient, and the following section reports on the findings.

Household income

Total annual household income includes all sources of income such as wages, family tax benefits, child support payments and all other sources, before taxation. Respondents were asked to indicate the income bracket into which their total annual household income fell.

As predicted, people with low household incomes (less than $40,000 per annum) were three times more likely to have low or very low subjective wellbeing than those with high household incomes ($100,000 or more) (Figure 3.4).

Employment

The unemployed and people who were not in the labour force were almost twice as likely to have low or very low subjective wellbeing compared with those who were employed. When the 'not in the labour force' category was further teased out, people who reported being 'unable to work' were more than five times more likely to have low or very low subjective wellbeing compared with those who were employed. There were no differences between the employed and those who were a student or engaged in home duties. In contrast, retired Victorians were less likely than the employed to have low or very low subjective wellbeing (Figure 3.5).

Figure 3.4: Total annual household income of Victorian adults with very high subjective wellbeing

Figure 3.5: Employment status of Victorian adults with low or very low subjective wellbeing
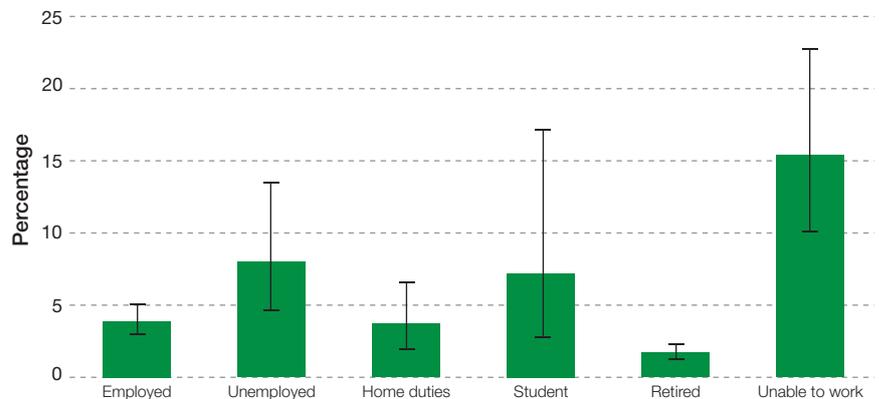
Education

Survey respondents were asked to indicate their highest level of educational attainment. People who had a primary school education or less or who had attended secondary school but not completed Year 12 were significantly more likely than those with a tertiary education to have low or very low subjective wellbeing, but there were no differences between the tertiary-educated and those who had completed Year 12 or those who had completed Year 12 and subsequently attended an institution of Technical and Further Education (TAFE) (Figure 3.6).

Occupation

We compared those who were judged to be of professional occupational status with those of non-professional occupational status and did not find any differences in subjective wellbeing (Figure 3.7).

Home ownership

Home ownership is an indicator of wealth. People who rented privately in 2012 were more likely to have low or very low subjective wellbeing than people who owned their homes or had a mortgage. However, adjusting for both age and sex eliminated the association, suggesting that the association observed prior to age and sex adjustment was due to differences in the distribution of age and sex between the three groups. Interestingly, there was no difference between home owners and people who rented publicly (Figure 3.8).

Figure 3.6: Highest level of educational attainment of Victorian adults with low or very low subjective wellbeing
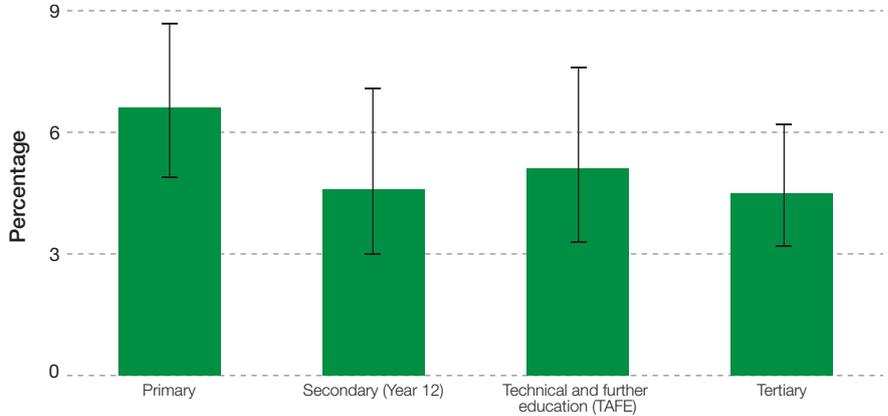
Figure 3.7: Occupational status of Victorian adults by subjective wellbeing
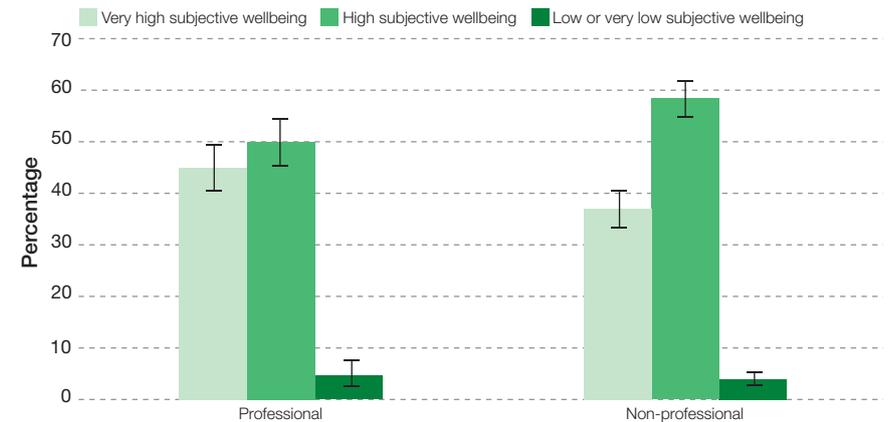
Figure 3.8: Home ownership in Victorian adults with low or very low subjective wellbeing
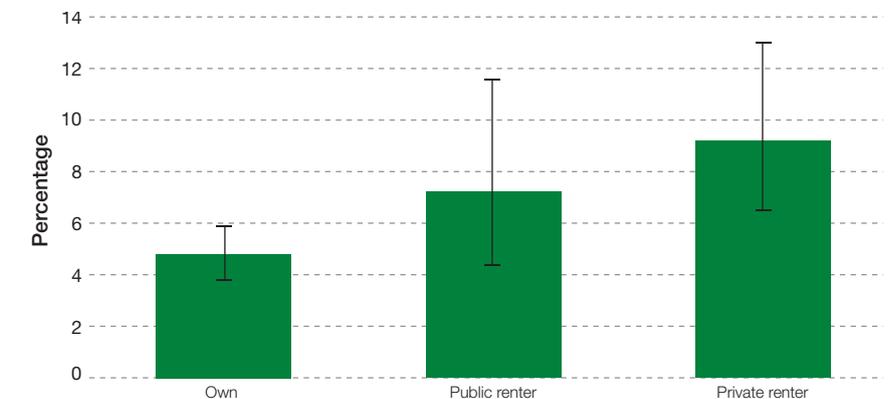
Psychosocial risk factors

Currently there is no consensus of what actually constitutes a psychosocial risk factor. Psychosocial is defined in the Oxford English dictionary as 'pertaining to the influence of social factors on an individual's mind and behaviour, and to the interrelation of behavioural and social factors'. Psychosocial explanations of health may be more accurately referred to as 'social-psychological' explanations of health (Martikainen et al. 2002). The psychosocial risk factors that have perhaps received the most attention in the literature are stressful life events. We investigated two stressful life events: food insecurity and financial stress. We also measured psychological distress, although some academics would argue that psychological distress is an outcome rather than a psychosocial risk factor, while others consider psychological an important psychosocial risk factor. We side with the latter.

Psychological distress

Psychological distress is an important incident and/or secondary risk factor for a number of diseases and conditions including fatigue, migraine, cardiovascular disease, chronic obstructive pulmonary disease, cerebrovascular disease, injury, obesity, depression and anxiety (Andrews & Slade 2001; Hamer et al. 2012; Russ et al. 2012). Moreover, psychological distress is associated with a higher risk of mortality, even after adjusting for potential confounders such as socioeconomic status (Pratt 2009). Psychological distress is also a significant risk factor for the lifestyle risk factors of smoking, excessive consumption of alcohol and drug use (Holden et al. 2010). Therefore, the evidence shows that psychological distress impacts negatively on health both directly and indirectly.

The Victorian Population Health Survey employs the Kessler 10 Psychological Distress Scale (K10) to measure psychological distress. The K10 is a set of 10 questions designed to determine the level of psychological distress over a four-week period. It has been validated as a screening tool for detecting affective disorders such as depression and anxiety and is currently in use in general practice in Australia (Kessler et al. 2003).

The K10 covers the dimensions of nervousness, hopelessness, restlessness, sadness and worthlessness. Its questions all have the same response categories: all of the time, most of the time, some of the time, a little of the time and none of the time (that are scored 5 through to 1). The 10 items are summed to yield scores ranging from 10 to 50. Individuals are categorised to four levels of psychological distress, based on their score: low (10–15), moderate (16–21), high (22–29) and very high (30 or over).

There was an extremely strong dose–response relationship between psychological distress and subjective wellbeing, the strongest that we observed in the entire study. A 'dose–response' relationship is one in which the response is proportional to the dose; the more severe the psychological distress the lower the level of subjective wellbeing. Victorian adults with very high psychological distress were almost 46 times more likely to have lower subjective wellbeing

than those who had little or no psychological distress.

Approximately 40 per cent of Victorian adults with a very high level of psychological distress had low or very low subjective wellbeing compared with only 1.5 per cent of those with a low level of psychological distress (Figure 3.9).

Food insecurity

Food security, as defined by the World Health Organization, exists 'when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life'. Food insecurity is said to exist in the absence of food security.

Food insecurity is a significant life stressor. Survey respondents were asked the question 'In the last 12 months, were there any times that you ran out of food and couldn't afford to buy more?'. If the respondent answered in the affirmative, the respondent was judged to have experienced food insecurity. People who had experienced food insecurity were almost four times more likely to have low or very low subjective wellbeing than those who had not experienced food insecurity (Figure 3.10).

Financial stress

Financial stress is another life stressor and was measured by asking the respondent 'If you needed to, could you raise $2,000 within two days in an emergency?' People who were unable to raise $2,000 were almost three times more likely to have low or very low subjective wellbeing compared with people who could (Figure 3.11).

Figure 3.9: Psychological distress in Victorian adults with low or very low subjective wellbeing
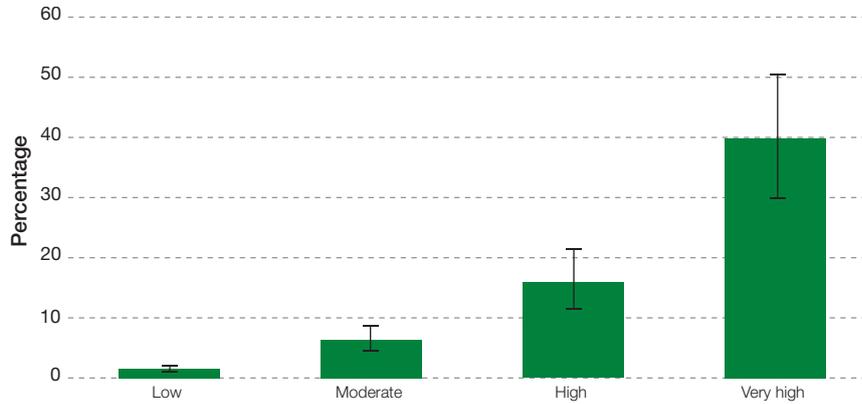
Figure 3.10: Food insecurity by subjective wellbeing, Victoria
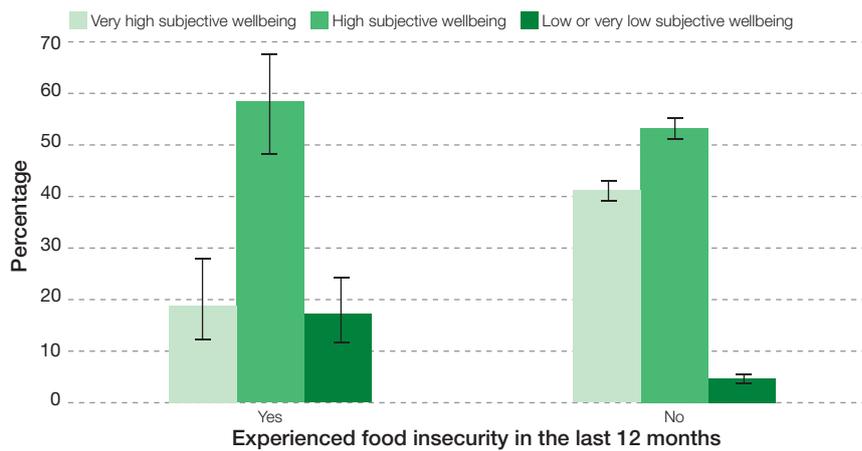
Figure 3.11: Financial stress in Victorian adults with low or very low subjective wellbeing
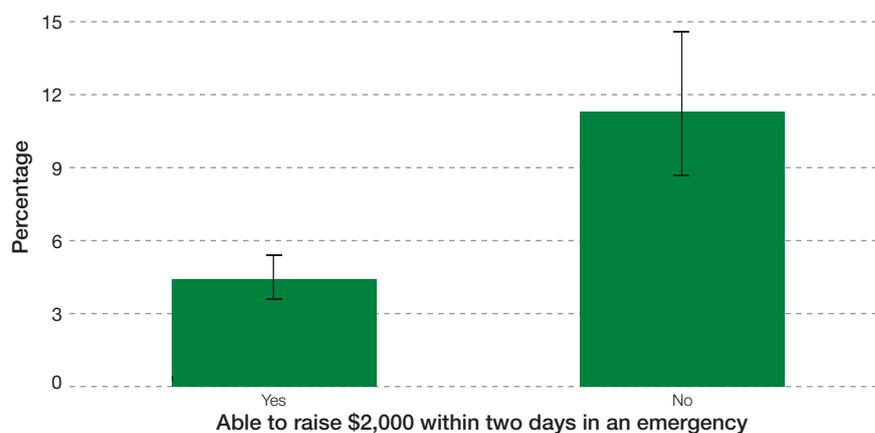
Social capital (community and societal characteristics)

There is no universally agreed definition of social capital. The origins of the concept of social capital come from the field of sociology and can be traced back to the seminal work of Pierre Bourdieu and James Coleman in the late 1980s and early 1990s. Bourdieu defined social capital as 'the aggregate of actual or potential resources linked to possession of a durable network' (Bird et al. 2010).

Bourdieu's definition is described as the 'network approach' and posits that social capital is made up of social obligations and connections that are convertible, in certain conditions, to economic capital that can be accumulated by the individual. By contrast, Coleman defined social capital by its function, citing the trustworthiness of the social environment that makes possible reciprocity exchanges, norms and sanctions. Coleman's definition is described as the 'social cohesion approach'. Within the field of population health, Coleman's social cohesion approach is dominant.

In 1993 Robert Putnam broadened Coleman's original definition to a different social and geographic level because he was interested in explaining regional and national differences in economic and political developments that were occurring in the United States at that time. Putnam further defined social capital by dividing it into two subtypes: bonding and bridging (Szreter & Woolcock 2004). Putnam defined bonding social capital as trusting cooperative relationships between members of a network who see themselves as similar – that is, relations between relatively homogenous groups such as families and ethnic groups. Bridging social capital is defined as trusting cooperative relationships between members of a network who do not see themselves as similar; for example, they might differ by age, socioeconomic status or ethnicity, such as friends and colleagues.

Szreter and Woolcock introduced a third subtype: 'linking social capital', defined as trusting cooperative relationships and norms of reciprocity between people who are interacting across explicit, formal or institutionalised power or authority gradients in society (ties across social strata). This thereby brought state–society relations and considerations of power into the social capital framework, with social capital viewed as the property of a group or network rather than the individual (Szreter & Woolcock 2004).

Social capital can be both beneficial and harmful; it can function in a socially exclusive manner, having positive effects for some and negative effects for others. Negative effects can include the exclusion of outsiders, excessive claims on group members, restrictions on the freedom of individuals, and the downward levelling of social norms. Moreover, societies that are high in bonding social capital but low in bridging and linking social capital are often troubled and segregated, as cooperation is fostered and potentially maximised by the presence of social networks that cross social cleavages (Szreter & Woolcock 2004).

Social capital is posited to impact on health in four ways: (a) more cohesive groups are better placed to take collective action, (b) groups can enforce

> Social capital can be both beneficial and harmful; it can function in a socially exclusive manner, having positive effects for some and negative effects for others.

and maintain social norms, (c) reciprocity of exchanges, and (d) the diffusion of information across social networks (Steptoe et al. 2010). There are two competing models of how social capital influences health; the first is referred to as the 'main effects' model which posits that social relationships are beneficial regardless of the presence or absence of stress, while the 'stress-buffering' model posits that social capital only influences health in individuals who are under stress. While not mutually exclusive, the overall consensus is that social networks operate through the main effects model, while social support is acquired under stressful circumstances. Berkman and Kawachi (2000) proposed that the main effects model acts through social influence on health-related behaviours, social engagement and exchange of emotional, physical and financial support, as well as information and advice, and by providing access to material resources (Berkman & Kawachi 2000).

Many studies have been conducted to investigate the impact of different levels of social capital on various diseases and their outcomes (Steptoe et al. 2010). Stronger social networks have consistently been shown to be associated with a lower incidence and mortality due to cardiovascular disease, as well as a better prognosis when survival is the endpoint being considered. There is also strong evidence of a protective effect of social networks on cognitive decline. However, the findings with cancer are mixed, with some studies showing a protective effect and others not. Overall, a dose–response relationship between all-cause mortality and the degree of social connectedness has been observed, where the more socially connected a person is, the lower their risk of mortality.

The Victorian Population Health Survey includes a series of questions on social capital, and Figure 3.12 describes some of the indicators reported on below.

Figure 3.12: Selected indicators of social capital

Social environment
Interaction, information and communication
• Contact with others
• Internet access

Neighbourhood setting
• Years lived in neighbourhood
• Tolerance of diversity

Social and support networks
• Able to get help from family
• Able to get help from friends
• Able to get help from neighbours
• Help with care in an emergency
• Help to get a job through a relative or friends
• Help to get a job through a group contact
• Get help from a volunteer-based organisation
• Attended a support group meeting
• Access to community services and resources

Social cohesion

Social and civic trust
Social trust
• Feel safe walking down a street after dark
• Agree most people can be trusted

Civic trust
• Feel there are opportunities to have a say
• Feel valued by society

Community and civic engagement
• Membership of an organised group
• Attendance at a local community event
• Volunteerism
• Taking action on behalf of the community
• Membership of a decision-making board
• Rating of local neighbourhood
• Actively involved in children's school

Social environment

Communication is central to developing and maintaining social ties, sharing knowledge and information, and staying in touch with events. There are many ways to stay in touch, apart from meeting face to face or speaking on the telephone.

Survey respondents were asked how many people they had spoken with on the previous day, and we found a dose–response relationship between daily social contacts and subjective wellbeing. Thus the higher the number of people spoken with on a given day, the higher the level of high subjective wellbeing (Figure 3.13). People who had not spoken with anyone were more than four times more likely to have low or very low subjective wellbeing.

Survey respondents were assessed for their tolerance of diversity by asking the question 'Do you think multiculturalism makes life in your area better?' People who answered in the negative were judged to be intolerant of diversity and were almost four times more likely to have low or very low subjective wellbeing. Conversely, people who were tolerant of diversity were significantly more likely to report very high subjective wellbeing (Figure 3.14).

Survey respondents were asked how long they had lived in their local neighbourhood. Unfortunately the relative standard error for the category of living in the neighbourhood for less than a year exceeded 50 per cent and therefore cannot be considered reliable. However, there were no differences in subjective wellbeing by length of time lived in the local neighbourhood (Figure 3.15).

Figure 3.13: Daily social contact of Victorian adults with very high subjective wellbeing
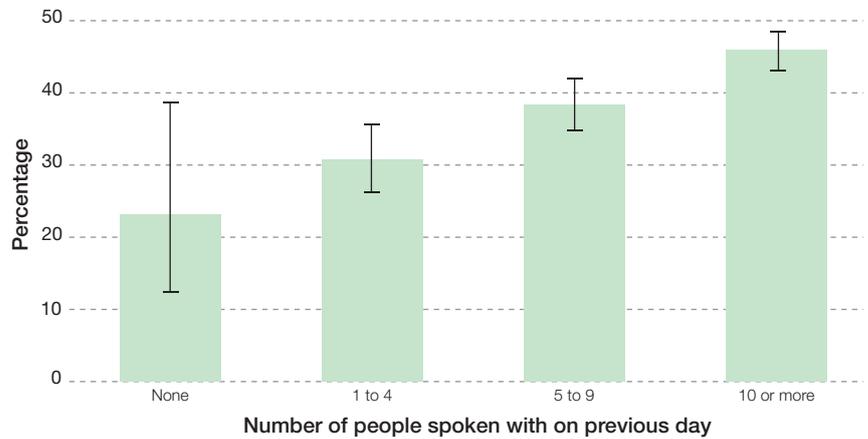
Figure 3.14: Tolerance of diversity in Victorian adults with very high subjective wellbeing
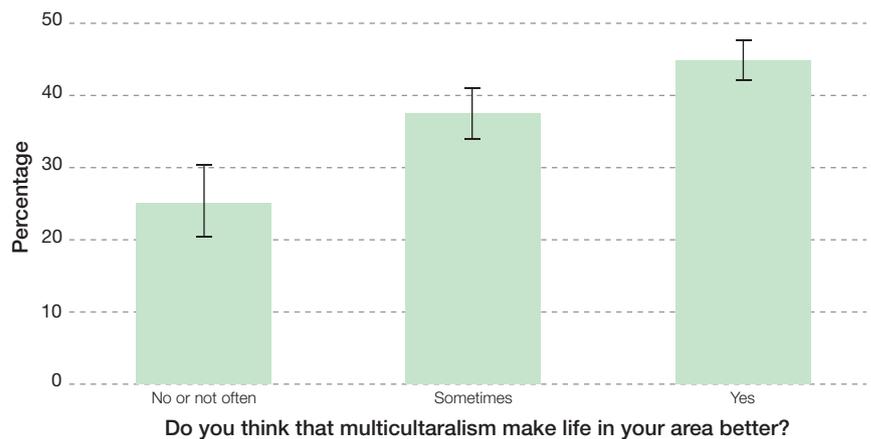
Figure 3.15 Neighbourhood tenure of Victorian adults with very high subjective wellbeing
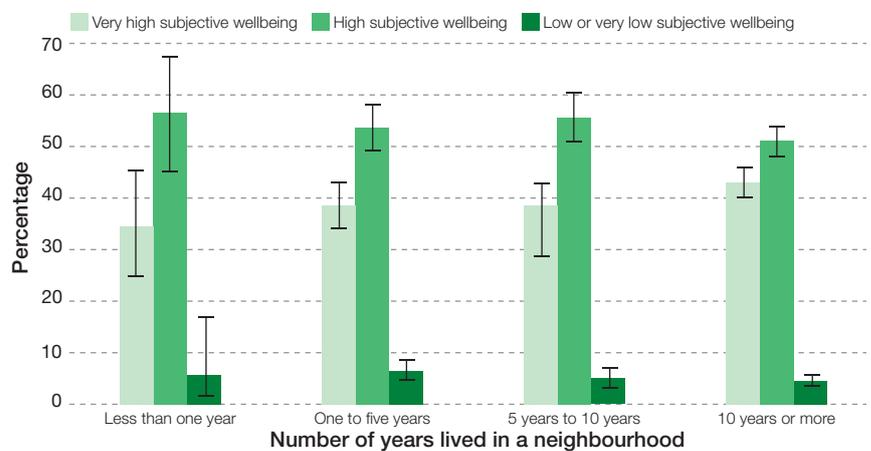
Social and support networks

Families, friends and neighbours are among the more immediate sources of care and support for individuals if they need help with everyday activities or unforeseen emergencies. They are part of the social environment in which people spend a large part of each day and in which children grow and develop. Social and support networks refer to informal relationships that individuals have with family, friends, neighbours and other members of their community. These networks often serve as a resource, providing individuals with information or emotional, practical and financial support. These resources are often provided to an individual without obligation, except for a norm of reciprocity. At a social level, social and support networks provide individuals with a sense of belonging.

Another layer of support within the community is provided by volunteer-based organisations and support groups from which many individuals receive their help. Volunteer-based organisations provide a vehicle for individuals or groups to address human, environmental and social needs. Support groups provide an opportunity for people to share experiences with others with similar backgrounds or experiences.

Survey respondents were asked three questions about whether they would be able to get help, if needed, from (a) family, (b) friends and/or (c) neighbours. People who responded that they only sometimes were able to get help from family were almost three times more likely to have low or very low subjective wellbeing, while those who were unable to get help from family were 4.5 times more likely to have low or very low subjective wellbeing, compared with people who were definitely able to get help from family (Figure 3.16).

People who were only sometimes able to get help from friends were more than three times more likely to have low or very low subjective wellbeing, while those who were unable to get help from friends were more than eight times more likely to have low or very low subjective wellbeing, compared with people who were definitely able to get help from friends (Figure 3.17).

Figure 3.16: Ability to get help from family in Victorian adults with low or very low subjective wellbeing
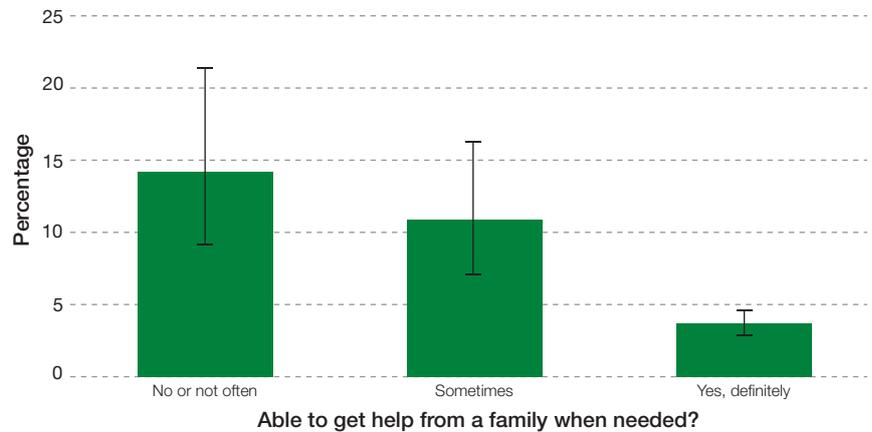
Figure 3.17: Ability to get help from friends in Victorian adults with low or very low subjective wellbeing
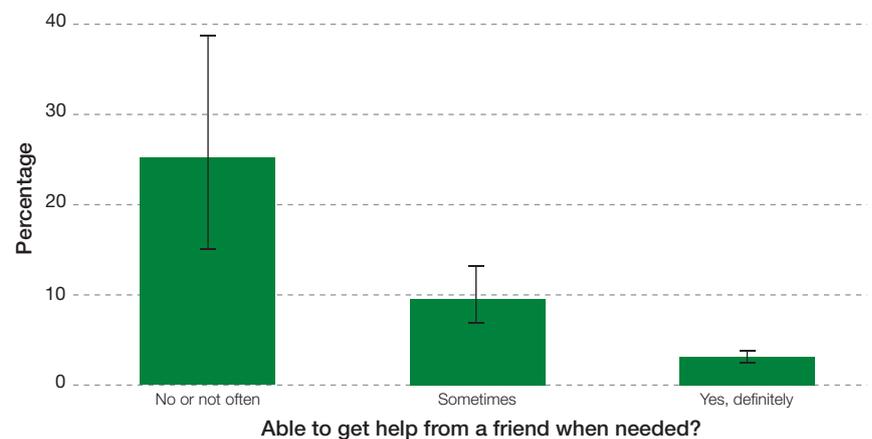
People who were only sometimes able to get help from neighbours were almost twice as likely to have low or very low subjective wellbeing, while those who were unable to get help from neighbours were almost four times as likely to have low or very low subjective wellbeing, compared with people who were definitely able to get help from neighbours (Figure 3.18).

We derived a composite indicator of social support in which we captured the degree of social support available to an individual and found a dose–response relationship between social support and subjective wellbeing. People who were unable to get help from family, friends or neighbours were 11 times more likely to have low or very low subjective wellbeing than those who could get help from all three sources (family, friends and neighbours) (Figure 3.19).

Figure 3.18: Ability to get help from neighbours in Victorian adults with low or very low subjective wellbeing

Able to get help from neighbours when needed?
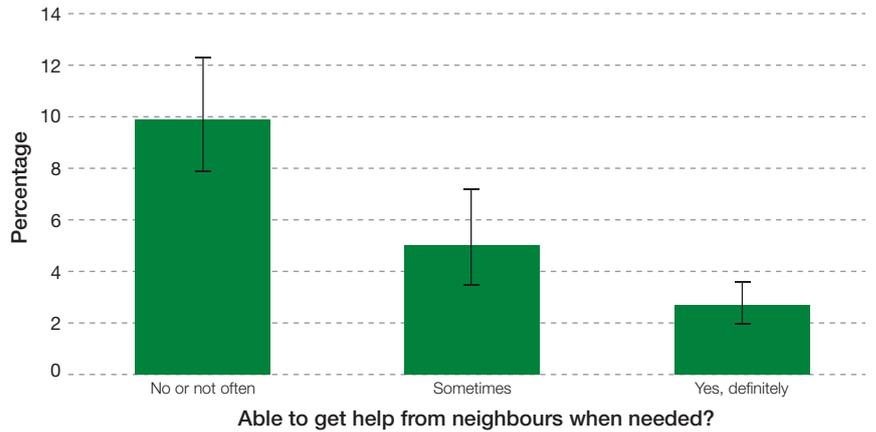
Figure 3.19: Social support from family, friends and neighbours in Victorian adults with low or very low subjective wellbeing
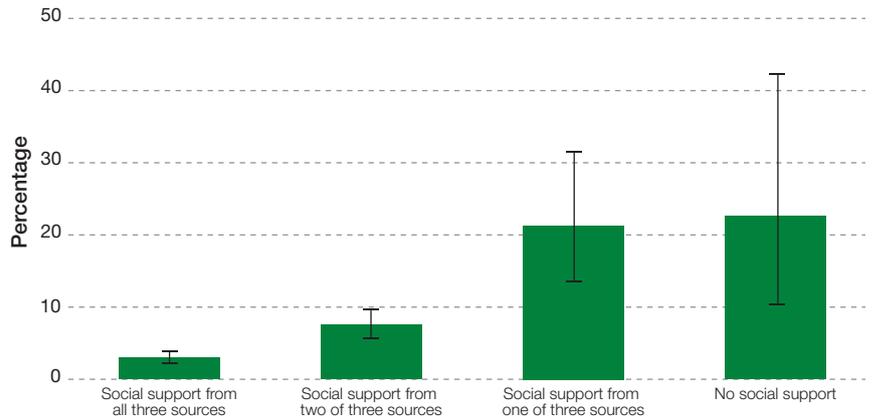
Community and civic engagement

Whether individuals take up opportunities for social interaction or community and civic engagement may depend on the extent to which certain conditions are fulfilled. These include the state of the social environment, the extent and strength of social and support networks, and the relative levels of social and civic trust.

Community and civic engagement was measured through such indicators as membership of organised groups, attendance at local community events, being involved in the community through volunteering, taking action on behalf of the community, being on a member of a decision-making board, ratings of the local neighbourhood, and being actively involved in a local school.

Survey respondents were asked whether they had attended a local community event in the past six months. There were no significant differences in subjective wellbeing between people who did or did not attend a local community event.

Survey respondents were asked whether they belonged to one or more of the following groups: (a) a sports group (b) a religious group (c) a school group and/or (d) any other community or action group. People who did not belong to one or any of the four groups were significantly more likely to have low or very low subjective wellbeing compared with people who did belong to one or more of the four groups (Figure 3.20).

Survey respondents were asked whether helped out a local group as a volunteer. People who volunteered were more likely to have very high subjective wellbeing compared with people who did not volunteer (Figure 3.21).

Figure 3.20: Group membership in Victorian adults with low or very low subjective wellbeing
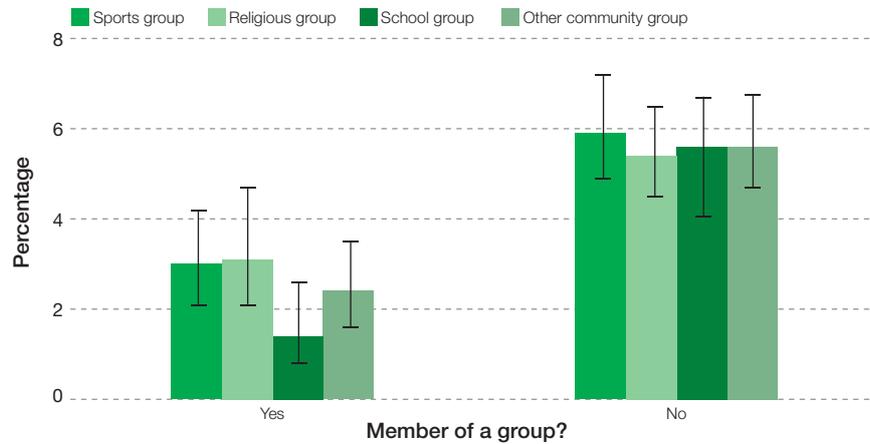
Figure 3.21: Volunteerism in Victorian adults with very high subjective wellbeing
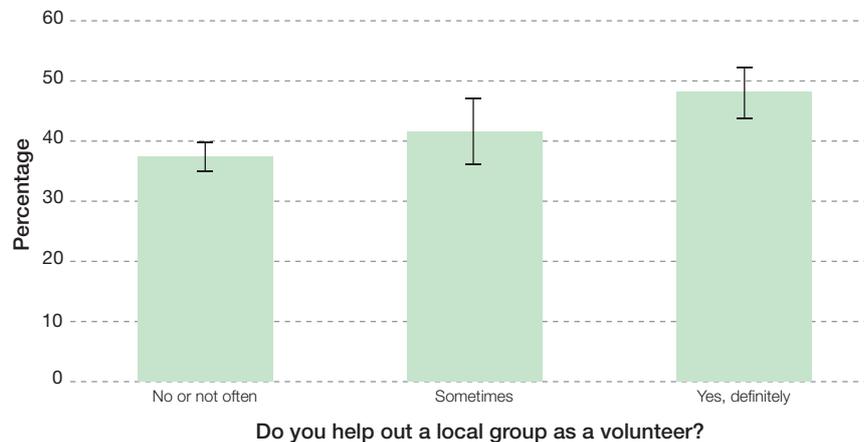
Social and civic trust

Social trust refers to trust among casual acquaintances or strangers in everyday social interaction, while civic trust refers to trust in public institutions and the respect that citizens are accorded in their relationships with those institutions. The Victorian Population Health Survey asks a series of four questions: two on social trust and two on civic trust. The two indicators of social trust are whether a person feels safe walking down their street alone after dark and whether a person agrees that most people can be trusted. The two indicators of civic trust are whether a person believes there are opportunities to have a real say on issues that are important to them and whether they feel valued by society. This section focuses on the extent to which these enabling conditions are present.

In 2012, people who did not feel safe walking alone down their street after dark and people who did not agree that most people could be trusted were more than three times and almost four times more likely, respectively, to have low or very low subjective wellbeing compared with people who did feel safe and/or agreed that most people could be trusted (Figure 3.22).

People who did not feel valued by society and/or did not believe there were opportunities to have a real say on important matters were eight and more than five times as likely, respectively, to have low or very low subjective wellbeing compared with people who did feel valued and/or believed there were opportunities to have a say (Figure 3.23).

Figure 3.22: Social trust in Victorian adults with low or very low subjective wellbeing
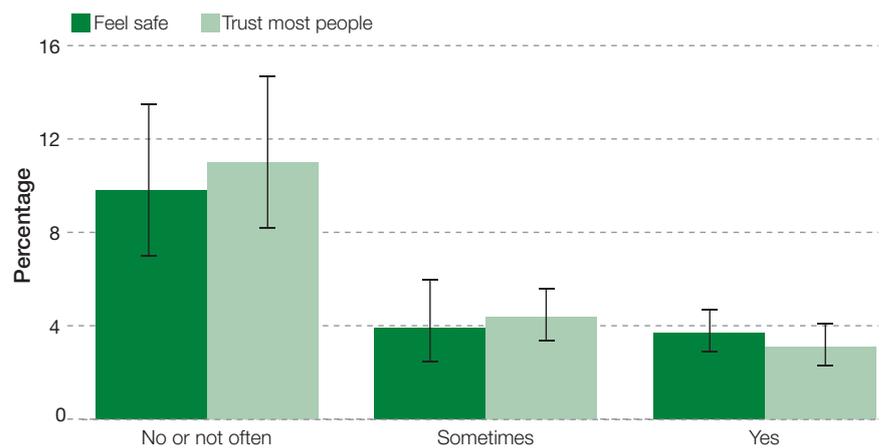
Figure 3.23: Civic trust in Victorian adults with low or very low subjective wellbeing
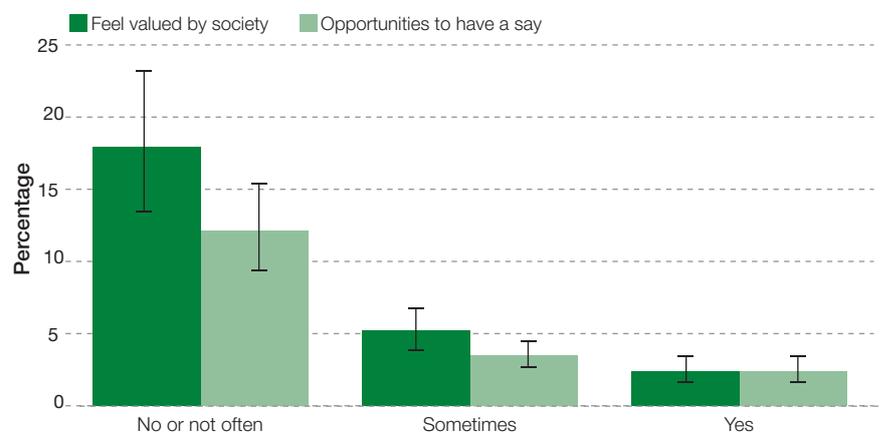
We derived a composite indicator of social and civic trust using the responses to all four questions and found a dose–response relationship; the more questions answered in the negative the lower the level of trust and the lower the level of subjective wellbeing. Conversely, the higher the level of trust, the higher the level of subjective wellbeing (Figure 3.24).

Figure 3.24: Social and civic trust in Victorian adults with very high subjective wellbeing
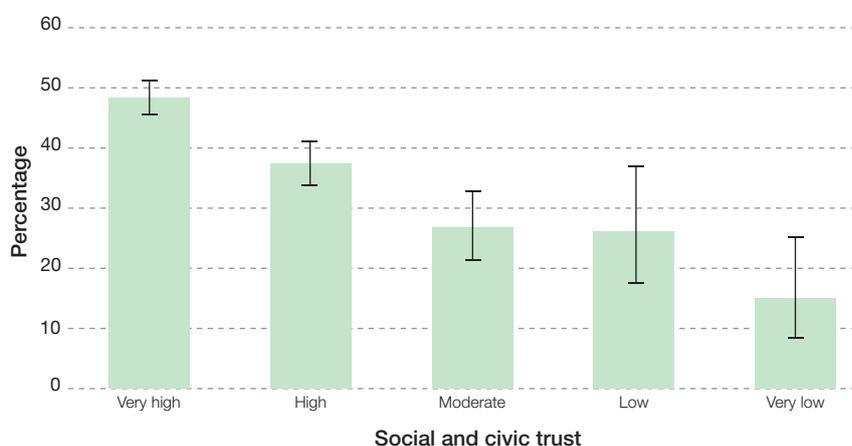
Interpretation of the results

Socio-demography

Marital status

The finding that married Victorians or those who live with a partner have higher subjective wellbeing is consistent with the literature and consistent across the world. In a survey of more than 59,000 people across 42 countries, being married was associated with higher subjective wellbeing (Diener et al. 2000).

Marriage may exert its positive impact on subjective wellbeing through social, emotional and economic support, as well as acting as a buffer against life stressors (Diener et al. 1999). Moreover, in societies where marriage is the default position, being unmarried may be seen as the deviant position, resulting in social stigma that reduces subjective wellbeing.

The relationship between marriage and subjective wellbeing is strongest for Western countries that have societies founded on a strong sense of individualism, leading to a more impersonal and less collectivist social environment. These societies may therefore place a higher value on marriage as a source of emotional intimacy and as a respite from loneliness (Diener et al. 2000).

There is debate about the direction of causality – whether people who have high subjective wellbeing are more likely to marry and stay married or, conversely, whether marriage increases subjective wellbeing. There is evidence to support both directions of causality, and it may be that people with high subjective wellbeing are more likely to marry and stay married, and being married boosts their subjective wellbeing.

Household composition

We also found that households that consisted of married couples with or without children had higher subjective wellbeing than one-parent families, lone or group households. This is likely to reflect the findings on marital status. As disparate as one-parent families are from lone and group households, they may share a common lack of emotional intimacy and social support. The finding that one-parent households of non-dependent children had the lowest subjective wellbeing may reflect the lack of the stress-buffering aspect of having a life partner in dealing with life stressors such as the loss of a child to independence. Moreover, one-parent families, lone and group households are more likely to have lower household incomes and, as we will see in the next section, low household income is strongly associated with lower subjective wellbeing.

Potential policy implications would be to develop strategies and interventions to support one-parent families and people who are socially isolated, such as those living alone.

Ethnicity

We observed that Victorians who were born overseas and spoke a language other than English at home had lower subjective wellbeing than Victorians who were born in Australia and only spoke English at home. This seemingly contradicts the 'healthy immigrant effect'. The healthy immigrant effect is where, on arrival, many immigrant populations have better health than their destination country's population. It has been found in the United Kingdom, the United States, Australia and Canada (Kennedy et al. 2006).

The healthy immigrant effect has been attributed to factors such as: health screening by immigration officers; healthier lifestyles and environment of immigrants prior to migration; self-selection of immigrants; and under-reporting of disease. After arrival, the gap between immigrants' and non-immigrants' health status decreases with time (Biddle et al. 2007). Over the first 10–20 years the probability of reporting a chronic disease increases and then tends to plateau but doesn't usually reach the level of Australian-born people, although there are differences by disease and country of origin. It is hypothesised that this decline in health is due to 'acculturation': the process of adopting the cultural traits or social patterns of another group. For example, over time immigrants tend to adopt the host country's dietary habits and levels of physical activity. There is also evidence of inferior access to healthcare services, particularly if language is a barrier.

Part of the explanation for our findings may lie in the fact that we did not ask the survey respondents when they arrived and therefore were unable to distinguish between new arrivals and those who had been in the country for many years. However, we found lower subjective wellbeing, while studies have typically found that immigrants retained slightly better health than those born

…Victorians who were born overseas and spoke a language other than English at home had lower subjective wellbeing than Victorians who were born in Australia and only spoke English at home.

in Australia, even after many years in the country. The explanation may lie in the fact that those studies only investigated physical health, while subjective wellbeing measures physical, mental and emotional health. Therefore, it may be that the lower subjective wellbeing reflects poorer mental and/or emotional health associated with the stress of coming to a new country where a different language is spoken, and possibly experiencing social exclusion and discrimination. Moreover, many immigrants from non-English-speaking countries are highly educated but their qualifications may not be recognised in Australia, forcing them to taking lower paid jobs that don't make use of their qualifications and skills.

The question 'What year did you arrive in Australia?' has now been included in the Victorian Population Health Survey questionnaire and we hope to be able to use future data to further understand subjective wellbeing among the culturally and linguistically diverse populations of Victoria.

The policy implications of this finding is that further research is needed to understand why subjective wellbeing is lower among Victorians who were born overseas and speak a language other than English. Moreover, given the abundance of evidence that immigrants of non-English speaking backgrounds are frequently subject to discrimination and social isolation (necessitating the Racial and Religious Tolerance Act 2001), we would hypothesise that this may be the main reason for their lower subjective wellbeing. Therefore, potential policy responses could include working with these communities to develop interventions and strategies to build up resilience while working with the dominant communities to correct ignorant and negative stereotypes, and to try to bring the two communities together.

Socioeconomic status

The weight of scientific evidence supports a socioeconomic explanation of inequalities. For almost every measure of disease a socioeconomic gradient can be shown to exist where the lower the socioeconomic status the poorer the health outcome.

There are many different indicators of socioeconomic status that can broadly be categorised into occupation-based, qualification-based, income-based and area-based indicators. This is because socioeconomic status is a multi-dimensional concept encompassing economic, educational and occupational factors that may act at different levels at different times in the life course, and through different causal pathways (Braveman et al. 2001). Socioeconomic status indicators are not necessarily interchangeable; for example, the correlation between income and education has been reported to vary by ethnic group from 0.34 to 0.58, reflecting that income can vary at similar levels of education across different ethnic groups (Braveman et al. 2001).

For almost every measure of disease a socioeconomic gradient can be shown to exist where the lower the socioeconomic status the poorer the health outcome.

Household income

Household income is the indicator of socioeconomic status that almost exclusively measures the economic dimension of socioeconomic status. We observed that Victorians with low household income had lower subjective wellbeing than Victorians with high household income. Interestingly though, we observed a clear threshold effect where Victorians with incomes of below $40,000 had lower subjective wellbeing than Victorians with household incomes of $40,000 or more. It appears that once the threshold amount of $40,000 was surpassed, there was no difference in subjective wellbeing whether an individual reported a household income of $50,000 or a household income of more than $100,000. Given the challenges of meeting one's basic needs and pursuing one's goals with an income of less than $40,000, this suggests that lower subjective wellbeing is associated with poverty. Once basic needs are met, it appears that the relationship between household income and subjective wellbeing ceases to exist.

This is entirely consistent with the international literature (Diener et al. 1999). A threshold effect of income on subjective wellbeing was similarly observed in the United States where subjective wellbeing no longer increased with increasing income when income reached US$75,000 per annum (Kahneman & Deaton 2010).

Studies of income change at the national level have shown that, despite high economic growth in France, Japan and the United States between 1946 and 1990 when disposable income rose dramatically even after controlling for inflation and taxes, the level of subjective wellbeing did not change. This also appears to be due to a threshold effect where, in comparing countries over time, once the national income per person reached approximately $25,000, the relationship between national income per person and subjective wellbeing ceased to exist (Wilkinson & Pickett 2010). Thus while raising national income raises the subjective wellbeing of poorer countries, the relationship between the national income of a country and subjective wellbeing ceases to exist once basic needs are met.

It has been hypothesised that a possible reason for this threshold effect is that a rise in living standards, whether of an individual or a group of individuals, is accompanied by a rise in expectations. It has also been hypothesised that it is not the size of national income that directly impacts on subjective wellbeing but what often accompanies it in terms of more democratic institutions, political and social stability. There is also evidence that people who value the pursuit of money more highly than other goals tend to have lower subjective wellbeing than people who don't, and that this association persists even after controlling for income level (Diener et al. 1999). Thus materialistic pursuits appear to be a negative predictor of subjective wellbeing.

…while raising national income raises the subjective wellbeing of poorer countries, the relationship between the national income of a country and subjective wellbeing ceases to exist once basic needs are met.

In recent years an abundance of evidence has accumulated on the relationship between income inequality (the gap between the richest and the poorest in a country) and subjective wellbeing. These studies focused on the wealthiest countries in the world and show conclusively that countries with greater income inequality have lower subjective wellbeing (Senik 2009; Wilkinson & Pickett 2010). Moreover, countries with high income inequality, such as the United States, Australia and the United Kingdom, have significantly more health and social problems than countries where the income is more equitably distributed, such as Sweden, Norway and Finland (Wilkinson & Pickett 2010).

It is an innate aspect of human nature to evaluate one's own self-worth by making social comparisons. Therefore, greater income inequality heightens people's social evaluation anxieties by elevating the importance of social status. Greater income inequality is also associated with increased status competition accompanied by status anxiety. As income inequality increases, civic and social trust decreases. It is through these mechanisms that income inequality exerts its negative impacts on subjective wellbeing (Wilkinson & Pickett 2010). In short, it is not the absolute difference in income that does the harm to subjective wellbeing, it is the relative difference in income across a society.

The potential policy implications of our findings on subjective wellbeing and household income are that we could improve the subjective wellbeing of all Victorians by raising the household incomes of the poorest Victorians to above $40,000 per annum, since this would both enable the poorest to meet their basic needs as well as reduce income inequality overall.

Employment status

We observed that being unemployed or unable to work was associated with lower subjective wellbeing. The association was particularly strong for those being unable to work. Being unemployed has obvious impacts on household income and may make it difficult to meet basic needs. Studies have also shown that the unemployed have higher psychological distress and suicide rates than the employed, and that unemployment causes low subjective wellbeing (Diener et al. 1999). While being unable to work is also likely to be associated with economic disadvantage, the reason(s) for being unable to work may make a far bigger impact on subjective wellbeing as the individual may have a physical, mental or emotional impairment that renders them unable to work. Work not only provides an income but also provides engagement with the wider community and social contact, and as we will see in the section on social capital this greatly benefits subjective wellbeing.

…countries with high income inequality, such as the United States, Australia and the United Kingdom, have significantly more health and social problems than countries where the income is more equitably distributed, such as Sweden, Norway and Finland.

Wealth

We used home ownership as a proxy for wealth. While we observed that renting privately, but not publicly, was associated with lower subjective wellbeing, when we controlled for age and sex, the association was no longer statistically significant. This means that the association we originally observed could be explained in terms of difference in the age and sex distribution between those who owned and those who rented their homes. This is not consistent with the literature. Wealth was shown to be strongly associated with subjective wellbeing in an Australian study that analysed data from the Household, Income and Labour Dynamics in Australia survey (Headey & Wooden 2004).

Our findings may be explained by the fact that the question asked did not discriminate between people who owned their own home outright and those who were paying off a mortgage. Thus the indicator was not clearly discriminating between high and low wealth. 'Mortgage stress' is a term frequently alluded to in today's media and newspapers since the cost of housing in metropolitan Melbourne is noted by the International Monetary Fund to be among the highest in the world. In future Victorian Population Health Surveys we will change the response option to this question to separate out people who own their own home unencumbered from people who have a mortgage.

Education

We found a very weak association between subjective wellbeing and the highest level of educational attainment where Victorian adults who had not completed Year 12 at secondary school had lower subjective wellbeing than those who had a tertiary education, after controlling for differences in age and sex. This is also consistent with the literature. It has been shown that education is more strongly associated with subjective wellbeing in people with lower incomes and in poorer countries (Diener et al. 1999). Therefore at least part of the relationship between education and subjective wellbeing is due to the correlation between education and income. Studies from the United States looking at the relationship between education and subjective wellbeing found that when they controlled for income the relationship no longer existed, suggesting that education acts indirectly through its impact on a person's earning potential.

Occupation

We did not find any association between occupational status and subjective wellbeing. However, we only distinguished between 'professional' and 'non-professional', which may have been too broad a categorisation. We were not able to do more than this, however, because the sample size was too small. Studies have shown that job satisfaction predicts subjective wellbeing, and it may be that a satisfying job provides an optimal level of stimulation that people find pleasurable (Diener et al. 1999). In contrast, boring repetitive jobs can be a source of boredom and stress that may lead to low subjective wellbeing.

…education is more strongly associated with subjective wellbeing in people with lower incomes and in poorer countries.

Key findings

- Marriage or living with a partner was associated with high subjective wellbeing.
- Victorian adults who were separated, divorced, widowed or had never married had lower subjective wellbeing.
- Victorian adults who were born overseas and spoke a language other than English had lower subjective wellbeing.
- Living in a one-parent household, alone or in a group household was associated with lower subjective wellbeing.
- Subjective wellbeing did not differ between households with or without children.
- Having a total annual household income of less than $40,000 was associated with lower subjective wellbeing.
- Once basic needs are met (household income threshold of $40,000), increases in household income did not increase subjective wellbeing.
- Being unemployed, unable to work or not completing Year 12 of secondary education were associated with lower subjective wellbeing.

Psychosocial risk factors

Psychological distress

We observed the largest effect sizes (magnitude of association) for psychological distress. In addition, we observed a dose–response relationship between psychological distress and subjective wellbeing where the level of subjective wellbeing decreased as the level of psychological distress increased.

In a study of psychological wellbeing and psychological distress, variables that were positively associated with psychological wellbeing were negatively associated with psychological distress, and vice versa (Winefield et al. 2012). The authors concluded that psychological wellbeing is almost on the opposite end of the continuum to psychological distress but may vary according to the external and internal environmental challenges people face. Since subjective wellbeing is intended to measure both psychological and physical wellbeing, this may explain why the strength of the association between subjective wellbeing and psychological distress is so strong. Given that the effect size for psychological distress is so much larger than our findings for the various physical health outcomes (see section 6), this may indicate that the psychological health component of subjective wellbeing is greater than the physical health component. Nevertheless it is clear that subjective wellbeing is a highly useful indicator of both physical and mental health.

…subjective wellbeing is a highly useful indicator of both physical and mental health.

Food insecurity

In Victoria approximately 5 per cent of non-Aboriginal adults experience food insecurity compared with 18 per cent of Aboriginal adults (Markwick et al. 2011). However, this is a conservative estimate because it is based on the answer to a single question: 'In the last 12 months, were there any times that you ran out of food and couldn't afford to buy more?' Food insecurity encompasses more than just not having the economic resources to buy food. For example, in remote parts of Australia food scarcity is a major cause of food insecurity.

Our finding that food-insecure Victorian adults have substantially lower subjective wellbeing than those who are food secure is consistent with the literature (Carolan 2012). However, a recent study found a strong association of psychological distress with food insecurity, suggesting that it may be the psychological distress caused by food insecurity that mediates the relationship between food insecurity and subjective wellbeing, with food insecurity acting as a significant life stressor (Carter et al. 2011).

Financial stress

The final psychosocial risk factor was financial stress – the inability to raise $2,000 within two days in an emergency. Financial stress is likely to be another life stressor by which its association with subjective wellbeing is also mediated by the psychological distress.

In conclusion, life stressors have been shown to be causally related to psychological distress, with the individual's psychological resources and resources in the social environment (social capital) mediating or moderating the impact of life stressors on psychological distress (Ensel & Lin 1991). The next section looks at the relationship between subjective wellbeing and social capital.

Key findings

- **The higher the level of psychological distress the lower the level of subjective wellbeing.**
- **Victorian adults who had very high levels of psychologically distress were 45 times more likely to have lower subjective wellbeing.**
- **Food insecurity and financial stress were associated with lower subjective wellbeing.**

Social capital

We categorised our indicators of social capital into four groups: the social environment; social and support networks; community and civic engagement; and civic and social trust. We had three indicators of the social environment: number of people spoken with on the previous day, a measure of social contact; tolerance of diversity (multiculturalism); and how long a person had lived in their neighbourhood.

The social environment

Social contact

We found a dose–response relationship between the number of people spoken with on the previous day and subjective wellbeing, suggesting that the more social contacts a person has the better their subjective wellbeing. This finding is consistent with the literature, which finds that social connections and human contact are strongly associated with subjective wellbeing (Boarini et al. 2012). Human beings are social animals, as evidence by the well-documented deleterious effects of social isolation.

A systematic review (the highest level of evidence) of social relationships and mortality risk evaluated 148 studies – a total of 308,849 people (Holt-Lunstad et al. 2010). The balance of the evidence showed that people with poor or insufficient social relationships had a 50 per cent greater risk of dying compared with those who had adequate social relationships. Interestingly the magnitude of the effect was comparable to smoking and exceeded other risk factors such as obesity and physical inactivity. When we compared subjective wellbeing by smoking with not having any daily social contact, we found that the magnitude of effect was higher for not having any daily social contact than for smoking.

Several hypotheses have been put forward to explain why lack of social relationships is so detrimental to health and wellbeing. First, that as social animals, we need the supportiveness of social relationships. Second, the idea of social isolation is anxiety invoking and stressful in of itself, thus stimulating the harmful neuroendocrine responses associated with stress that, if maintained over a sufficiently long period of time, impacts negatively on health. Third, social relationships benefit health because of the social control they exert over an individual, especially in terms of encouraging health-promoting behaviours and discouraging disease-inducing behaviours. It should be noted, however, that the opposite can be true in some severely disadvantaged and socially isolated populations where disease-inducing behaviours have become normalised.

The potential policy implications of this finding are that since a serious deficiency in social relationships is detrimental to health and subjective wellbeing, policies could be developed to ensure that socially isolated individuals have meaningful social ties with at least one other person.

…the more social contacts a person has the better their subjective wellbeing.

Tolerance of diversity

Our observation that people who were intolerant of diversity because they responded in the negative to the question 'Do you think that multiculturalism makes life in your area better?' were significantly more likely to have low or very low subjective wellbeing is consistent with the literature. Experimental studies have shown that people with high subjective wellbeing exhibit greater perspective taking and emotional empathy, resulting in being less likely to demonstrate prejudice towards people of different cultures. Conversely, those with low subjective wellbeing were more likely to demonstrate prejudice and negativity towards people of other cultures (Johnson & Fredrickson 2005; Nelson 2009).

Victoria is a multicultural society in which approximately 26 per cent of its population was born overseas and 47 per cent of its population was either born overseas or had a parent who was born overseas (Victorian Multicultural Commission 2015). The overseas-born population consists of people from more than 200 different countries speaking 260 different languages or dialects and practising 135 different religious faiths.

However, time series data from the Victorian Population Health Survey shows that since 2005 the proportion of people who are intolerant of diversity is increasing (Department of Health 2014). Moreover, we observed in this work that Victorians who were born overseas and spoke a language other than English at home reported lower subjective wellbeing compared with other Victorians. Since intolerance of diversity undermines social cohesion, order and stability, as well as promotes social exclusion, this has important implications for policymakers. A potential area for intervention would be to develop policies to increase the subjective wellbeing of those Victorians with low subjective wellbeing.

Neighbourhood tenure

We did not find an association between the length of time lived in a neighbourhood and subjective wellbeing, although we expected to. People who move residential neighbourhoods frequently tend to be a poorer more mobile population and we predicted that this would result in lower subjective wellbeing, possibly due to the disruption to social ties that frequent relocation can cause, and due to the more disadvantaged nature of the population. Frequent relocation has been shown to be associated with low subjective wellbeing in a sample of 7,108 Americans followed over a 10-year period (Oishi & Schimmack 2010). Therefore we conclude that either frequent relocation is not associated with subjective wellbeing in Victoria or the sample size may have been too small to detect a difference. We believe that the latter explanation is more probable because the underlying sample of people who had been living in their residential neighbourhood for less than a year was only 130 people, reflected in the unacceptably high relative standard error of 58 per cent that indicated that the estimate was unreliable.

Experimental studies have shown that people with high subjective wellbeing exhibit greater perspective taking and emotional empathy…

Social and support networks

We investigated three indicators of social support, which varied by the source of support (family, friends and neighbours), and found very strong associations with subjective wellbeing. Victorian adults who could not get help from family, friends or neighbours were 11 times more likely to have low or very low subjective wellbeing than those who could. This is entirely consistent with the international literature, which shows that social support is consistently and strongly associated with high subjective wellbeing. Conversely lack of social support is associated with low subjective wellbeing (Siedlecki et al. 2014).

Social support can consist of emotional support (love and affection), the provision of information and advice, and instrumental support (practical and economic). Emotional support is believed to benefit individuals by dampening the neuroendocrine responses to stress (the stress-buffering model described earlier), thus leading to improved subjective wellbeing and a reduction in the health-harming effects of prolonged stress. Provision of suitable information and advice, particularly in regard to health, would encourage healthy behaviours and the sourcing of appropriate healthcare, leading to improved subjective wellbeing. The provision of practical and economic support also leads to improved subjective wellbeing by increasing the available resources necessary for managing day-to-day life.

Strengthening social ties is likely to increase the availability of social support and therefore has implications for policy development. However, it is important to take into consideration the type of social capital that a policy or intervention would encourage. As discussed in the introduction, bonding social capital is between people who see themselves as similar (for example, within families or ethnic groups), bridging social capital is between people who are not similar (for example, between socioeconomic classes or different ethnic groups), and linking social capital is between the people and institutions of power and the rest of society). Policies designed to strengthen social ties should not limited to increasing bonding social capital at the expense of bridging and linking social capital. That is because societies that are high in bonding social capital but low in both bridging and linking social capital are highly segregated, leading to a plethora of social problems, as exemplified in the history of 19th century Britain (see Box 3.1). Therefore policies should be aimed at increasing bridging and linking social capital.

Strengthening social ties is likely to increase the availability of social support and therefore has implications for policy development.

Box 3.1: Lessons from 19th century Britain

By the beginning of the 19th century, Britain had established itself as the most prosperous and socially cohesive country in Europe, with a generous social security system called the 'Poor Law' protecting its citizens from the famines that had been a problem since the 17th century. From the 1730s to the 1820s the population doubled in size, and life expectancy increased from 35 to 40 years. There was abundant bridging and linking social capital in an increasingly socially mobile country.

This all changed, however, when Britain experienced unprecedented economic growth between 1820 and 1870. Life expectancy in the largest cities of Britain (Manchester, Liverpool and Glasgow) dropped to 25 years, lower than that ever seen since the Black Death of the 14th century. Anthropometric data showed that the average height of the working class also dropped significantly. Part of the explanation of what happened lies in the demise of bridging and linking social capital. Mechanisation transformed labour relations, beginning with the mass redundancy of a quarter of a million handloom-weaving families in Lancashire, leading to increasing migration of the poor in large numbers from the rural to urban areas. Consequently, the propertied governing elite began to believe they were paying too much for the poor and an era of laissez-faire philosophy ensued, with class divisions of interest widening dramatically.

The linking and bridging social capital of the paternalistic society of the 19th century was formally repudiated with the enactment of a new Poor Law in 1834. The law slashed social security spending in half and instituted a new deterrent regime that aimed to strongly encourage the poor to sell their labour at whatever price was available. The families of the unemployed were forced into workhouses to pay back the meagre social security allowances. The two principal sources of social security that developed in response to these harsh measures were a defensive bonding social capital. First, there were the workingmen's mutual insurance 'friendly societies', and second, denominational religious congregations and sects. While these represented high levels of social capital, it was of the bonding not bridging and linking kind. The consequences were increased hostility and division and segregation between the social classes, men and women and different industrial regions. Those in power were no longer prepared to fund clean water and sewerage systems.

It was not until the 1870s that things began to change for the better. The lessons to be learnt are that a nation that places too much emphasis on accumulating capital in private hands as the primary means of economic growth while abdicating responsibility towards the poor may well pay a high price in terms of bridging and linking social capital. And as shown in this report, declines in social capital negatively impact on the health and wellbeing of the population.

Source: Szreter & Woolcock 2004

Community and civic engagement

Being a member of a local group such as a sport, school, religious or other community group is a measure of engagement with the community. Engagement with the community is likely to result in increased social contact and possibly increased social ties. This may partly explain why we observed that Victorian adults who were members of a local community group were more likely to have higher subjective wellbeing than Victorian adults who were not. This finding is entirely consistent the literature and with our previous observation that the more social contacts a person has in a day, the higher their subjective wellbeing (Veenhoven 2008).

Moreover, group membership may entail the payment of fees and require having sufficient leisure time in order to participate. As we observed earlier in this section, people who lacked financial resources due to having low household incomes were more likely to have lower subjective wellbeing. The working poor also often have less leisure time than the more advantaged, as they may have two or more casual jobs that they need to attend to in order to make ends meet.

The policy implications of this are that in order to increase subjective wellbeing, policymakers may want to consider ways to encourage people to join local community groups and to look at ways to help poorer Victorians pay any required fees, and find the leisure time required to enjoy their membership.

Volunteerism is an indicator of prosocial behaviour. Prosocial behaviours are those intended to help other people, and the word 'prosocial' is an antonym for 'antisocial'. We found that Victorian adults who volunteered were more likely to have very high subjective wellbeing. This is consistent with the literature that finds a robust association between volunteerism and subjective wellbeing (Binder & Freytag 2013). In determining the causal direction of the association, Binder and Freytag (2013) used the British Household Panel Survey, a longitudinal survey of a representative sample of British households that began in 1991. They found that regular volunteering over time increased subjective wellbeing among people with low subjective wellbeing but had no effect on the subjective wellbeing of people with high subjective wellbeing, thus concluding that the volunteerism increases subjective wellbeing rather than subjective wellbeing increasing volunteerism. The authors suggested that people with low subjective wellbeing who take up volunteering may be compensating for the disadvantage in their lives as a form of coping.

The policy implications of this are to provide more opportunities for people to volunteer. However, caution should be observed and any policies developed in this area carefully monitored and evaluated because, as with all things, there could be unintended negative side effects such as putting undue social pressure on people who already volunteer, resulting in fewer people volunteering for altruistic reasons. More importantly, there is strong evidence that involuntary

care-giving within the family, particularly for sick or elderly family members, is detrimental to the subjective wellbeing of the carer (Hirst 2005). Therefore, creating volunteer opportunities should only be done in the context of those opportunities being pursued voluntarily and autonomously.

Social and civic trust

Trust has been defined as a set of socially learnt and confirmed expectations that people have of each other, and of the organisations and institutions in which they live, and of the natural and moral social orders that set the fundamental understandings for their lives (Kramer 1999). Conversely, distrust has been defined as a lack of confidence in the other – a concern that the other may act so as to harm one. Trust is essential within social systems to enable cooperative and altruistic behaviours that enhance collective wellbeing and the attainment of collective goals. Trust in our civic institutions and the people who run them, such as our healthcare system, is essential in order to maximise an individual's health and wellbeing (Kramer 1999).

It is contended that trust is probably the main component of social capital, and social capital is a necessary condition for social integration, economic efficiency and democratic stability (Newton 2001). Trust may be the one measure that comes closest to being a single measure of social capital. Whether individuals take up opportunities for social interaction and community engagement is likely to depend on the level and extent of both social and civic trust.

We found the second highest effect sizes for social and civic trust that followed a dose–response pattern – as trust declined so did subjective wellbeing. This is entirely consistent with the international literature. Countries with very high social capital are fairer, more equitable, have fewer social problems and often economically outperform countries with low social capital (Helliwell et al. 2015). For example, the 2010–14 wave of the World Values Survey showed that 66 per cent of respondents from Norway and 61 per cent of respondents from Sweden believed that most people could be trusted, compared with only 35 per cent of respondents from the United States and 28 per cent of respondents from Russia (Helliwell et al. 2015). Norway and Sweden consistently outperform the United States and Russia in key economic indicators such as GDP per capita (World Bank 2015). Moreover, trust rose in Sweden from 57 per cent in 1981 to 61 per cent in 1984, while it declined in the United States during the same period from 45 per cent to 35 per cent.

Trust is strongly and negatively associated with perceptions of corruption and income inequality (Wilkinson & Pickett 2010). High-trust countries like Denmark, Norway and Sweden have low levels of corruption and substantially lower income inequality than low-trust countries such as the United States. Unfortunately Australia has trust levels and income inequality more reflective of the United States than the Scandinavian countries.

Countries with very high social capital are fairer, more equitable, have fewer social problems and often economically outperform countries with low social capital.

The policy implications of these findings are that there are potential gains to be made in subjective wellbeing by developing policies to improve levels of social and civic trust. Moreover, the benefits that are likely to accrue would go well beyond gains in subjective wellbeing, including improvements in health.

In summary, the evidence shows that social capital is strongly linked to subjective wellbeing through several independent pathways (Helliwell & Putnam 2004). Marriage and family, ties to friends and neighbours, workplace ties, community engagement, civic and social trust are all independently and robustly associated with subjective wellbeing and impact directly and indirectly on our health. The relationship between subjective wellbeing and social capital is strong, particularly for the indicators of social support and trust.

Key findings

- Daily social contact is important for subjective wellbeing – the fewer the number of daily social contacts the lower the level of subjective wellbeing.
- Intolerance of diversity is associated with lower subjective wellbeing.
- Social support is very important for subjective wellbeing; the less social support a person has the lower their level of subjective wellbeing.
- Victorian adults who belong to a local community club or organisation have higher subjective wellbeing.
- Victorian adults who volunteer have higher subjective wellbeing.
- Trusting people and our public institutions is very important for subjective wellbeing; the lower the level of social and civic trust the lower the level of subjective wellbeing.

4. Disease-inducing behaviours

4. Disease-inducing behaviours

Introduction

This section investigates the disease-inducing behaviours, also known as lifestyle risk factors, which are unhealthy behaviours that place the individual at increased risk of disease, injury and premature death, and are the primary focus of Victoria's preventive health agenda. They are potentially modifiable through changes in lifestyle, and include smoking, excessive consumption of alcohol, physical inactivity, poor diet and overweight and obesity.

Table 4.1 shows the total aetiological contribution of selected risk factors, including the risk factors focused on in this section. Taken together, the risk factors of smoking, excessive alcohol consumption, obesity, inadequate fruit and vegetable intake, and physical inactivity account for less than 30 per cent of the total burden of disease; other determinants such as the social determinants of health account for the remaining 70 per cent and more (Begg et al. 2008).

Table 4.1: Health loss attributable to 14 selected risk factors, by all causes, Australia, 2003

Risk factor	Per cent
Tobacco use	7.8
High blood pressure	7.6
High body mass	7.5
Physical activity	6.6
High blood cholesterol levels	6.2
Alcohol consumption	2.3
Low consumption of fruit and vegetables	2.1
Illicit drug use	2.0
Occupational exposures and hazards	2.0
Intimate partner violence	1.1
Child sexual abuse	0.9
Urban air pollution	0.7
Unsafe sex	0.6
Osteoporisis	0.2
Total attributable health loss	**32.2**

Source: Modified from Begg et al. 2008.

Figure 4.1: Smoking status in Victorian adults with low or very low subjective wellbeing

Smoking

There are several different ways of classifying smoking status, depending on the question being asked. The Victorian Population Health Survey defines smokers as 'daily' or 'occasional' and combines the two to report on 'current smokers'. A person is categorised as an 'ex-smoker' if he/she smoked at least 100 cigarettes or a similar amount of tobacco in their lifetime. By contrast, the Cancer Council of Victoria defines smokers as 'regular smokers' if they smoke daily or at least weekly, and 'irregular smokers' if they smoke less than weekly. They define 'former smokers' in the same way as the Victorian Population Health Survey defines 'ex-smokers'. The Australian Bureau of Statistics reports on both 'daily' and 'current smokers', defined as 'daily', 'weekly' or 'other'.

Current smokers were three times more likely to have low or very low subjective wellbeing than non-smokers (Figure 4.1).

Excessive consumption of alcohol

The 2001 Australian alcohol guidelines: health risks and benefits emphasise patterns of drinking as opposed to levels of consumption (National Health and Medical Research Council 2001). The 2001 guidelines identified two main patterns of drinking behaviour as creating a risk to an individual's health: (a) excessive alcohol intake on a particular occasion; and (b) consistent high-level intake over months and years. The guidelines specify the risks for various drinking levels for males and females of average, or larger than average body size (≥ 60 kg for males and ≥ 50 kg for females), over the short and long term.

For the purpose of determining the risk of alcohol-related harm, the 2001 guidelines categorise risk into short-term and long-term risk. 'Short-term risk' is defined in terms of the number of standard drinks consumed per drinking occasion and attempts to measure the risk associated with injury. The guidelines for the whole population indicate that males who drink up to six standard drinks and females who drink up to four standard drinks are at low risk of alcohol-related harm in the short term. Males who drink 11 or more drinks and females who consume seven or more drinks are categorised as being at high risk of alcohol-related harm. Between these levels, alcohol consumption behaviour is classified as risky in the short term. Short-term risk is also categorised by frequency of occurrence and assessed over a year, a month and a week.

The only association that we observed between excessive consumption of alcohol and subjective wellbeing was that people who were at risk of short-term alcohol-related harm (at least yearly) were significantly more likely to have very high subjective wellbeing than people who abstained from alcohol consumption (Figure 4.2).

Figure 4.2: Risk of short-term alcohol-related harm in Victorian adults with very high subjective wellbeing
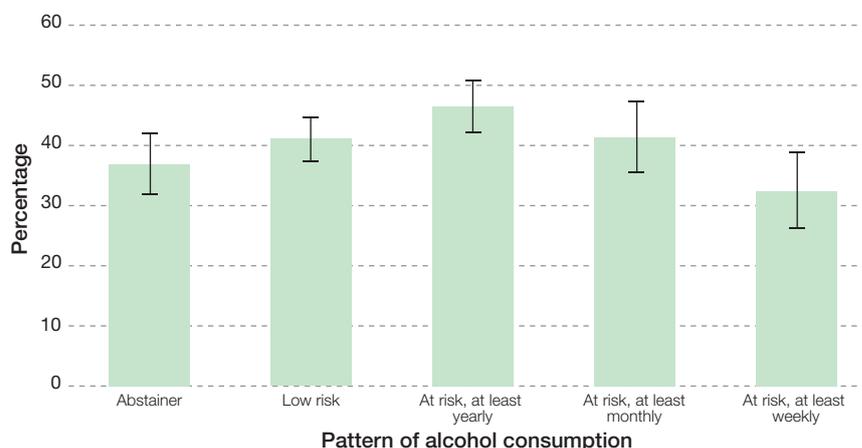
Overweight and obesity

Obesity is an excess accumulation of body fat that is a significant risk factor for hypertension, cardiovascular disease, type 2 diabetes, gallbladder disease, musculoskeletal disorders (especially osteoarthritis), some cancers (endometrial, breast and colon), psychosocial disorders and breathing difficulties (World Health Organization 2013). Ultimately, being obese can lead to disability and/or premature death.

The measurement of excess body fat as a risk factor for chronic disease is not simple because both the amount of overall fat and its anatomical distribution contribute to chronic disease development and progression. At the population level, a common indicator of excess weight (approximating body fat) is the body mass index (BMI). However, BMI is a poor indicator of the percentage of body fat because it cannot distinguish between body fat and muscle. Therefore, an individual who is very muscular with low body fat could have a high BMI estimate and be classified as obese. Nevertheless self-reported data still have a place in monitoring the health of populations because such data are relatively inexpensive and easy to collect and can be used to track changes over time.

The BMI provides a measure of body weight in relation to height that can be used to estimate levels of unhealthy weight in a population. It is calculated as weight in kilograms divided by height in metres squared: BMI = weight (kg)/height squared (m2). The World Health Organization classifies adult body weight status based on the BMI scores in Table 4.2 (World Health Organization 2000).

Survey respondents reported their height and weight and we used the formula described above to calculate their BMI. We categorised a respondent's weight status according to the World Health Organization's criteria described in Table 4.2.

It is important to note that studies comparing self-reported height and weight with actual physical measurements have shown that people tend to underestimate their weight and overestimate their height, resulting in an overall underestimation of their BMI (Elgar & Stewart 2008). Therefore, estimates of the prevalence of overweight and obesity in a population that are based on self-reported data are likely to be an underestimate.

People who are obese are more than twice as likely as people of normal weight to have low or very low subjective wellbeing (Figure 4.3). There was no difference in the subjective wellbeing of overweight compared with people of normal weight.

Table 4.2: Body mass index scores and body weight categories

BMI score	Weight category
<18.5	Underweight
18.5–24.9	Normal
25.0–29.9	Overweight
30.0–34.9	Obese class I
35.0–39.9	Obese class II
≥ 40.0	Obese class III

Figure 4.3: Overweight and obesity in Victorian adults with low or very low subjective wellbeing
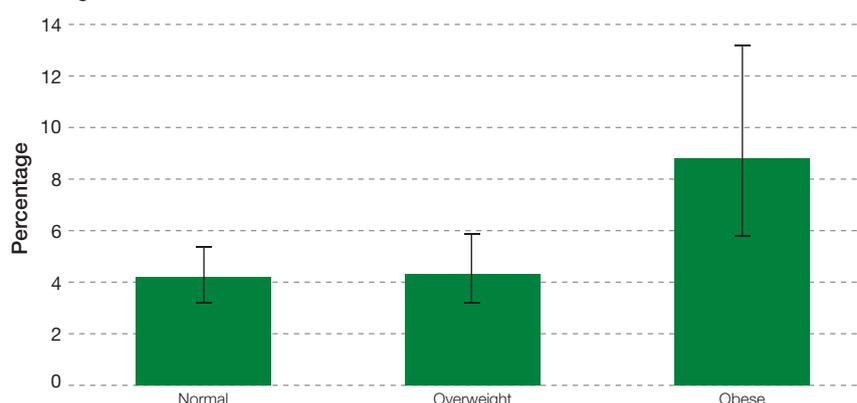
Physical activity

Physical inactivity is an important risk factor for a range of conditions, including cardiovascular disease, dementia and some cancers. Physical activity also stimulates an insulin-independent increase in glucose uptake via skeletal muscle that is totally independent of body weight (Stanford & Goodyear 2014). Therefore, physical activity is as effective as weight loss in preventing the progression from impaired glucose to type 2 diabetes but not through inducing weight loss.

Contrary to popular opinion, physical activity does not promote significant weight loss, and the weight loss induced in combination with a calorie-restricted diet is negligible compared with dietary restriction alone (Catenacci & Wyatt 2007; Luke & Cooper 2013). In fact, the evidence shows that increasing energy expenditure through physical activity actually increases caloric intake, thus cancelling out any net changes to weight. From an evolutionary perspective this makes sense, since in order to survive intermittent food shortages, the body has evolved to replace lost stores as soon as possible by stimulating hunger, rather than using up accumulated fat stores.

In the past 30 years the prevalence of obesity has grown and continues to increase, while there has been little or no change in physical activity levels (Malhotra et al. 2015). Physical activity levels in Victoria from 2005 to 2012 remained unchanged, while the prevalence of obesity significantly increased (Department of Health 2014). Therefore promoting physical activity as an intervention to halt the rising prevalence of obesity is not supported by the evidence. That is not to say that physical activity should not be promoted. Physical activity should be promoted for physical fitness, mental health and to reduce the risk of cardiovascular disease, type 2 diabetes, dementia and some cancers.

Information was collected on three types of physical activity to measure the extent to which the population is engaging in sufficient physical activity to achieve a health benefit and meet the current national guidelines:

- time spent walking (for more than 10 minutes at a time) for recreation or exercise, or to get to and from places
- time spent doing vigorous household chores (excluding gardening)
- time spent doing vigorous activities other than household chores and gardening (for example, tennis, jogging, cycling or keep-fit exercises).

The level of health benefit achieved from physical activity partly depends on the intensity of the activity. In general, to obtain a health benefit from physical activity requires participation in moderate-intensity activities (at least). Accruing 150 or more minutes of moderate-intensity physical activity (such as walking) on a regular basis over one week is believed to be 'sufficient' for health benefits and is the recommended threshold of physical activity according to the 1999

Physical activity should be promoted for physical fitness, mental health and to reduce the risk of cardiovascular disease, type 2 diabetes, dementia and some cancers.

National physical activity guidelines for Australians (Department of Health and Ageing 1999). For those who achieve an adequate baseline level of fitness, extra health benefits may be gained by undertaking at least 30 minutes of regular vigorous exercise on three to four days per week (Table 4.3).

A person who satisfied both criteria (time and number of sessions) was classified as doing 'sufficient' physical activity to achieve an added health benefit in the analysis that follows. The number of minutes spent on physical activity was calculated by adding the minutes of moderate-intensity activity to two times the minutes of vigorous activity (that is, the minutes of vigorous intensity activity are weighted by a factor of two).

There was no difference in subjective wellbeing between adults who did or did not do sufficient physical activity. However, adults who were sedentary were three times more likely to have low or very low subjective wellbeing (Figure 4.4).

Table 4.3: Definition of sufficient physical activity time and sessions per week

Physical activity category	Time and sessions per week
Sedentary	0 minutes
Insufficient time and sessions	Less than 150 minutes or more than 150 minutes but fewer than five sessions
Sufficient time and sessions	150 minutes and five or more sessions

Figure 4.4: Physical activity in Victorians adults with low or very low subjective wellbeing
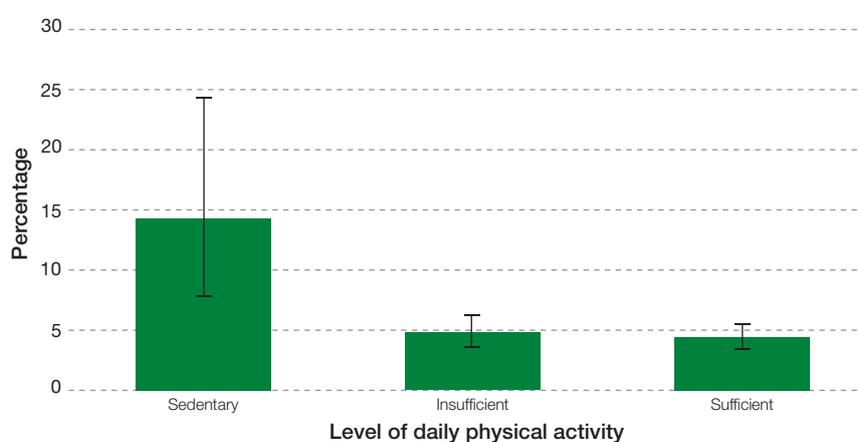
Fruit and vegetable consumption

Daily intake of fruit and vegetables is used as a proxy measure of the quality of a diet in Australia and internationally. The 2003 Australian guidelines recommend a minimum daily vegetable intake of four serves for people who are 12–18 years old and five serves for people 19 years of age or older, where a serve is defined as half a cup of cooked vegetables or a cup of salad vegetables (National Health and Medical Research Council 2003). The recommended minimum daily fruit intake is three serves for people 12–18 years old and two serves for people 19 years of age or older, where a serve is defined as one medium piece or two small pieces of fruit or one cup of diced pieces (Table 4.4).

People who did not consume the recommended daily intake of fruit were almost twice as likely as those who did to have low or very low subjective wellbeing (Figure 4.5).

In contrast, there were no significant differences in subjective wellbeing between people who did not consume adequate vegetables each day and those who did (Figure 4.6).

Table 4.4: Recommended daily intake of fruit and vegetables

Guideline	Age group	Recommended daily intake
Fruit	12–18 years	Three serves
	19 years or older	Two serves
Vegetables	12–18 years	Four serves
	19 years or older	Five serves

Figure 4.5: Daily fruit consumption in Victorian adults with low or very low subjective wellbeing
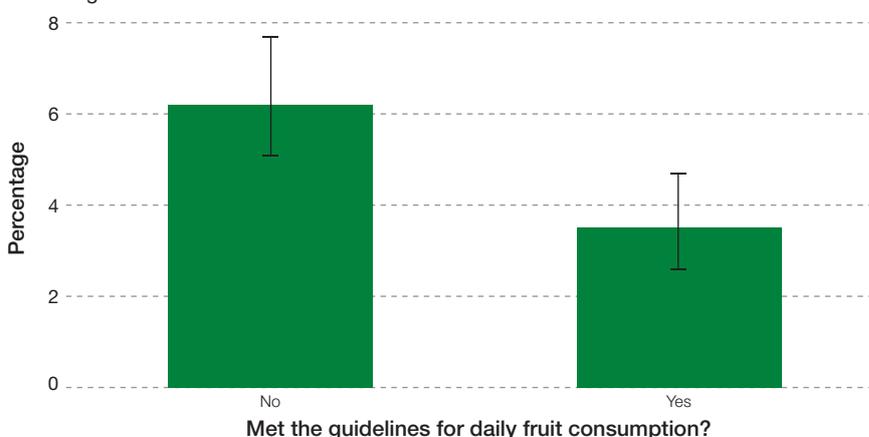
Figure 4.6: Daily vegetable consumption in Victorian adults by subjective wellbeing
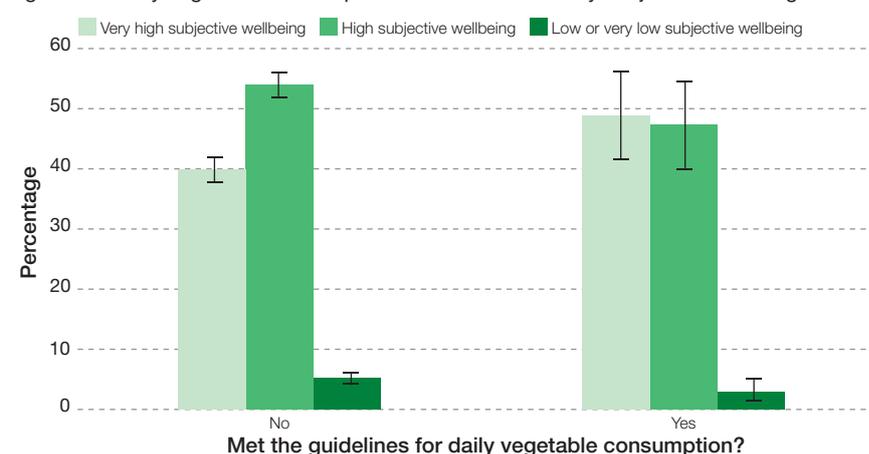
Sugar-sweetened soft drink consumption

The weight of epidemiological evidence shows that consumption of soft drinks has significantly contributed to the obesity epidemic (Malik et al. 2006; Vartanian et al. 2007; Woodward-Lopez et al. 2011). Soft drink intake was also associated with lower intakes of milk, calcium and other nutrients, and with an increased risk of several medical problems (for example, diabetes). The effect appears to be stronger in women in studies focusing on sugar-sweetened soft drinks and in studies not funded by the food industry (Vartanian et al. 2007).

The term 'soft drink' is a broad term. It refers to any beverage with added sugar or other sweetener and includes soda, fruit punch, lemonade (and other 'ades'), sweetened powdered drinks, sports drinks and energy drinks. Survey participants were asked how often they consumed cordial, soft drinks, flavoured mineral water, energy drinks or sports drinks. Mixers or soft drink in the form of ready to drink beverages (RTDs) were included, while all clear plain, non-flavoured mineral water and soda water were excluded.

We did not observe any significant differences in subjective wellbeing between adults who consumed sugar-sweetened soft drinks on a daily basis and those who did not (Figure 4.7).

Figure 4.7: Daily consumption of sugar-sweetened soft drinks by subjective wellbeing
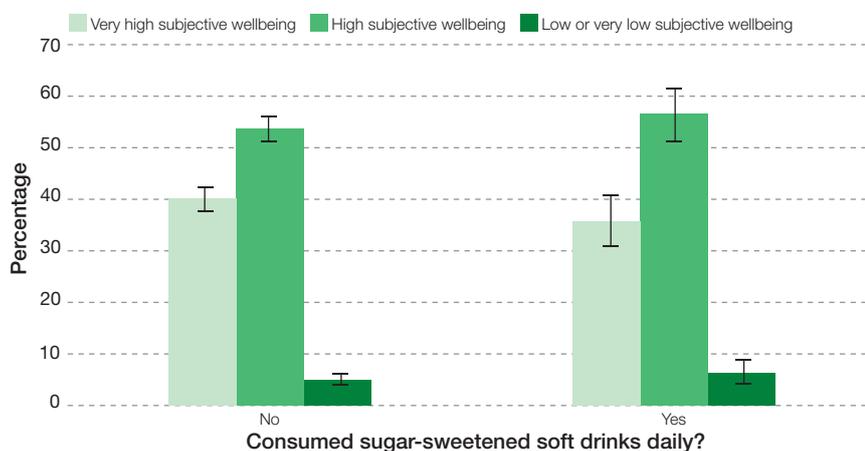
Interpretation of the results

We observed that four of the seven disease-inducing behaviours were associated with subjective wellbeing (smoking, obesity, physical activity and daily fruit consumption), two did not appear to be (daily vegetable consumption and daily consumption of sugar-sweetened soft drinks), and one (alcohol consumption) may be, but in the opposite direction expected.

Our findings are consistent with the evidence in the international literature, which show a negative association of smoking, obesity, inadequate physical activity and inadequate consumption of fruit and vegetables with subjective wellbeing (Blanchflower et al. 2013; Dear et al. 2002; Diener & Chan 2011; Kassel et al. 2003; Schnohr et al. 2005).

Smoking and sedentariness had the largest effect sizes (magnitude of the association). Controlling for smoking reduced the association between subjective wellbeing and ill-health, suggesting that smoking may exert its effects on subjective wellbeing by acting as a mediator. This is supported by a recent 26-year population-based longitudinal study that followed a cohort of approximately 18,000 Danish adults and found that smoking increased the risk of developing depression (Flensborg-Madsen et al. 2011). Given that depression and anxiety is associated with a four-fold risk of low or very low subjective wellbeing, it may be that smoking partly mediates this association. However, this does not preclude low subjective wellbeing being a cause of people continuing to smoke. There is evidence that causality goes in both directions (Kassel et al. 2003).

A longitudinal study conducted in Denmark showed that people who were physically active had greater subjective wellbeing than those who were sedentary, and those who, over time, became sedentary experienced a decline in their subjective wellbeing. The converse was also true, where those who were initially sedentary and subsequently became physically active, experienced an increase in their subjective wellbeing (Schnohr et al. 2005).

The association between inadequate fruit consumption and subjective wellbeing was a positive, although weak relationship, while the relationship between inadequate vegetable consumption and subjective wellbeing did not quite reach statistical significance. Blanchflower et al. (2013) measured subjective wellbeing in approximately 80,000 Britons and found that as the number of portions of both fruit and vegetable consumed increased, so did subjective wellbeing, peaking at seven portions per day (Blanchflower et al. 2013). Yet the data was of a cross-sectional design, which means that they could not determine whether eating more healthily improved subjective wellbeing or if people with high subjective wellbeing were more predisposed to eating more healthily. It is of course plausible that the causal relationship occurs in both directions.

A longitudinal study conducted in Denmark showed that people who were physically active had greater subjective wellbeing than those who were sedentary…

Obese (BMI of 30 kg/m2 or more) but not overweight Victorian adults were twice as likely to report lower subjective wellbeing as people of normal weight. This finding is also supported by the evidence. Bockerman et al. (2014) found that the association between obesity and subjective wellbeing disappeared in women and was significantly reduced in men when differences in health status and functional capacity were controlled for. This suggests that the association between obesity and subjective wellbeing may be primarily mediated by the adverse effects of obesity on health and functioning. Moreover, people who are obese are at higher risk of depression and/or anxiety, which may also partly mediate the association between obesity and subjective wellbeing (Strine et al. 2008).

The lack of an association between being overweight (BMI of between 25 and 30 kg/m2) and subjective wellbeing can be explained by the fact that being overweight is associated with higher socioeconomic status, which as we have shown is not associated with subjective wellbeing when households are able to meet their basic survival needs (Markwick et al. 2013). In contrast, obesity is strongly associated with low socioeconomic status, which may also mediate the association between obesity and subjective wellbeing.

An obvious implication of these findings is that policies aimed at improving the overall subjective wellbeing of a population may also generate other benefits to society, such as reducing smoking, increasing physical activity, increasing fruit and vegetable intake, and reducing obesity.

In contrast, people who put themselves at short-term risk of alcohol-related harm at least once a year had higher subjective wellbeing than people who did not drink alcohol. This is consistent with the literature that shows there is evidence of a U-shaped relationship between alcohol consumption and physical health, mental health and subjective wellbeing (Lang et al. 2007). Moderate consumption of alcohol in both men and women was associated with better cognition, fewer depressive symptoms and higher subjective wellbeing when compared with abstinence.

Much of the ongoing work done by public health practitioners is focused on attempting to change people's lifestyle choices and behaviours, while the other determinants of health go largely ignored. While disease-inducing behaviours are important and public health efforts to change individuals' behaviours laudable, it is important to bear in mind that the maximum theoretical reduction in the total burden of disease due to eliminating these behaviours is less than 26 per cent (Table 4.1).

Risk factor analysis is problematic, as the issue of what is or is not included in the final analysis is not minor in terms of policy relevance (Watts & Cairncross 2012). If important risk factors are omitted, this can lead to overinflating the importance of the risk factors that are included. For example, the Begg et al. study (Table 4.1) did not consider stress or psychological distress, or any of the

…policies aimed at improving the overall subjective wellbeing of a population may also generate other benefits to society, such as reducing smoking, increasing physical activity, increasing fruit and vegetable intake, and reducing obesity.

social determinants of health. Thus the assumption from this work that it is the disease-inducing behaviours that are the major causes of chronic conditions is potentially spurious. In 2009 Mykletun et al. demonstrated that depression is not only an independent risk factor for mortality but is equivalent in strength to smoking (Mykletun et al. 2009). There needs to be clearer consensus on the criteria for the inclusion of risk factors into risk factor analyses.

Disease-inducing behaviours tend to cluster together in the same individuals, and disease-inducing behaviour clusters are strongly associated with mental health disorders such as depression and anxiety (Bonnet et al. 2005; Vermeulen-Smit et al. 2015). Moreover, we observed that psychological distress is strongly associated with all the disease-inducing behaviours, except alcohol consumption (Department of Health 2014).

There is evidence of a bidirectional causal pathway between disease-inducing behaviours and mental ill-health whereby people who are struggling with affective disorders like depression and/or anxiety engage in disease-inducing behaviours as a form of self-medication to cope with their disorder, for example, smoking and 'comfort eating'. Conversely dealing with an addiction such as smoking has been shown to predict depressive symptoms in prospective longitudinal studies (Vermeulen-Smit et al. 2015). Thus even within the same individual it is likely that the causal pathway goes in both directions. These findings may help to explain why interventions, particularly health education, often fail to change such behaviours. The obvious implications of this are that it may be more effective to address the mental health disorder first.

A systematic review that evaluated the effectiveness of interventions to reduce disease-inducing behaviours concluded that the balance of evidence shows that health promotion interventions have met with limited success, and often modest improvements are not sustained in the long-term (Ebrahim et al. 2011).

Most health outcomes and disease-inducing behaviours follow a socioeconomic gradient where the lower the socioeconomic status the worse the health outcome and the greater the prevalence of disease-inducing behaviours. Therefore if disease-inducing behaviours are the most important cause of poor health outcomes, one would predict that socioeconomic differences in health outcomes would be primarily explained by the higher prevalence of disease-inducing behaviours. However, this is not the case; studies that sought to explain socioeconomic differences in health outcomes by the higher prevalence of disease-inducing behaviours failed to do so (Lantz et al. 1998; 2001). In a longitudinal study of a representative sample of adults in the United States, smoking, alcohol consumption, physical activity and body mass index explained only a modest portion of the socioeconomic differences in health (Lantz et al. 2001). The authors concluded that disease-inducing behaviours are not the dominant mediating mechanism that explained socioeconomic differences in health outcomes.

.. depression is not only an independent risk factor for mortality but is equivalent in strength to smoking.

In conclusion, the evidence shows that disease-inducing behaviours:

- only make a small contribution to the total burden of disease, and their contribution is probably overinflated due to the failure to consider other health determinants in the risk analyses
- tend to be clustered together and associated with mental ill-health
- only modestly explain socioeconomic differences in health outcomes
- are not greatly affected by health promotion interventions in bringing about sustained behavioural change.

Therefore the current public health model of focusing on promoting behavioural change to reduce the prevalence of disease-inducing behaviours at the expense of tackling the other determinants of health ought to be reconsidered.

Given the strong relationship between subjective wellbeing, ill-health (see section 6) and some of the disease-inducing behaviours, developing polices and interventions to raise subjective wellbeing may be a more cost-effective approach to reducing the prevalence of disease-inducing behaviours compared with directly tackling individual disease-inducing behaviours through traditional health promotion efforts. In addition, other potential benefits are likely to accrue including: improved mental and physical health; decreased need for costly medical services (particularly mental healthcare services); reduction in the prevalence of psychosocial risk factors; and improvements in social capital.

Key findings

- **Smoking is associated with lower subjective wellbeing.**
- **The relationship between excessive consumption of alcohol was in the opposite direction; Victorians who engaged in risky drinking at least one a year were more likely to have very high subjective wellbeing than Victorians who did not drink alcohol.**
- **Obesity (but not overweight), sedentariness and inadequate fruit consumption are all associated with lower subjective wellbeing.**
- **There is no association between subjective wellbeing and the consumption of vegetables or sugar-sweetened soft drinks.**

5. Healthcare

5. Healthcare

Introduction

The aim of the Australian healthcare system is to give all Australians, regardless of their personal circumstances, access to healthcare at an affordable cost. Good-quality and prompt healthcare, preferably sought at the onset of symptoms, is essential to maintaining good health. However, the availability, quality and access to healthcare can vary considerably by geographic location (National Health Performance Authority 2013). For example, wealthier areas tend to be better serviced, with residents having the financial resources to be able to afford the many co-payments that are often required. By contrast, those living in under-serviced areas tend to be poorer with more health problems and often have to resort to attending hospital emergency departments where waiting times are long and the cost of the services more expensive than would be incurred in the primary healthcare setting, regardless of who pays the bill.
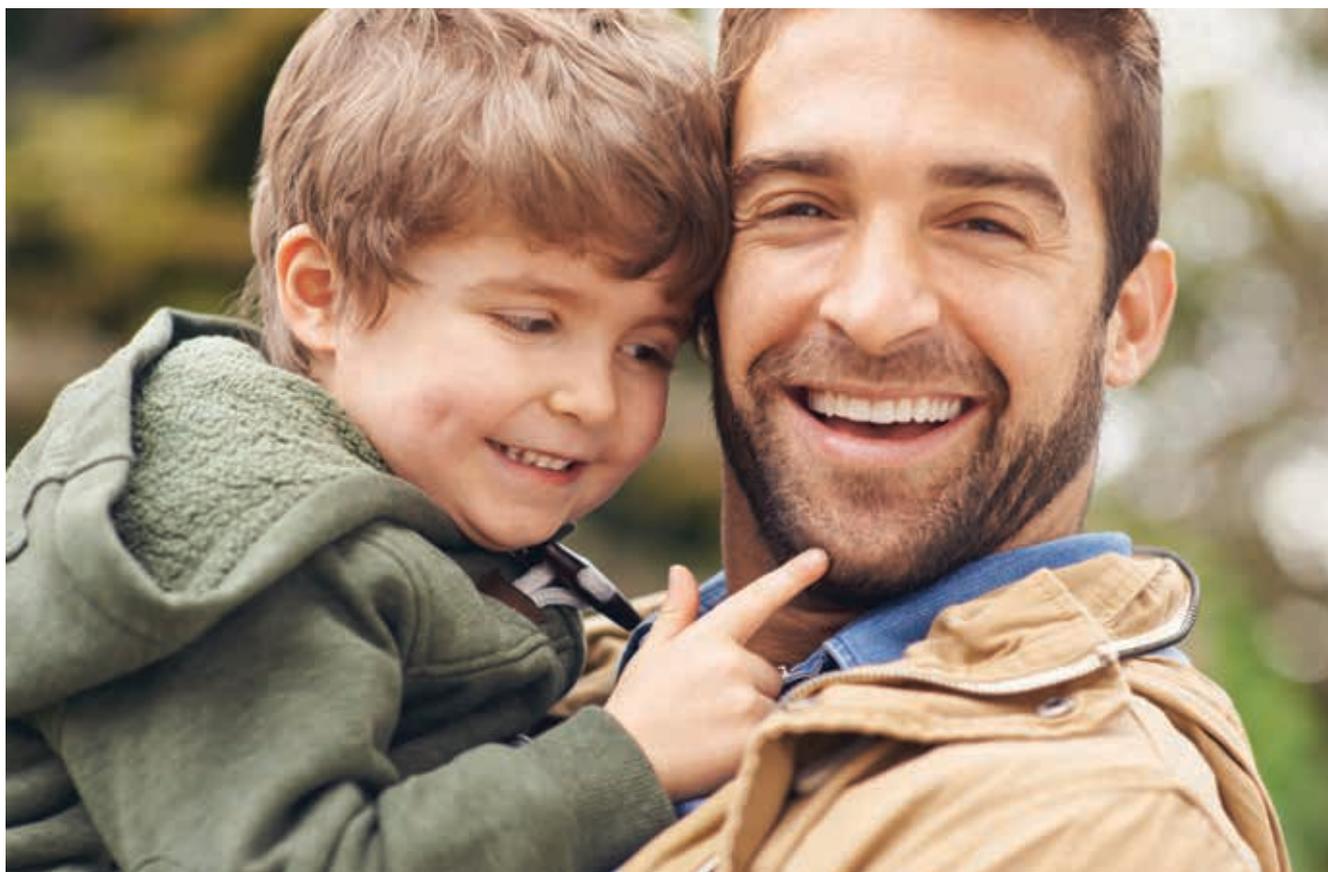
Primary healthcare

Survey respondents were asked to indicate the last time they had visited a general practitioner. They were also asked whether they had had the following checked by a doctor or other health professional in the two years preceding the survey:

- blood pressure
- blood cholesterol
- blood glucose.

There were no significant differences in subjective wellbeing whether a person had visited a general practitioner three, six, 12 or more than 12 months in the previous year (Figure 5.1).

There were no significant differences in subjective wellbeing between people who did or did not have their blood cholesterol or blood glucose checked by a health professional in the preceding two years (Figure 5.2). However, people who had not had their blood pressure checked in the preceding two years were almost twice as likely to report low or very low subjective wellbeing compared with those who had had their blood pressure checked, after adjusting for age and sex.

Figure 5.1: Last visit to a general practitioner, by subjective wellbeing
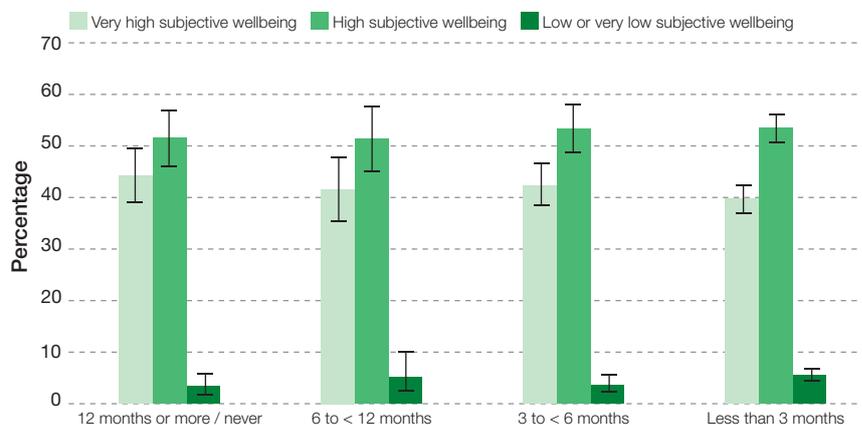
Figure 5.2: Health checks in Victorian adults with low or very low subjective wellbeing
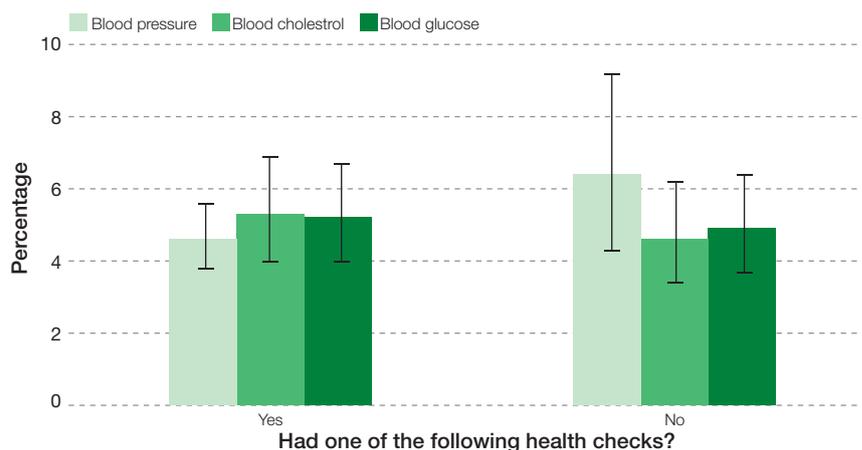
Mental healthcare

Survey respondents were asked if, in the past year, they had sought professional help for a mental health related problem. People who had sought professional help for a mental health related problem were almost five times more likely to report low or very low subjective wellbeing (Figure 5.3).

Survey respondents were asked 'In the last four weeks, how many times have you seen a doctor or other health professional about your feelings?' in response to their having reported any negative feelings when they completed the Kessler 10 psychological distress scale. The question was intended to assess the impact of psychological distress.

We observed a strong dose–response relationship between the number of visits to a health professional and subjective wellbeing; as the number of visits to a health professional increased, subjective wellbeing decreased (Figure 5.4).

Figure 5.3: Mental healthcare in Victorian adults with low or very low subjective wellbeing

Sought professional help for a mental health related problem?
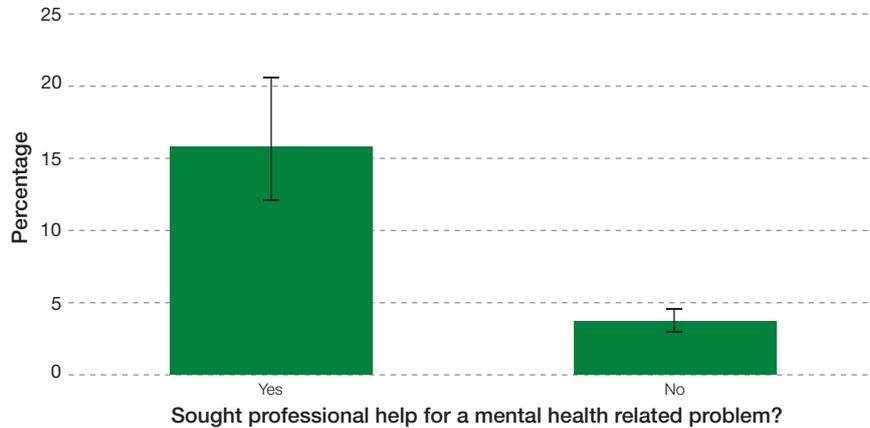
Figure 5.4: Number of mental health visits in Victorian adults with low or very low subjective wellbeing

Number of visits to a mental health professional due to negative feelings?
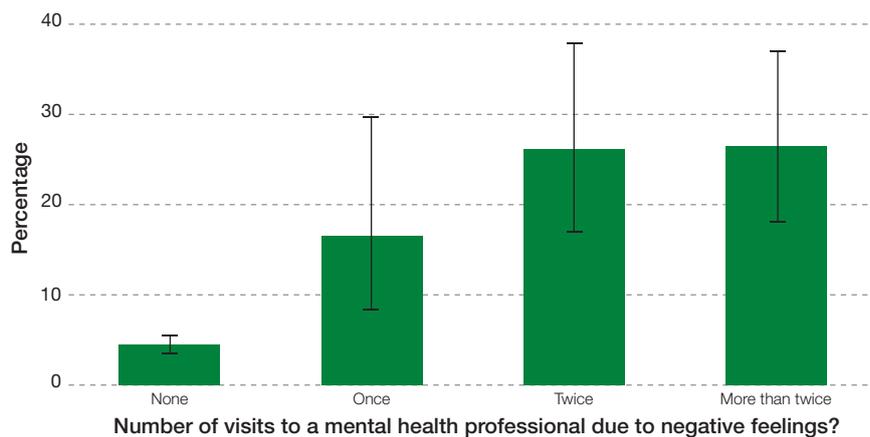
Dental healthcare

Survey respondents were asked the following questions about dental healthcare:

- How long ago did you visit a dental health professional?
- During the last 12 months, have you avoided or delayed visiting a dental health professional because of the cost?

There appeared to be decline in the proportion of people reporting very high subjective wellbeing as the time since the last dental health visit increased (Figure 5.5). There was no statistically significant difference in very high subjective wellbeing between those who last visited a dental health professional less than a year before the survey and those who visited a dental health professional in one to less than two years. However, there were statistically significantly lower proportions of people reporting very high subjective wellbeing if they had not visited a dental health professional for two to five years and more than five years. It is likely that the numbers of people who had never seen a dental health professional were too small to interpret because the relative standard error for this estimate was 28 per cent, indicating that the estimate should be interpreted with caution.

People who avoided or delayed seeing a dental health professional due to cost were more than twice as likely as those who did not avoid or delay seeing a dental health professional to report low or very low subjective wellbeing (Figure 5.6).

Figure 5.5: Last visit to a dental health professional in Victorian adults with very high subjective wellbeing
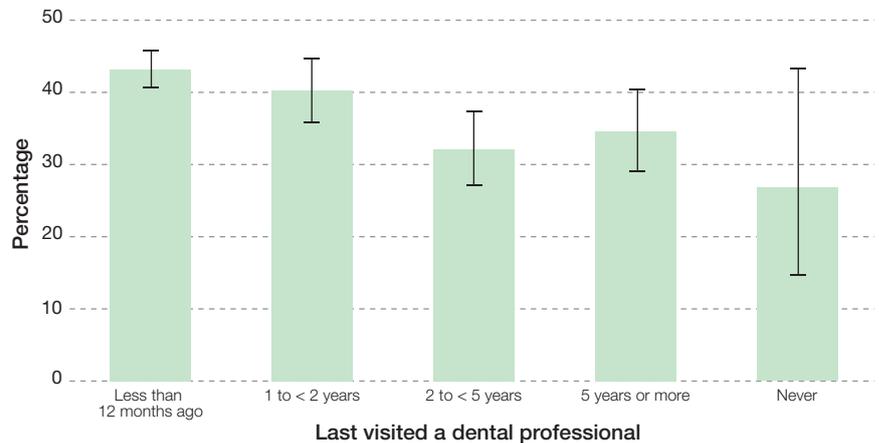
Figure 5.6: Avoided or delayed seeing a dental health professional due to cost in Victorian adults with low or very low subjective wellbeing
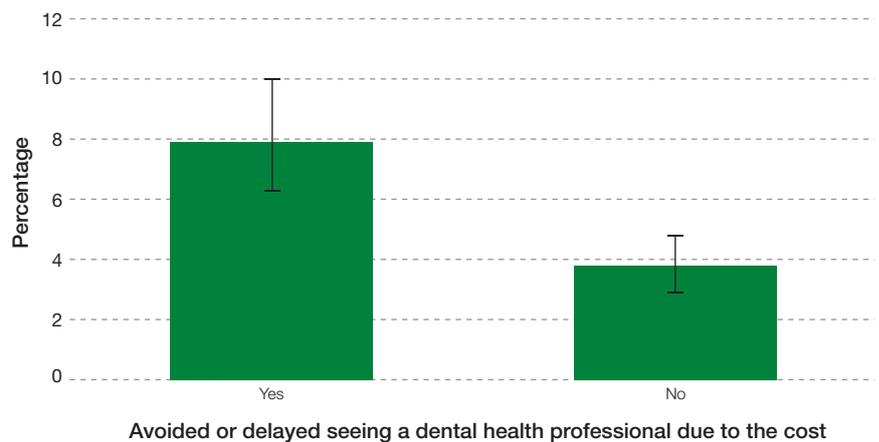
Interpretation of the findings

There are many reasons why people may not receive the healthcare that they need, even in a country like Australia that has a government-funded universal healthcare system intended to ensure all citizens have access to high-quality and affordable healthcare. These may include cost and transport barriers, cultural safety issues and language barriers, availability of appropriate services and healthcare professionals in local residential areas, propensity to seek medical attention, level of health literacy, long waiting periods, poor coordination of services, and deficits in information sharing among healthcare professionals.

We found that subjective wellbeing was not associated with the timing of the most recent visit to a general practitioner. However, commensurate with need, people with lower subjective wellbeing, who also have poorer health (see section 6), would be expected to have a greater number of visits to a general practitioner as the first point of entry into the healthcare system.

The 2011–12 Patient Experience Survey, conducted by the Australian Bureau of Statistics, found that there was not a strong association between health status and the likelihood of seeing a general practitioner, dental health professional or medical specialist across Australia. Moreover, they found that in a few areas (Medicare Local catchments), populations with better health had more general practitioner attendances, while areas with poorer health had fewer (National

Health Performance Authority 2013). The survey also found that the proportion of bulk-billed general practitioner attendances, a measure of a cost barrier, was not associated with health status. Areas of poorer health did not have a higher proportion of bulk-billed general practitioner attendances than areas of better health, although areas with a higher proportion of bulk-billed general practitioner visits had a higher general practitioner attendance rate. This suggests there may be significant cost barriers for people of poorer health, who are also likely to be people of lower subjective wellbeing and lower socioeconomic status.

We did not question our survey respondents about cost barriers in attending a general practitioner; however, we did ask about cost barriers in attending a dental professional. Our findings confirm that people with lower subjective wellbeing did indeed face cost barriers to attending a dental health professional. It is likely that if people face a cost barrier with one type of healthcare service they may also face a cost barrier with other types of healthcare services. We therefore contend that Victorian adults with low subjective wellbeing face access barriers to healthcare that are likely to contribute to their low subjective wellbeing.

Similarly, we did not find an association between subjective wellbeing and two of the three health checks: blood cholesterol and blood glucose check. However, we did observe that not having had a blood pressure check was associated with lower subjective wellbeing, supporting our contention that there are access barriers to healthcare. However, the nature of those access barriers remains to be determined.

Support for our contention that there are access barriers to primary healthcare that contribute to lower subjective wellbeing comes from the work of Ansari et al. (2006) on ambulatory care sensitive conditions. Ambulatory care sensitive conditions are potentially preventable hospitalisations for which hospitalisation is thought to be avoidable with the application of public health interventions and early disease management, usually delivered in a primary care setting. A high rate of hospital admissions for potentially preventable hospitalisations provides indirect evidence of problems with patient access to primary healthcare. Ansari et al. (2006) showed that, in Victoria, independent of the propensity to seek care, the disease burden and physician supply, there was variability by geography in access to primary care. Areas that had better access to primary healthcare had lower rates of preventable hospitalisation. Given that hospitalisation is the most expensive healthcare service, reducing preventable hospitalisations would reduce healthcare costs, improve patient outcomes and increase subjective wellbeing. Therefore, further research is needed to understand the nature of the access barriers in order to inform policymaking.

Contrary to our findings for primary and dental healthcare, we observed that mental healthcare services were strongly related to subjective wellbeing, where Victorian adults who had received mental healthcare were much more likely to have lower subjective wellbeing than those who did not. However, this should not be interpreted that people with lower subjective wellbeing are receiving the appropriate amount and type of professional care for mental health problems.

…people with lower subjective wellbeing did indeed face cost barriers to attending a dental health professional.

Mental healthcare is not as well resourced as physical healthcare, something that the Victorian Government is working to correct. It is unlikely that where access barriers to primary healthcare exist that there would not also be access barriers to mental healthcare. This is confirmed by a recent study that found that only 46 per cent of Australians with a mental health disorder received treatment (Whiteford et al. 2014). Therefore, we suggest that, commensurate with need, Victorian adults with low subjective wellbeing may also not be receiving adequate mental healthcare services.

Key findings

- Subjective wellbeing did not appear to be associated with the timing of the most recent visit to a general practitioner.
- Subjective wellbeing was not associated with whether a Victorian adult had had their blood cholesterol or blood glucose checked in the previous two years.
- People who had not had their blood pressure checked in the previous two years had lower subjective wellbeing.
- People who had received mental healthcare in the past year had lower subjective wellbeing.
- The greater the number of mental healthcare visits the lower subjective wellbeing.
- Subjective wellbeing appeared to decline as the time to the last visit to a dental health professional increased.
- Victorian adults who avoided or delayed visiting a dental health professional due to the cost had lower subjective wellbeing.

6. Health outcomes
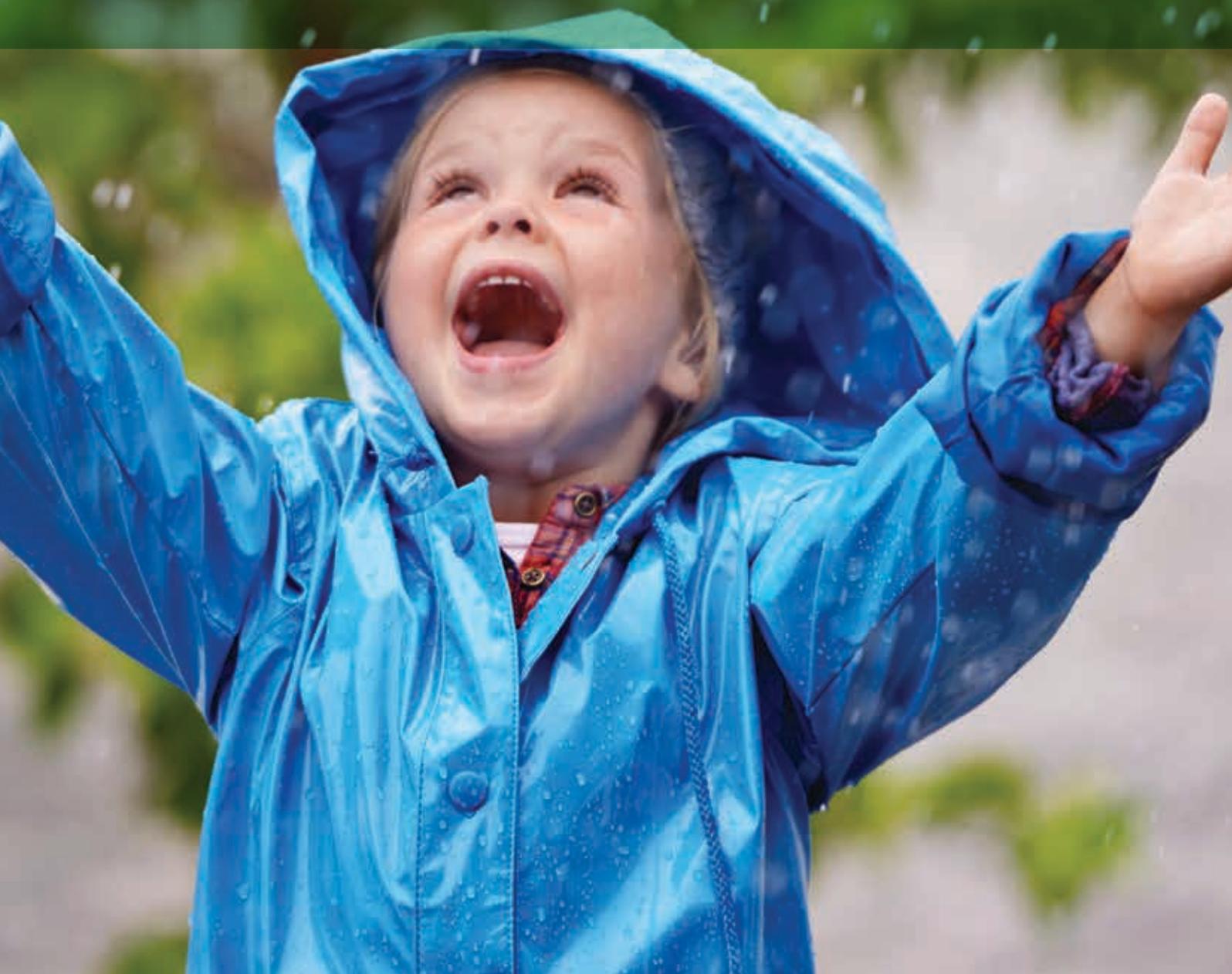
6. Health outcomes

Introduction

The public health model of the social determinants of health predicts that an individual's health outcomes will be influenced directly and indirectly by the interaction between the social determinants, the healthcare system and disease-inducing behaviours. We investigated the three domains of health determinants in the previous three sections and this section will focus on the health outcomes. The Victorian Population Health Survey captures information about the national priority chronic diseases including:

- arthritis
- asthma
- cancer
- depression and anxiety
- diabetes
- heart disease
- osteoporosis
- stroke.

To reduce the potential for self-diagnosis, survey respondents were asked whether they have ever been diagnosed by a doctor with the above diseases and conditions.

Unfortunately, due to small numbers the relative standard errors indicated that the robustness of the prevalence estimates for arthritis, diabetes, heart disease and stroke were unreliable. Therefore, these conditions cannot be reported.

The Victorian Population Health Survey also captures information about overall self-reported health status, self-reported dental health status and the amount and quality of a respondent's sleep.

Questions were also asked about the impact of psychological distress on daily functioning. These were:

'In the last four weeks, how many days were you totally unable to work, study or manage your day-to-day activities because of these feelings?'

'In the last four weeks, how many days were you able to work, study or manage your day-to-day activities, but had to cut down on what you did because of these feelings?'

'In the last four weeks, how often have physical health problems been the main cause because of these feelings?'

…survey respondents were asked whether they have ever been diagnosed by a doctor with the above diseases and conditions.

Self-reported health status

Survey respondents were asked to rate their general health status and we observed a dose–response relationship between subjective wellbeing and self-reported health status; as the rating of health status declined so did subjective wellbeing.

Victorian adults who reported being in good health were three times less likely to have very high subjective wellbeing, and those who reported being in fair or poor health were more than 16 times less likely to have very high subjective wellbeing compared with those who reported being in excellent or very good health (Figure 6.1).

Depression and anxiety

Victorian adults who had ever been diagnosed with depression and/or anxiety were more than four times as likely to have low or very low subjective wellbeing as those who had not (Figure 6.2).

Cancer

Victorian adults who had ever been diagnosed with cancer were less likely to have very high subjective wellbeing, more likely to have high subjective wellbeing, and just as likely to have low or very low subjective wellbeing as those who had never been diagnosed with cancer (Figure 6.3).

Figure 6.1: Self-reported health in Victorian adults with very high subjective wellbeing
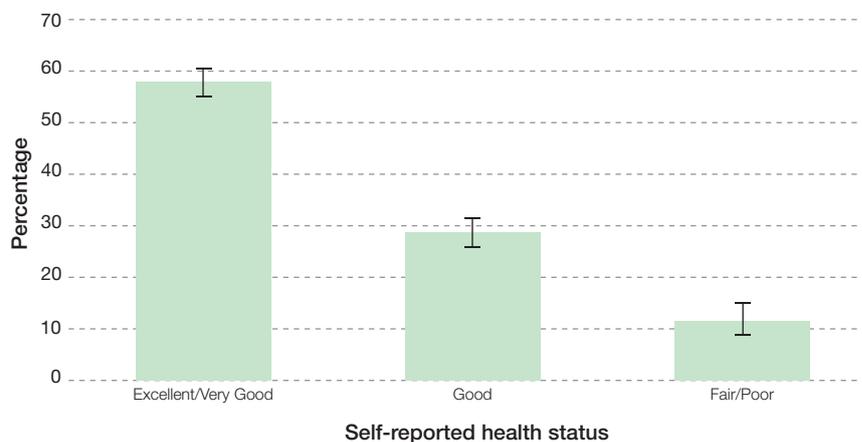
Figure 6.2: Depression and anxiety in Victorian adults with low or very low subjective wellbeing
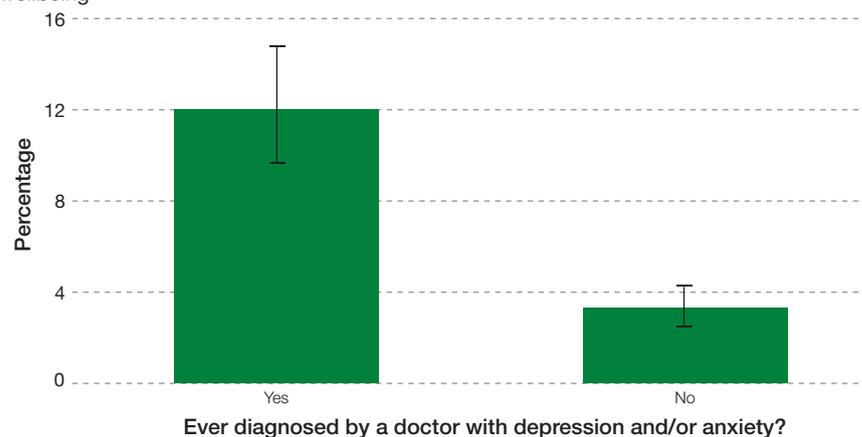
Figure 6.3: Cancer in Victorian adults by subjective wellbeing
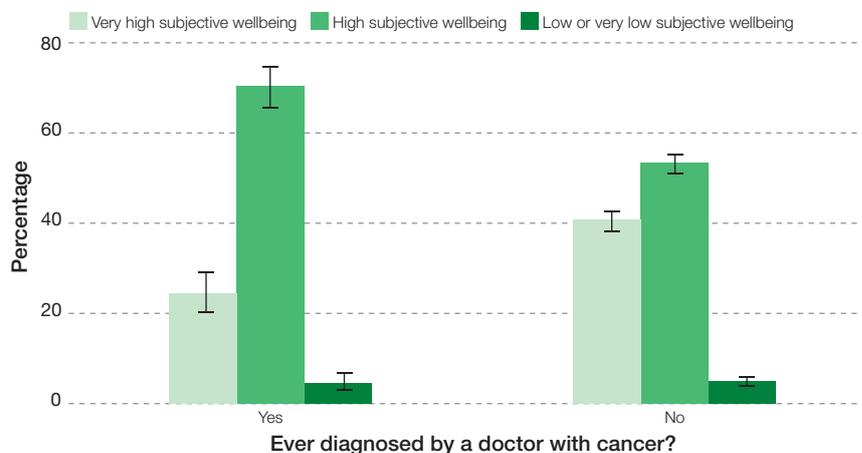
Osteoporosis

Victorian adults who had ever been diagnosed with osteoporosis were almost three times as likely to have low or very low subjective wellbeing as those who had not (Figure 6.4).

Asthma

Victorian adults who had ever been diagnosed by a doctor with asthma were almost twice as likely to have low or very low subjective wellbeing as those who had not (Figure 6.5). Victorian adults who had also experienced symptoms of asthma in the previous year were also almost twice as likely to have low or very low subjective wellbeing as likely as those who were not (Figure 6.5).

Dental health

Survey respondents were asked to rate their dental health status. The lower Victorian adults rated their dental health the more likely they were to have low or very low subjective wellbeing (Figure 6.6).

Figure 6.4: Osteoporosis in Victorian adults with low or very low subjective wellbeing
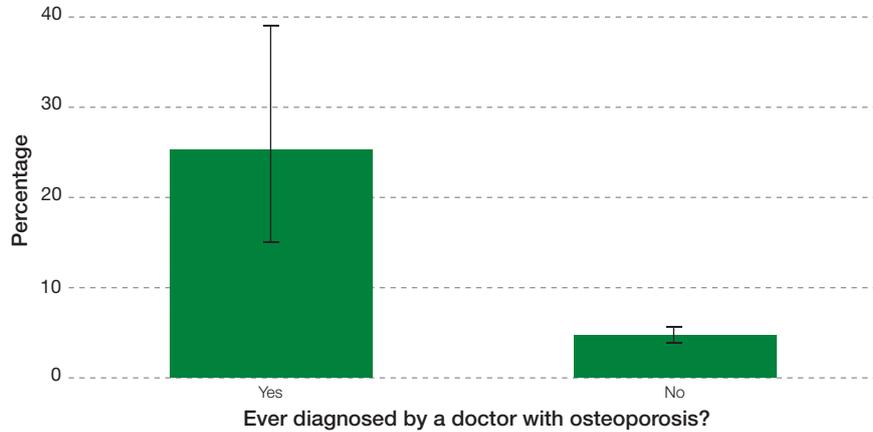
Figure 6.5: Asthma in Victorian adults with low or very low subjective wellbeing
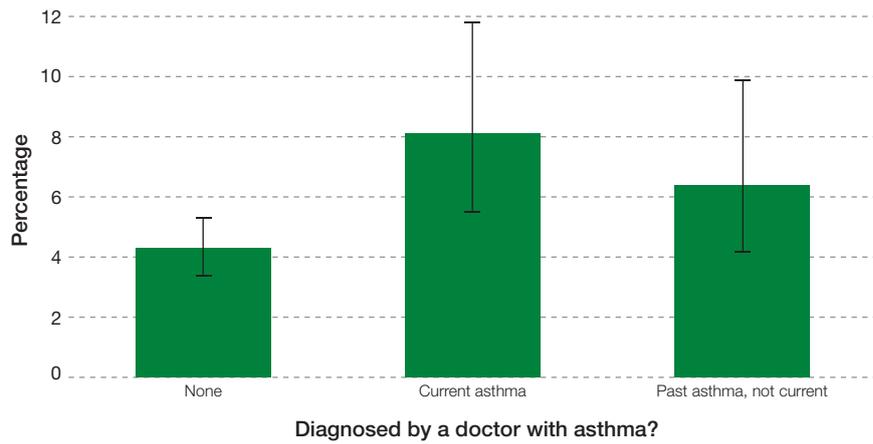
Figure 6.6: Self-reported dental health status in Victorian adults with low or very low subjective wellbeing
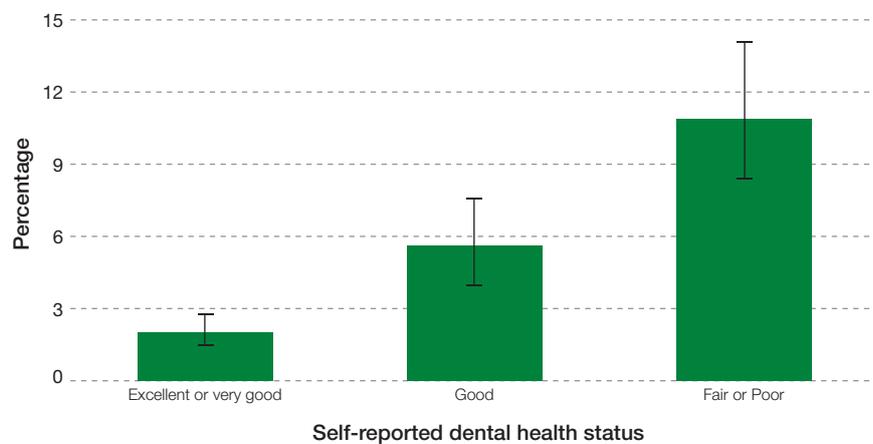
Sleep

Regular good-quality sleep of sufficient hours each night is essential for good physical and mental health. The Victorian Population Health Survey interviewed the survey respondents about the number of hours of sleep they experienced the night before the survey interview and to rate the overall quality of their sleep, over the previous month.

The lower a Victorian adult rated their subjective wellbeing, the less the number of hours sleep they had had (Figure 6.7).

The lower a Victorian adult rated their subjective wellbeing, the lower the quality of their sleep (Figure 6.8).

Figure 6.7: Mean hours of sleep in Victorian adults by subjective wellbeing
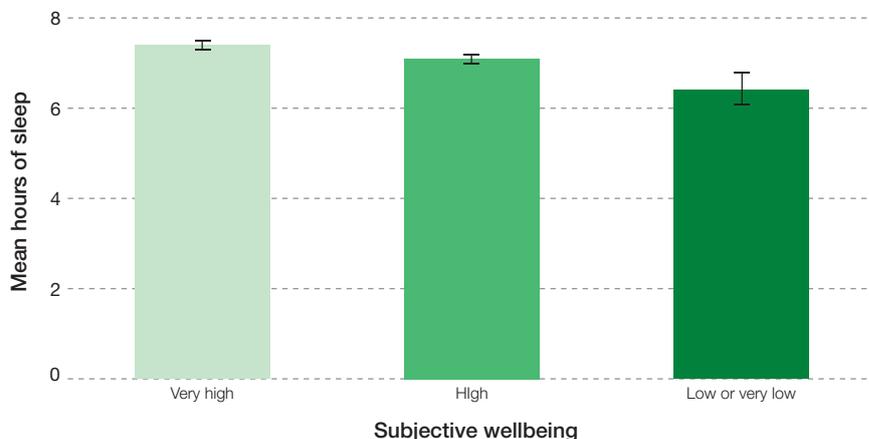
Figure 6.8: Quality of sleep in Victorian adults by subjective wellbeing
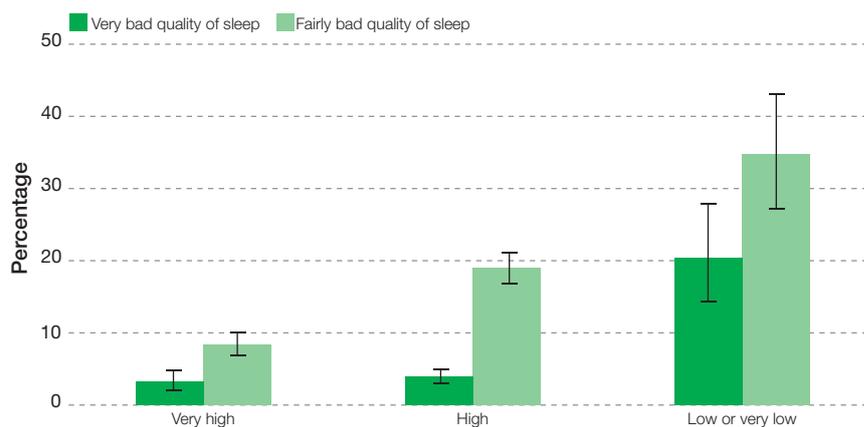
Other outcomes

In the course of responding to the Kessler 10 psychological distress scale, three additional questions were asked to ascertain the impact of any self-reported negative feelings on daily functioning. The first question was 'In the last four weeks, how many days were you totally unable to work study or manage your day-to-day activities because of these negative feelings?' As the number of days that a Victorian adult was totally unable to function in daily life due to the presence of negative feelings increased, the proportion reporting very high subjective wellbeing decreased (Figure 6.9).

The second question was 'In the last four weeks, how many days were you able to work, study or manage your day-to-day activities, but had to cut down on what you did because of these feelings?' Victorian adults who cut down on normal daily activities due to negative feelings were less likely to have very high subjective wellbeing (Figure 6.9). However, there was no difference in subjective wellbeing whether the person cut down on one or 28 days.

The third question was 'In the last four weeks, how often have physical health problems been the main cause of these feelings?' If the response was 'none', 'a little of the time' or 'some of the time' there was no difference in subjective wellbeing. However, if the response was 'all or most of the time' the respondent was more than five times less likely to have very high subjective wellbeing (Figure 6.10).

Figure 6.9: Consequences of negative feelings in Victorian adults with very high subjective wellbeing
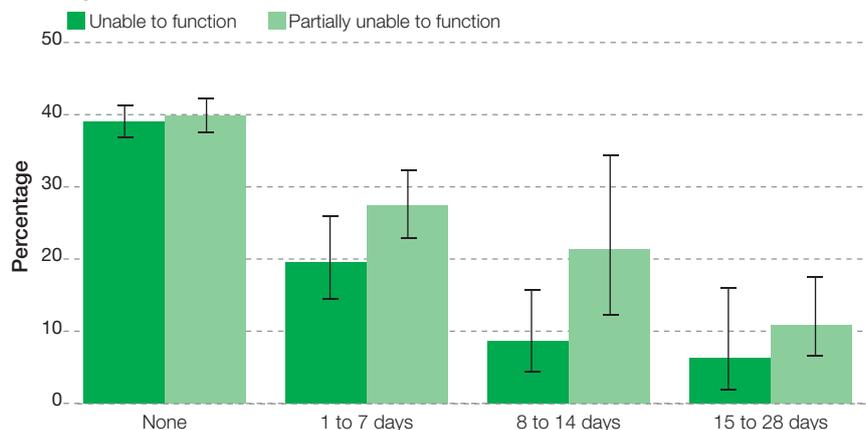
Figure 6.10: Physical health problem as a cause of negative feelings in Victorian adults with very high subjective wellbeing
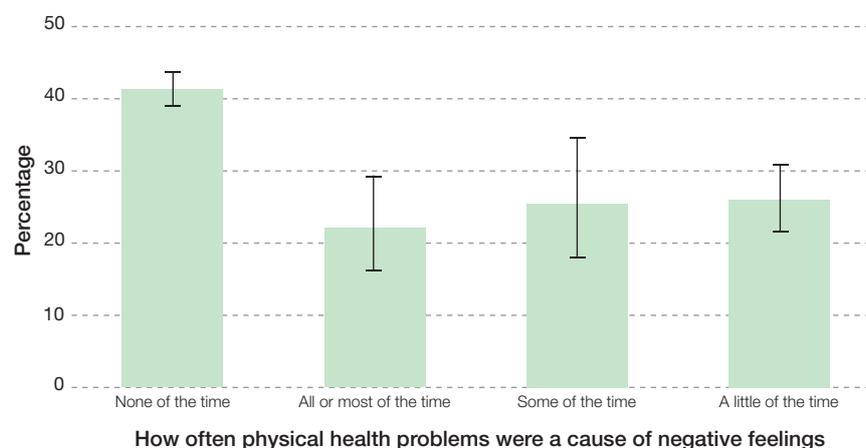
Interpretation of the results

We measured five specific diseases or conditions as well as overall self-reported health status and self-reported dental health; all were associated with subjective wellbeing. The strongest association we observed was for self-reported general health status; where health status declined with subjective wellbeing.

While many academics are sceptical about the validity of self-reported data, self-reported health status has been shown to be strongly associated with both morbidity and mortality, and is internationally recognised as a valid health measure for use in general health surveys (Burstrom & Fredlund 2001; Manor et al. 2001).

Our findings are consistent with the literature, where self-reported health status has consistently been shown to be strongly associated with subjective wellbeing (Diener et al. 1999; Diener & Chan 2011). High subjective wellbeing adds four to 10 years to life compared with low subjective wellbeing (Diener & Chan 2011). Low subjective wellbeing has been shown to be a significant risk factor for developing and dying from cardiovascular disease, and the effect size is as large as those associated with many traditional lifestyle risk factors such as smoking (Diener & Chan 2011). Given that the Australian Bureau of Statistics reported in 2012 that cardiovascular disease was the leading cause of death, this is worthy of attention and suggests that this may be an important area for policymakers to consider. By improving subjective wellbeing, we may be able to reduce deaths due to cardiovascular disease and increase longevity.

While the balance of evidence suggests that subjective wellbeing causes better health and longevity and reduces risk of cardiovascular disease, the evidence for its impact on cancer remains controversial (Diener & Chan 2011; Garssen 2002). We only found evidence of a very weak association between cancer and subjective wellbeing.

It is important to bear in mind that cancer comprises a heterogeneous group of diseases of multiple aetiologies, and it may be that some types of cancer are associated with subjective wellbeing while others are not. Some cancers are induced by chemical carcinogenesis, such as lung cancer, while others are virally induced, such as cervical cancer. The virally induced cancers are referred to as 'immunogenic' cancers. Non-immunogenic cancers are less influenced by the immune system than immunogenic cancers. Studies show that suppression of the immune system is associated with a higher incidence of immunogenic cancers (Kiecolt-Glaser et al. 2002). Psychological distress, which as we have shown is the greatest predictor of subjective wellbeing, suppresses the immune system and is also associated with a higher incidence of immunogenic tumours (Kiecolt-Glaser et al. 2002). However, currently there is insufficient evidence to suggest that psychological distress directly causes immunogenic cancers. Conversely, having a diagnosis of cancer does cause psychological distress

which in turn is associated with low subjective wellbeing. The weak association we observed is likely to reflect the fact that we measured psychological distress in the four weeks prior to the survey but collected lifetime prevalence data on cancer. Therefore, some respondents may have been in remission, cured or had learned to manage their distress.

We found a strong association of subjective wellbeing with depression and/or anxiety. This is hardly surprising as we know that subjective wellbeing is strongly associated with mental health and that depression and/or anxiety are the most common mental health disorders. Moreover, psychological distress is a major risk factor for depression and/or anxiety and is also the greatest predictor of subjective wellbeing.

Our findings are consistent with the literature. In a large longitudinal study conducted in the United Kingdom, the authors were able to show a causal link between low subjective wellbeing and depression, where people who had low subjective wellbeing at the beginning of the study were seven times more likely to develop clinical depression 10 years later, after controlling for personality, negative functioning, prior depressive episode, socioeconomic status and physical ill-health (Wood & Joseph 2010). Another study showed the converse, that depression and anxiety can cause low subjective wellbeing (Galinha & Pais-Robeiro 2011). Therefore there appears to be bidirectional causal pathway between subjective wellbeing and depression and/or anxiety.

Depression may also influence subjective wellbeing indirectly via its influence on a variety of other diseases and conditions, since depression is an independent risk factor for those diseases and conditions. These include all-cause mortality in medical inpatients, cardiovascular disease, osteoporosis, and physical decline in the elderly (Kiecolt-Glaser et al. 2002). Depression also prolongs infection and delays wound healing (Kiecolt-Glaser & Glaser 2002). The evidence shows that one main mechanism by which depression exerts its damaging effects on physical health is by directly stimulating the production of proinflammatory cytokines and down-regulating the cellular immune response, rendering the individual physically vulnerable (Kiecolt-Glaser & Glaser 2002). In fact, depression is as high a risk factor for mortality as smoking (Mykletun et al. 2009).

Our finding that Victorian adults who had osteoporosis were more likely to have lower subjective wellbeing than those who did not, is consistent with the evidence that depression is a risk factor for osteoporosis. Therefore depression may mediate the association between osteoporosis and subjective wellbeing. However, this does not rule out a direct association between osteoporosis and subjective wellbeing because there are no limits on the number of biological pathways that may exist.

Self-reported dental health status showed the second strongest association with subjective wellbeing. This is consistent with the literature where poorer self-reported dental health was clearly associated with lower subjective wellbeing (Locker et al. 2000). However, the direction of the causal pathway remains to be determined.

We evaluated survey respondents' sleep patterns and found that Victorian adults with lower subjective wellbeing had fewer hours sleep and poorer quality sleep. The relationship between quality of sleep and subjective wellbeing was even stronger than that for self-reported heath status, with Victorian adults who reported having very bad quality sleep being 19 times more likely to have low or very low subjective wellbeing. Our findings are consistent with the literature that shows that poor-quality sleep and short sleep duration is associated with low subjective wellbeing (Kalak et al. 2014; Lemola et al. 2013). A large longitudinal study showed that the causal pathway appears to be that sleep duration predicts subjective wellbeing and not the other way around (Kalak et al. 2014). On the other hand, psychological distress is a known risk factor for poor sleep duration and quality, and psychological distress is the greatest predictor of subjective wellbeing (Cleveland Clinic 2015). Therefore it is likely that there is a bidirectional causal pathway between sleep and subjective wellbeing, possibly mediated by psychological distress.

Interestingly, there is evidence of an inverted U-shaped relationship, with subjective wellbeing where too little sleep (less than six hours) and too much sleep (more than nine hours) is associated with lower subjective wellbeing (Yokoyama et al. 2008). It appears that seven to eight hours is optimal for subjective wellbeing. This is consistent with the list of symptoms used to

...depression is as high a risk factor for mortality as smoking.

diagnose depression where a symptom can be either too little or too much sleep, and depression is strongly associated with both subjective wellbeing and psychological distress.

We observed some interesting findings when we investigated the impacts of psychological distress and subjective wellbeing. Victorian adults with psychological distress that caused them to be totally unable to work, study or do their normal day-to-day activities were more likely to have lower subjective wellbeing and this was dose–response dependent, where the greater the number of days unable to function the lower subjective wellbeing. This is may simply reflect that the longer one is unable to manage their daily activities, the more severe the level of psychological distress, with psychological distress mediating the association.

In contrast, we observed an association between subjective wellbeing and the number of days that daily activities were curtailed that was independent of the actual number of days. Lower subjective wellbeing was observed if the respondent reduced their daily activities for any length of time, suggesting a threshold effect rather than a dose–response effect.

In conclusion, we observed many strong associations between physical and mental health and subjective wellbeing in Victoria, consistent with what has been shown in other parts of the world. The implications for policy are that improvements in subjective wellbeing may result in improved health, particularly mental health.

Key findings

- **Subjective wellbeing is strongly associated with self-reported health status, depression and/or anxiety, osteoporosis and self-reported dental health.**
- **Subjective wellbeing is weakly associated with cancer and asthma.**
- **The lower the level of subjective wellbeing the less sleep and the poorer the quality of sleep.**
- **The more days a Victorian adult is totally unable to work, study or perform their daily activities due to negative feelings, the lower their subjective wellbeing.**
- **Victorian adults who cut back on their daily activities due to negative feelings had lower subjective wellbeing, but this did not increase with increasing number of days cut back.**
- **Lower subjective wellbeing was strongly associated with physical health problems being the main cause of negative feelings.**

7. Discussion

7. Discussion

Strengths

A major strength of this study is that findings can be generalised to the entire Victorian adult population, with the exception of Victorians who are homeless or institutionalised.

The Victorian Population Health Survey has been conducted since 2001 and shown to be replicable, reliable and robust using best practice international survey methodology.

The Victorian Population Health Survey is conducted in nine languages in order to be representative of minority populations.

Limitations

Surveys are cross-sectional, which means that all the information is collected at a single point in time. Therefore, while associations may be observed we cannot make any claims about causality. For example, if we found an association between poor health and unemployment we cannot say whether unemployment caused ill-health, ill-health caused unemployment, or causality was bidirectional. To address this limitation, we searched the international literature to find evidence from studies that were of a suitable design to assess causality and its direction, and referred to these under Interpretation of the results at the end of each section.

We believe it likely that we underestimated the absolute prevalence of low and very low subjective wellbeing by approximately 17 per cent, based on comparing the National General Social Survey with the Victorian Population Health Survey. This was due to differences in the response options available to the survey respondents. However, this in no way invalidates the findings of this report because the value of the findings is in the strong statistical associations observed between subjective wellbeing and various determinants of health.

Comparison of potential drivers of subjective wellbeing

The magnitude or strength of the association between subjective wellbeing and its potential drivers, also known as the effect size, can be used to predict the potential impact that a policy designed to address the driver may have. For example, the odds ratio of the association between depression and/or anxiety and subjective wellbeing is 4.2. This means that people with depression and/or anxiety are more than four times more likely to have low or very low subjective wellbeing. In contrast the odds ratio of the association between obesity and subjective wellbeing is 2.1, indicating that people who are obese are twice as likely to have low or very low subjective wellbeing.

The magnitude or strength of the association between subjective wellbeing and its potential drivers… can be used to predict the potential impact that a policy designed to address the driver may have.

However, the prevalence of depression and/or anxiety as well as obesity needs to be taken into consideration in order to quantify the population gains. For example, a potential driver with a large effect size might only affect a very small proportion of the population and, conversely, a potential driver with a small effect size might affect a very large proportion of the population. In our example, the proportion of people with depression and/or anxiety was 20 per cent and the proportion of people who were obese was 18 per cent. However, the total burden of disease attributable to mental ill-health is 13 per cent compared with 9 per cent for overweight and obesity. Therefore in this case a policymaker, choosing between the two, would choose to address depression and/or anxiety over obesity as it would be expected to make a greater impact on health and wellbeing.

Table 7.1 ranks all indicators that we evaluated across the four domains of the public health model of the determinants of health that were found to be significantly associated with subjective wellbeing. This can be used by a policymaker to inform better policymaking. While the ranking is by the effect size, the last three columns report the current prevalence of the indicator in the Victorian population. It is important to remember that since this is a cross-sectional study we cannot make claims about causality or its direction(s). However, in the Interpretation of the results paragraphs at the end of each section we reviewed the current literature for studies that were designed to evaluate causality and its direction(s). Please refer to these sections. It is also important to note that there are also logistic and practical considerations that need to be considered, such as the existence of effective interventions.

Table 7.1: Ranking of potential drivers of low or very low subjective wellbeing by effect size and prevalence

| Potential drivers of low or very low subjective wellbeing | Adjusted odds ratio (OR) | | | Prevalence | | |
| | | 95% CI | | | 95% CI | |
	OR	LL	UL	Per cent	LL	UL
Born overseas and spoke a language other than English	1.5	1.0	2.4	17.7	16.1	19.5
Did not complete secondary school education	1.5	1.0	2.3	31.0	29.6	32.6
Blood pressure NOT checked in past 2 years	1.7	1.0	2.8	18.8	17.1	20.6
Not a member of a religious group	1.7	1.1	2.6	82.9	81.4	84.2
Had asthma more than 12 months ago	1.8	1.0	3.1	10.9	9.6	12.3
Had asthma in last 12 months	1.9	1.1	3.1	11.2	10.0	12.6
Inadequate daily fruit consumption	1.9	1.3	2.7	53.9	51.9	55.8
Unemployed	1.9	1.0	3.8	3.3	2.6	4.2
Fairly good sleep quality	2.0	1.3	3.1	54.9	52.9	56.9
Obese	2.1	1.3	3.4	17.5	16.2	18.9
Not a member of a sports club	2.1	1.4	3.3	71.5	69.6	73.2
Moderate social contact	2.1	1.3	3.5	27.9	26.2	29.7
1–7 days unable to perform day-to-day activities due to negative feelings	2.1	1.3	3.6	8.3	7.1	9.7
Avoided or delayed dental healthcare in last 12 months due to cost	2.2	1.5	3.1	28.8	27.0	30.7
Did not attend a local community event in last 6 months	2.2	1.5	3.1	45.0	43.0	46.9
Did not volunteer	2.3	1.6	3.5	64.9	63.1	66.6
Never married	2.3	1.3	4.3	23.2	21.7	24.7
Not a member of a local community action group	2.4	1.6	3.6	81.6	80.2	82.9
Low civic and social distrust	2.4	1.5	3.9	26.0	24.2	27.8
Moderate social support	2.5	1.6	3.8	24.3	22.6	26.2
Widowed, divorced or separated	2.5	1.8	3.5	10.8	10.1	11.5
Lone household	2.5	1.7	3.7	7.5	7.1	8.0
One-parent family with dependent child	2.6	1.4	4.8	3.0	2.5	3.6
Group household	2.6	1.2	5.6	7.8	6.5	9.3
Ever diagnosed with osteoporosis	2.7	1.7	4.2	5.1	4.6	5.6
Unable to raise $2,000 in an emergency	2.7	1.8	4.0	10.6	9.4	11.9
Good dental health status	2.7	1.7	4.4	30.4	28.6	32.2
Household income of less than $20,000	2.7	1.5	5.1	7.4	6.6	8.3
Current smoker	3.0	1.9	4.7	15.6	14.1	17.1
Sedentary	3.0	1.4	6.3	5.7	4.9	6.7
Good self-reported health status	3.0	1.8	5.2	35.9	34.0	37.8
Low social contact	3.1	1.9	5.1	19.0	17.7	20.5
Household income of $20,000–$39,999	3.2	1.7	5.9	13.0	12.1	14.0
1–7 days cut down on day-to-day activities due to due to negative feelings	3.3	2.0	5.4	14.4	13.0	16.0
15–28 days cut down on day-to-day activities due to negative feelings	3.4	1.6	7.2	1.7	1.2	2.4
One-parent family with non-dependent child	3.4	1.8	6.5	3.4	2.8	4.2
Intolerant of diversity	3.9	2.3	6.6	10.9	9.7	12.1
Food insecure	3.9	2.3	6.8	3.4	2.8	4.3
8–14 days cut down on day-to-day activities due to negative feelings	4.0	2.0	8.2	2.9	2.1	3.8
No social contact	4.1	1.7	9.6	2.1	1.5	2.9
Ever diagnosed with depression and/or anxiety	4.2	2.9	6.0	20.1	18.6	21.6
Not a member of a school group	4.3	2.3	8.0	87.5	86.0	88.8
Moderate psychological distress	4.4	2.7	7.0	21.5	19.9	23.2
Mental health care visit in last year	4.7	3.2	7.1	11.5	10.3	12.8
8–14 days unable to perform day-to-day activities due to negative feelings	4.8	2.2	10.6	0.9	0.6	1.4
Unable to work	5.1	3.0	8.5	2.4	1.9	2.9
All or most of the time physical health problems been the cause of negative feelings	5.4	3.4	8.7	8.3	7.3	9.4
Fair or Poor dental health	6.4	4.0	10.2	19.1	17.7	20.7
Low social support	8.0	4.5	14.1	4.5	3.8	5.4
Fairly poor sleep quality	8.2	5.2	13.2	15.5	14.2	17.0
Moderate civic and social distrust	8.7	5.1	14.7	10.0	9.0	11.2
Visited health professional more than twice in last month due to negative feelings	9.4	5.2	17.0	2.0	1.6	2.6
15–28 days unable to perform day-to-day activities due to negative feelings	9.4	4.3	20.5	1.3	0.9	1.9
No social support	11.0	5.2	23.4	0.9	0.7	1.2
High psychological distress	12.2	7.3	20.6	7.8	6.7	9.0
High civic and social distrust	16.2	8.2	32.0	4.3	3.5	5.3
Fair or poor self-reported health status	16.5	10.0	27.3	15.3	14.0	16.7
Very poor sleep quality	19.0	11.1	32.6	4.5	3.8	5.4
Very high civic and social distrust	22.5	8.4	60.9	1.3	0.9	1.9
Very high psychological distress	45.8	25.6	81.9	2.9	2.3	3.7

All categorical variables were compared with the optimum state; for example, good self-reported health is relative to excellent or very good self-reported health.

95 % Ci = 95 per cent confidence interval, LL = lower limit, and UL = upper limit.

Policy implications

Why consider subjective wellbeing?

It is important that policymakers are aware of the factors that ultimately influence health and wellbeing in order to develop new and effective policies to improve the health and wellbeing of societies. Subjective wellbeing has been shown to be a valid, reliable and sensitive instrument that can be used to measure and monitor the wellbeing of societies over time. Moreover internationally, policymakers are increasingly moving in the direction of being informed by considerations of the subjective wellbeing of societies and the drivers of that subjective wellbeing. Measures of subjective wellbeing:

- provide an alternative and complementary measure of overall progress that is grounded in the aspects of life that are actually important to the average person

- can be used to empirically test the drivers of subjective wellbeing and to quantify the relative importance of these drivers

- tests our assumptions about human behaviour that is crucial to policymaking because much of current public policy is based on changing behaviours (see Box 7.1)

- are a cheaper, relatively consistent and reliable way to collect values of non-monetary outcomes for use in cost-benefit analysis for the appraisal of policies (see Box 7.2).

Figure 7.1 illustrates the ways in which carefully developed policies aimed at increasing subjective wellbeing would improve the health

Box 7.1: Challenging beliefs about human behaviour

Traditional economic measures that often inform policymaking makes assumptions about the behaviours of people that are not necessarily correct. For example, policies to address unemployment are often predicated on the assumption that, for the unemployed, unemployment is the preferred state. Consequently many public policies that seek to get people back into work are concerned with maintaining the lowest level of unemployment benefits so as not to provide a financial incentive to remain in the supposed preferred state. Yet as we have shown in this report, being unemployed or unable to work is associated with lower subjective wellbeing mainly for psychological rather than financial reasons, thus challenging the policy assumption that being unemployed is a desirable state. Work provides opportunities for human interaction (and relief from social isolation), financial remuneration, pride and independence.

Box 7.2: Measuring non-monetary outcomes

Currently the methods used to assign monetary values to non-monetary outcomes for cost-benefit analysis come from the field of economics, for example, the 'willingness to pay' (WTP) method. The WTP method is the amount of money that a person is willing to accept to abandon a good or put up with something negative, such as pollution. Unlike subjective wellbeing, economic methods such as WTP are expensive and known to produce results that are neither intuitively plausible nor internally consistent, and can be strategically manipulated by respondents.

Figure 7.1: Policy and subjective wellbeing
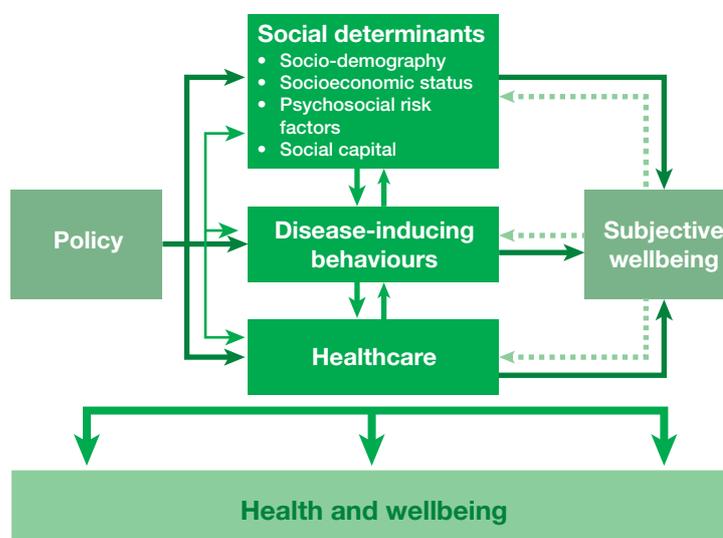
and wellbeing of Victorians. The model shows that once a policymaker understands the factors that contribute to better health and wellbeing, and how they interrelate with each other, they can choose to develop policies that not only improve health and wellbeing but also have positive spillover effects that also improve health and wellbeing. For example, a policy aimed at improving social capital such as building bridging social capital (quality connections between dissimilar people) is likely to increase subjective wellbeing which in turn will improve health and wellbeing, reduce disease-inducing behaviours, promote better health literacy, increase the propensity to seek early and appropriate healthcare and reduce psychological distress. The spillover effects in turn improve health and wellbeing.

Some potential policy priorities

Box 7.3 summarises the policy priorities proposed by the Commission on Wellbeing and Policy in 2014 to improve a society's overall wellbeing (Kiecolt-Glaser et al. 2002).The commission was sponsored by the Legatum Institute, an international think tank and educational charity based in London that promotes prosperity (O'Donnell et al. 2014).

The following section contains a brief discussion of successful policies that could be considered for Victoria. It is not intended to address all the recommendations put forward by the Commission on Wellbeing and Policy, nor is it intended to be an exhaustive list. It will be restricted to those policies that best fit under the remit of the Department of Health and Human Services.

Mental health and character building

Treating mental ill-health

The evidence and our findings show that emotional health is the single best predictor of subjective wellbeing. Therefore, prevention and treatment of mental ill-health should be a major focus of policies aimed at improving health and wellbeing. By far the most common mental illnesses are depression and anxiety, with 20.1 per cent of the Victorian adult population having ever been diagnosed by a doctor with depression and/or anxiety in 2012 (Department of Health 2015). However, the evidence also shows that only 46 per cent of people suffering from mental illness receive treatment despite the introduction of the Commonwealth's Better Access initiative in 2006 (Whiteford et al. 2014). Yet there are effective treatments available and the burden placed upon individuals, their families, employers and society as a whole due to untreated mental illness is unacceptably high. Therefore consideration should be given to developing policies to reduce the proportion of untreated Victorian adults with a mental health disorder. Box 7.4 is an example of a highly successful and carefully evaluated policy from the United Kingdom.

Box 7.3: Potential policy priorities

Mental health and character building

- Treat mental ill-health as professionally as physical ill-health
- Support parents
- Build character and resilience in schools

Community

- Promote volunteering and giving
- Address loneliness
- Create a built environment that is sociable and green

Income and work

- Promote economic growth
- Reduce unemployment through active welfare
- More wellbeing at work

Governance

- Treat citizens with respect and empower them more
- Measure wellbeing and make it a policy goal
- Give citizens the wellbeing data they need

Box 7.4: Example of a policy success

An example of a highly successful program is the launching of a new service called the Improving Access to Psychological Therapies (IAPT) program by the British Government in 2008 (Clark 2011).

- The program began with two demonstration sites.
- Prior to the initiation of the program, economists and clinical researchers worked together on a cost-benefit evaluation and showed that the costs of providing additional psychological services would largely be covered by savings in welfare benefits and other medical costs as well as increased revenue from taxes due to returns to work and increased productivity.
- The program began by training additional psychological therapists so that the therapist capacity would be able to treat at least 15 per cent of people in the community with depression and/or anxiety.
- The treatments that the therapists were trained in were evidence-based as recommended by the National Institute for Health and Clinical Excellence.
- Patients self-referred to avoid the access barrier of having to first see a general practitioner.
- Each session was carefully monitored and patients had to complete psychological testing for their condition at each visit in order to measure progress.
- To assess whether clinical outcomes were sustained, patients were re-evaluated nine months after completion of treatment.
- Overall the evaluations showed that the pilot program was a success, with more than 3,500 people receiving treatment who may otherwise never have.
- Currently the program is being extended across the country.

Supporting parents

The foundations of our society begin with children, and equipping parents with the best information and support is crucial for the healthy development of children. There is good evidence to suggest that four things could be done that would improve health and wellbeing in Victoria. These are:

- Offering both parents, around the time of childbirth, classes that cover both physical and emotional aspects of child-rearing, including the impact on the relationship between the parents
- Training health visitors to detect maternal depression
- Offering classes to parents on how to deal and cope with their child's behaviour (if problems with the child arise)
- Offering couples behavioural therapy if a problem in the relationship of the parents occurs.

Building character and resilience in schools

After parents, schools are the next major influence on children, and in this setting there is the potential to develop prosocial skills such as empathy, resilience, self-control, perseverance and the capacity to cope with shocks and delay gratification. As we showed in section 3, prosocial behaviours increase subjective wellbeing, and therefore developing prosocial skills in the next generation is likely to increase the overall health and wellbeing of Victoria. An example of a successful policy to improve prosocial behaviour in school children is the social and emotional learning (SEL) programs that have been evaluated through controlled trials in British and American schools.

A systematic meta-analysis of 213 school-based SEL programs involving 270,034 students (from kindergarten through to high school) showed that the SEL programs significantly increased social and emotional skills, and this was reflected in improved academic performance (Durlak et al. 2011). For further details please see Durlak et al. (2011) and O'Donnell et al. (2014).

Community

Promote volunteering and giving

As we saw in section 3, volunteering promotes higher subjective wellbeing and is a prosocial behaviour. An example of a successful policy to encourage volunteering is the United Kingdom's National Citizen Service (NCS) (O'Donnell et al. 2014). The NCS program consists of relatively short volunteering projects that teach and mentor young people in the skills of community action including identifying a local need and the means of addressing it. The program included a residential week and mixed young people from all walks of life. The program was evaluated and found to boost social trust, increase connections between people of varied backgrounds (hence increasing bridging social capital) and changed attitudes across social groups. Overall the subjective wellbeing of participants was significantly higher at the end of the program compared with a control group that did not participate. For more detail please see O'Donnell et al. (2014).

Addressing loneliness

The literature shows that an unexpected side effect of modern life and growing affluence is an increase in the proportion of people who experience loneliness. Social isolation and loneliness have negative impacts on health and, as we showed in section 3, the lower the number of social contacts on a given day the lower the subjective wellbeing. A systematic meta-analysis showed that loneliness is as bad for physical health as smoking 15 cigarettes a day or moderate alcohol abuse (Holt-Lunstad et al. 2010). However, developing sensitive and effective policy interventions remains a challenge.

One approach trialled in the United States asked the socially isolated if they would like to help others and then developed a school-based volunteer program for retirees. At the end of the two-year program the friendships that developed continued, reducing loneliness and improving subjective wellbeing. For more detail please see O'Donnell et al. (2014).

> A systematic meta-analysis showed that loneliness is as bad for physical health as smoking 15 cigarettes a day or moderate alcohol abuse.

Conclusions

To our knowledge, this is the first time that subjective wellbeing has been measured and reported at the population level in the state of Victoria. Subjective wellbeing is a highly useful indicator of both physical and mental health and captures important information that traditional economic indicators of wellbeing do not.

Social determinants are strong drivers of subjective wellbeing. These include marital status, ethnicity, household composition, household income, employment status, education, psychological distress, food insecurity, financial stress, daily social contact, tolerance of diversity, social support, club membership, volunteerism and social and civic trust. The largest effect sizes (magnitude of effect) were observed for the social determinants, suggesting that policymakers should consider paying more attention to the social determinants as there are great potential gains in health and wellbeing to be made by tackling inequalities in the social determinants.

Subjective wellbeing is associated with smoking, obesity, sedentariness and inadequate fruit consumption but not vegetable or soft drink consumption. Alcohol consumption has a reverse relationship with subjective wellbeing, where lower subjective wellbeing is associated with abstinence. Compared with the effect sizes observed for some of the social determinants, the effect sizes for disease-inducing behaviours were modest.

Commensurate with need, we found that Victorian adults with low subjective wellbeing faced access barriers to primary, mental and dental healthcare, although we are unable to specify what those barriers are. However, we did identify that cost was a barrier to seeking dental healthcare. Nevertheless, cost is only one of many barriers that may exist. Therefore further research is needed to determine the nature and extent of barriers in accessing healthcare services.

Subjective wellbeing is positively associated with health outcomes including self-reported health, depression and/or anxiety, cancer, osteoporosis, asthma, self-reported dental health, the quantity and quality of sleep, and functioning when psychologically distressed.

The top 10 indicators most strongly associated with subjective wellbeing in descending order are: very high psychological distress; very high civic and social distrust; very poor sleep quality; fair or poor health status; high civic and social distrust; high psychological distress; no social support; 15–28 days of the past month being totally unable to perform day-to-day activities due to psychological distress; multiple mental healthcare visits in the past month; and moderate civic and social distrust. Six out of the 10 indicators were social determinants and three were health outcomes.

In our endeavours to reduce the burden of chronic diseases, we should rethink the current public health model in Victoria, which disproportionately focuses on a handful of disease-inducing behaviours at the expense of the other

Subjective wellbeing is a highly useful indicator of both physical and mental health and captures important information that traditional economic indicators of wellbeing do not.

determinants of health. This report shows there are other determinants of health that make a bigger impact on health outcomes than disease-inducing behaviours.

Policies that focus on increasing subjective wellbeing whether through increasing social capital, treating and preventing mental ill-health and distress, reducing healthcare access barriers and/or reducing disease-inducing behaviours are likely to reap multiple benefits to society.

The way forward

This is the first report on subjective wellbeing in Victoria in which we measured and reported on the cognitive aspect of subjective wellbeing (life satisfaction). In 2015, for the first time, we will include three more questions that will enable us to measure the affective and eudemonic aspects of subjective wellbeing in addition to the cognitive aspect measured in this report. Table 7.2 describes these additional questions.

Modified from the work of the Commission on Wellbeing and Policy in 2014, we propose a framework for the policy use of subjective wellbeing, which is described in Table 7.3 (O'Donnell et al. 2014). The framework describes the potential use of the data, what could be investigated and why. Subjective wellbeing complements existing measures of wellbeing and helps identify situations where more traditional measures, particularly those grounded in economics, are unable to explain those situations. For example, a study that sought to explain migration patterns across the OECD through the traditional economic measure of GDP per capita, found that this measure did not explain the patterns very well. However, the life satisfaction indicator of subjective wellbeing did explain the patterns, demonstrating that people don't just make choices based on pragmatic economic considerations alone (Grimes et al. 2012).

Table 7.2: Recommended measures of subjective wellbeing

Cognitive measures	Life satisfaction on a 0–10 scale, where 0 is not satisfied at all and 10 is completely satisfied, for example: *1. Overall, how satisfied are you with your life?*
Affective measures	Positive and negative affect over a short period from 0 to 10, where 0 is not at all and 10 is completely, for example: *2. Overall, how happy did you feel yesterday?* *3. Overall, how anxious did you feel yesterday?*
Eudemonic measures	'Worthwhileness' on a 0–10 scale, where 0 is not at all worthwhile and 10 is completely worthwhile, for example: *4. Overall, to what extent do you feel that the things you do in your life are worthwhile?*

Table 7.3: Modified framework for policy use of subjective wellbeing measures

Data use	What	Why
Complementing existing measures of wellbeing	Core measures / headline indicators used to examine: • trends over time • distribution of outcomes across different groups within society • distribution of outcomes across areas	• To know if the changes affecting a society have an impact on subjective wellbeing • To identify vulnerable groups and areas of suffering – highlighting where key drivers of subjective wellbeing may lie, and when there may be opportunities for policy interventions • To conduct international benchmarking, assist in the interpretation of national data, and identify where countries may be able to learn from another's experiences
Better understanding the drivers of subjective wellbeing	Analyses based on survey data, with subjective wellbeing used as the dependent variable to: • examine the relationship between subjective wellbeing and other important life circumstances, such as income and health • inform policy options appraisal, design and evaluation • inform policy trade-offs	• To improve our understanding of wellbeing overall, by examining the relationship between subjective wellbeing, life circumstances and other important wellbeing outcomes • To highlight areas of policy with the greatest potential to improve subjective wellbeing, and the life events/circumstances most likely to put subjective wellbeing at risk • To assist in government decision-making processes, including the allocation of resources and the design elements of policies • To inform the public and employers about the likely drivers of individual subjective wellbeing, providing better information for individual and organisational decision making
Subjective wellbeing as an input for other analyses, particularly cost-benefit analyses	Micro-data on subjective wellbeing, used as an input for other analyses including: • as an explanatory variable for other elements of wellbeing or behaviour • used to estimate the value of non-market goods and services, for the purposes of cost-benefit analyses (see Box 7.2)	• To better understand how subjective wellbeing can contribute to other wellbeing outcomes and shed light on human decision-making processes, including the various biases that may be present • To provide an alternative to traditional economic approaches to estimating the value of non-market goods, supporting government (and other organisations) in making decisions about complex social choices

Source: O'Donnell et al. 2014

In conclusion we recommend that the way forward should be to:

- Include three additional questions in the next Victorian Population Health Survey to measure the affective and eudemonic dimensions of subjective wellbeing, sourced from the United Kingdom's Office of National Statistics (ONS). The three additional questions in conjunction with the life satisfaction question used in this report constitute what is commonly referred to as 'the ONS 4', which is widely accepted as best practice for measuring subjective wellbeing.
- Incorporate the routine measurement, monitoring and reporting of subjective wellbeing in Victoria through the Victorian Population Health Survey.
- Support research that helps understands subjective wellbeing.
- Make subjective wellbeing a major criterion in policy choice.

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Appendices

Appendix 1: Age-adjusted prevalence estimates of subjective wellbeing

The following tables are age-adjusted prevalence estimates of subjective wellbeing by each indicator. Unless otherwise stated as a footnote immediately below the table, the following notes apply to all tables.

1. SWB = subjective wellbeing
2. Data were age-standardised to the 2011 Victorian population by 10-year age groups.
3. Subjective wellbeing was assessed by asking survey respondents 'In general, how satisfied are you with your life overall?'
4. Very high SWB = very satisfied, high SWB = satisfied, and low/very low SWB = dissatisfied or very dissatisfied.
5. Statistical comparisons of 95 per cent confidence intervals (95% CI) were made between each response option and the total. Bolded red indicates that the estimate was significantly higher and bolded blue indicates that the estimate was significantly lower.
6. Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses not reported here.
7. If an estimate has an a relative standard error (RSE) of between 25 and 50 per cent it should be interpreted with caution. If the estimate has an RSE of greater than 50 per cent the estimate is deemed unreliable.

Socio-demography

Sex, by subjective wellbeing

| Sex | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Males	**40.3**	37.5	43.3	4%	**53.1**	50.1	56.0	3%	**5.1**	3.8	6.8	15%
Females	**40.3**	37.9	42.7	3%	**53.9**	51.4	56.3	2%	**5.1**	4.2	6.2	10%
Total	**40.3**	38.4	42.2	2%	**53.5**	51.6	55.4	2%	**5.1**	4.3	6.1	9%

Age, by subjective wellbeing

| Age (years) | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
18–34 years	**39.8**	35.1	44.7	6%	**54.4**	49.5	59.2	5%	**5.1**	3.3	7.9	23%
35–44 years	**38.8**	35.1	42.6	5%	**55.3**	51.5	59.2	4%	**4.6**	3.3	6.5	18%
45–54 years	**38.5**	35.1	41.9	5%	**54.3**	50.8	57.7	3%	**5.7**	4.4	7.5	14%
55–64 years	**42.4**	39.3	45.6	4%	**51.4**	48.2	54.5	3%	**5.6**	4.4	7.2	12%
65 years +	**42.9**	40.5	45.4	3%	**50.8**	48.3	53.3	2%	**4.6**	3.7	5.8	11%
Total	**40.3**	38.4	42.2	2%	**53.5**	51.6	55.4	2%	**5.1**	4.3	6.1	9%

Data were not adjusted for age.

Marital status, by subjective wellbeing

Marital status	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE
Married or living with partner	44.7	41.5	47.9	4%	50.8	47.5	54.0	3%	4.0	2.9	5.4	16%
Separated, divorced or widowed	29.9	19.4	43.0	20%	61.3	48.7	72.5	10%	7.2	5.5	9.5	14%
Never married	31.3	26.7	36.2	8%	58.7	53.5	63.7	4%	8.8	6.3	12.3	17%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Household composition, by subjective wellbeing

Household type	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE
Couple	42.9	37.3	48.8	7%	52.9	47.0	58.7	6%	3.4	2.1	5.6	25%
Couple with dependent child	44.4	40.3	48.5	5%	51.7	47.6	55.7	4%	3.1	2.1	4.6	20%
Couple with non-dependent child	40.9	34.0	48.2	9%	53.5	46.4	60.6	7%	5.1	2.5	9.9	35%
One-parent family with dependent child	31.0	23.8	39.3	13%	60.2	51.9	67.9	7%	7.3	4.7	11.2	22%
One-parent family with non-dependent child	30.3	20.6	42.1	18%	55.2	43.6	66.2	11%	12.9	7.4	21.6	28%
Group household	29.6	22.7	37.6	13%	56.9	48.4	65.1	8%	10.2	5.6	17.9	30%
Lone household	28.1	19.3	39.0	18%	52.8	43.1	62.4	9%	17.6	8.9	31.8	33%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Household with children, by subjective wellbeing

Household with children?	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE
Yes	38.5	34.6	42.4	5%	56.6	52.6	60.5	4%	4.0	2.8	5.8	19%
No	37.3	34.4	40.4	4%	55.7	52.6	58.7	3%	5.7	4.4	7.2	13%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Ethnicity, by subjective wellbeing

Spoke a language other than English (LOTE) and country of birth	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE	%	95% CI LL	UL	RSE
LOTE born overseas	32.9	27.9	38.4	8%	60.1	54.6	65.4	5%	6.0	4.2	8.6	18%
English-speaking born overseas	40.9	32.9	49.4	10%	53.7	45.3	61.9	8%	4.7	2.8	7.7	26%
LOTE born in Australia	38.3	30.8	46.4	10%	59.4	51.3	67.0	7%	2.3	1.0	5.2	41%
English-speaking born in Australia	42.5	40.2	44.7	3%	51.5	49.3	53.8	2%	4.7	3.9	5.8	10%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.5	2%	5.1	4.3	6.0	9%

Socioeconomic status

Household income, by subjective wellbeing

Total annual household income	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Less than $20,000	25.1	17.3	35.0	18%	65.3	55.4	74.1	7%	7.7	5.4	10.9	18%
$20,000–$39,999	28.1	22.8	34.1	10%	60.4	53.9	66.5	5%	9.8	6.5	14.6	21%
$40,000–$59,999	38.3	32.8	44.0	7%	57.4	51.6	62.9	5%	3.6	2.4	5.5	22%
$60,000–$79,000	39.4	33.9	45.2	7%	54.1	48.4	59.8	5%	5.7	3.5	9.3	25%
$80,000–$99,999	47.7	41.1	54.5	7%	49.7	43.0	56.5	7%	2.2	1.1	4.5	37%
$100,000 or more	50.7	46.0	55.4	5%	46.1	41.4	50.8	5%	3.1	1.8	5.2	26%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Employment status, by subjective wellbeing

Employment status	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Employed	42.3	39.3	45.2	4%	53.3	50.3	56.2	3%	3.9	3.0	5.1	13%
Unemployed	34.5	26.2	44.0	13%	50.5	41.2	59.7	9%	8.0	4.7	13.5	27%
Home duties	46.0	37.8	54.4	9%	50.0	41.7	58.2	9%	3.7	2.0	6.6	30%
Student	37.2	28.1	47.3	13%	50.6	41.3	59.8	9%	7.2	2.8	17.2	47%
Retired	36.5	30.5	43.0	9%	47.3	43.6	51.1	4%	1.7	1.3	2.3	14%
Unable to work	14.0	8.0	23.4	28%	68.9	61.5	75.4	5%	15.4	10.1	22.8	21%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Education, by subjective wellbeing

Highest level of educational attainment	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Primary	35.9	31.9	40.2	6%	56.5	52.3	60.7	4%	6.6	4.9	8.7	15%
Secondary (Year 12)	38.7	34.7	42.9	5%	55.2	50.8	59.5	4%	4.6	3.0	7.1	22%
Technical and further education (TAFE)	39.5	35.1	44.1	6%	54.5	49.7	59.2	4%	5.1	3.3	7.6	21%
Tertiary	45.4	41.8	49.1	4%	49.3	45.6	52.9	4%	4.5	3.2	6.2	17%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Occupational status, by subjective wellbeing

Occupational status	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Professional	45.0	40.6	49.5	5%	50.0	45.5	54.5	5%	4.6	2.7	7.6	27%
Non-professional	37.0	33.5	40.6	5%	58.4	54.8	61.9	3%	4.0	2.9	5.4	16%
Total	42.4	39.5	45.4	4%	53.2	50.2	56.2	3%	3.8	2.9	5.0	14%

Home ownership, by subjective wellbeing

| Home ownership | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Own or paying a mortgage	42.4	40.3	44.7	3%	52.0	49.8	54.3	2%	4.8	3.8	5.9	11%
Public renter	24.9	17.5	34.2	17%	67.1	57.8	75.2	7%	7.2	4.4	11.6	25%
Private renter	30.6	25.6	36.2	9%	58.2	52.6	63.6	5%	9.2	6.5	13.0	18%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Psychosocial risk factors

Psychological distress, by subjective wellbeing

| Psychological distress level (Kessler 10 score) | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Low (< 16)	49.3	46.7	51.8	3%	48.7	46.2	51.3	3%	1.5	1.1	2.1	16%
Moderate (16 to 21)	29.4	25.9	33.2	6%	63.8	59.9	67.5	3%	6.4	4.6	8.7	16%
High (22 to 29)	12.3	8.5	17.6	19%	69.8	63.2	75.7	5%	15.9	11.5	21.5	16%
Very high (≥ 30)	7.3	3.3	15.4	40%	50.2	39.6	60.7	11%	39.9	30.0	50.6	13%
Total	40.4	38.4	42.3	0.0	53.5	51.5	55.4	0.0	5.0	4.2	6.0	0.1

Food insecurity, by subjective wellbeing

| In last 12 months, ran out of food and couldn't afford to buy more | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Yes	18.9	12.3	28.0	21%	58.4	48.4	67.6	8%	17.2	11.8	24.4	18%
No	41.2	39.2	43.2	2%	53.3	51.2	55.3	2%	4.7	3.9	5.6	10%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Financial stress, by subjective wellbeing

| Able to raise $2,000 within 2 days in an emergency | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Yes	42.4	40.3	44.5	3%	52.5	50.3	54.6	2%	4.4	3.6	5.4	11%
No	26.6	21.4	32.6	11%	60.3	54.4	66.0	5%	11.3	8.7	14.6	13%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social capital

Social environment: social contact, by subjective wellbeing

Number of people spoken with on previous day	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
None	23.1	12.5	38.7	29%	62.9	48.5	75.3	11%	10.7	6.1	18.3	28%
1 to 4	30.8	26.3	35.7	8%	59.0	54.0	63.8	4%	8.9	6.6	11.9	15%
5 to 9	38.4	34.9	42.1	5%	54.8	51.0	58.4	3%	6.3	4.6	8.5	15%
10 or more	45.9	43.2	48.6	3%	50.4	47.7	53.1	3%	2.9	2.0	4.1	18%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social environment: tolerance of diversity, by subjective wellbeing

Believes that multiculturalism makes life better?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	25.1	20.5	30.4	10%	58.6	51.8	65.1	6%	12.2	8.6	17.2	18%
Sometimes	37.5	34.0	41.1	5%	57.2	53.5	60.7	3%	4.8	3.7	6.3	14%
Yes	44.9	42.2	47.7	3%	50.9	48.1	53.7	3%	3.5	2.6	4.8	16%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social environment: neighbourhood tenure, by subjective wellbeing

Length of time lived in neighbourhood	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Less than one year	34.5	25.0	45.4	15%	56.6	45.2	67.4	10%	5.7	1.8	17.0	58%
One to five years	38.6	34.2	43.1	6%	53.7	49.2	58.2	4%	6.5	4.8	8.7	15%
5 years to 10 years	38.6	34.3	43.0	6%	55.6	51.1	60.0	4%	5.0	3.5	7.2	19%
10 years or more	43.1	40.2	46.0	3%	51.1	48.2	54.0	3%	4.6	3.7	5.8	12%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social support: ability to get help from family when needed, by subjective wellbeing

Able to get help from family?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	24.1	17.5	32.4	16%	58.9	50.7	66.8	7%	14.2	9.2	21.4	22%
Sometimes	24.3	19.8	29.5	10%	63.6	57.5	69.3	5%	10.9	7.1	16.3	21%
Yes, definitely	43.9	41.8	46.1	3%	51.5	49.3	53.6	2%	3.7	2.9	4.6	11%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social support: ability to get help from friends when needed, by subjective wellbeing

Able to get help from friends?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	14.0	9.6	19.8	18%	58.9	45.9	70.8	11%	25.2	15.1	38.8	24%
Sometimes	27.5	22.3	33.3	10%	61.8	55.9	67.3	5%	9.6	6.9	13.2	17%
Yes, definitely	44.8	42.6	46.9	2%	51.4	49.2	53.5	2%	3.1	2.5	3.9	12%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social support: ability to get help from neighbours when needed, by subjective wellbeing

	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
Able to get help from neighbours?	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	30.8	27.3	34.6	6%	57.8	54.0	61.5	3%	9.9	7.9	12.3	12%
Sometimes	37.6	33.6	41.7	5%	56.8	52.7	60.9	4%	5.0	3.5	7.2	18%
Yes, definitely	46.1	43.3	49.0	3%	50.4	47.5	53.2	3%	2.7	2.0	3.6	14%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social support: ability to get help from family, friends and/or neighbours when needed, by SWB

	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
Level of social support	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
High	44.6	42.3	47.0	3%	51.8	49.4	54.2	2%	3.0	2.3	4.0	14%
Moderate	32.9	29.3	36.7	6%	58.3	54.4	62.1	3%	7.6	5.8	9.8	13%
Low	19.6	13.0	28.6	20%	57.9	48.1	67.2	9%	21.3	13.6	31.6	22%
None	10.8	5.7	19.6	32%	58.3	39.2	75.2	16%	22.6	10.4	42.4	36%
Total	40.8	38.9	42.8	2%	53.3	51.3	55.3	2%	5.1	4.2	6.0	9%

Community and civic engagement: attended a local community event, by subjective wellbeing

	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
Attended a local community event in past 6 months?	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	44.4	41.9	46.9	3%	51.7	49.1	54.2	3%	3.5	2.7	4.6	14%
No	35.2	32.2	38.3	4%	55.8	52.6	58.9	3%	7.2	5.7	9.0	12%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Community and civic engagement: volunteerism, by subjective wellbeing

	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
Do you help out a local group as a volunteer?	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	37.4	35.1	39.9	3%	54.9	52.4	57.3	2%	6.3	5.2	7.6	10%
Sometimes	41.5	36.2	47.1	7%	55.2	49.6	60.6	5%	2.9	1.6	5.3	31%
Yes, definitely	48.1	43.9	52.3	4%	48.6	44.4	52.8	4%	2.9	1.9	4.3	21%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Community and civic engagement: membership of a sports group, by subjective wellbeing

	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
Member of a sports group?	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	47.6	44.1	51.1	4%	49.2	45.7	52.7	4%	3.0	2.1	4.2	18%
No	37.4	35.1	39.8	3%	55.2	52.8	57.6	2%	5.9	4.9	7.2	10%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Community and civic engagement: membership of a religious group, by subjective wellbeing

	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
Are you a member of a religious group?	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	42.5	37.5	47.6	6%	53.9	48.8	59.0	5%	3.1	2.1	4.7	21%
No	40.2	38.1	42.3	3%	53.2	51.0	55.3	2%	5.4	4.5	6.5	9%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Community and civic engagement: membership of a school group, by subjective wellbeing

Are you a member of a school group?	Very high SWB	95% CI			High SWB	95% CI			Low/very low SWB	95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	53.2	47.8	58.5	5%	43.8	38.5	49.1	6%	1.4	0.8	2.6	31%
No	38.9	36.9	41.0	3%	54.3	52.2	56.5	2%	5.6	4.7	6.7	9%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Community and civic engagement: membership of an other group, by subjective wellbeing

Are you a member of an other community or action group?	Very high SWB	95% CI			High SWB	95% CI			Low/very low SWB	95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	48.4	43.4	53.4	5%	48.9	43.9	53.9	5%	2.4	1.6	3.5	20%
No	38.9	36.8	41.0	3%	54.2	52.1	56.4	2%	5.6	4.7	6.7	9%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social trust: feel safe walking down street alone after dark, by subjective wellbeing

Feel safe walking down street alone after dark?	Very high SWB	95% CI			High SWB	95% CI			Low/very low SWB	95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	33.6	29.0	38.6	7%	55.9	50.8	60.9	5%	9.8	7.0	13.5	17%
Sometimes	38.1	33.7	42.8	6%	57.1	52.4	61.6	4%	3.9	2.5	6.0	23%
Yes	44.4	41.9	46.9	3%	51.0	48.5	53.5	3%	3.7	2.9	4.7	12%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Social trust: believe most people can be trusted, by subjective wellbeing

Believe most people can be trusted?	Very high SWB	95% CI			High SWB	95% CI			Low/very low SWB	95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	29.1	24.9	33.7	8%	57.8	52.9	62.6	4%	11.0	8.2	14.7	15%
Sometimes	37.9	35.1	40.8	4%	57.2	54.2	60.1	3%	4.4	3.4	5.6	12%
Yes	47.8	44.5	51.1	4%	48.0	44.7	51.2	3%	3.1	2.3	4.1	15%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Civic trust: feel valued by society, by subjective wellbeing

Feel valued by society?	Very high SWB	95% CI			High SWB	95% CI			Low/very low SWB	95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	26.6	21.1	32.9	11%	52.7	46.8	58.6	6%	17.9	13.5	23.2	14%
Sometimes	28.7	25.8	31.8	5%	65.8	62.6	68.9	2%	5.2	3.9	6.8	14%
Yes	50.6	47.9	53.4	3%	46.4	43.7	49.1	3%	2.4	1.7	3.5	19%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Civic trust: believe there are opportunities to have a real say on important issues, by SWB

Opportunities to have a say?	Very high SWB	95% CI			High SWB	95% CI			Low/very low SWB	95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No or not often	29.3	25.7	33.2	7%	57.0	52.9	61.0	4%	12.1	9.4	15.4	13%
Sometimes	39.8	36.7	43.0	4%	56.2	53.0	59.3	3%	3.5	2.7	4.5	13%
Yes	46.9	43.7	50.2	4%	49.9	46.7	53.2	3%	2.4	1.7	3.5	18%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Civic and social trust, by subjective wellbeing

Overall level of social and civic trust	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Very high	48.4	45.6	51.2	3%	49.6	46.8	52.4	3%	1.7	1.2	2.4	18%
High	37.4	33.8	41.2	5%	57.9	54.1	61.6	3%	4.1	3.1	5.4	14%
Moderate	26.8	21.5	32.8	11%	58.6	52.2	64.7	5%	13.9	9.8	19.4	18%
Low	26.2	17.7	37.0	19%	52.8	43.6	61.9	9%	19.3	12.8	27.9	20%
None	15.0	8.5	25.3	28%	57.5	39.9	73.3	15%	27.3	14.5	45.6	30%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Disease-inducing behaviours

Body weight status, by subjective wellbeing

Body mass index (BMI) category	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Normal	44.6	41.7	47.4	3%	50.6	47.7	53.4	3%	4.1	3.2	5.4	13%
Overweight	38.6	35.0	42.2	5%	56.1	52.4	59.8	3%	4.3	3.1	5.8	16%
Obese	31.7	27.1	36.8	8%	58.7	53.2	63.9	5%	8.8	5.7	13.1	21%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Smoking status, by subjective wellbeing

Smoking status	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Smoker	33.2	28.6	38.1	7%	54.6	49.6	59.5	5%	10.3	7.7	13.7	15%
Ex-smoker	42.4	37.2	47.8	6%	53.1	47.7	58.3	5%	3.9	2.6	5.9	21%
Non-smoker	41.8	39.4	44.3	3%	53.1	50.6	55.5	2%	4.0	3.1	5.1	13%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Alcohol consumption, by subjective wellbeing

Alcohol consumption, by 2001 NHMRC guidelines	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Abstainer	36.9	31.9	42.1	7%	55.9	50.7	60.9	5%	5.8	4.1	8.0	17%
Low risk	41.1	37.5	44.8	5%	52.6	48.9	56.2	4%	5.6	4.1	7.8	17%
At risk, at least yearly	46.5	42.2	50.8	5%	50.4	46.1	54.8	4%	2.9	1.9	4.4	22%
At risk, at least monthly	41.4	35.6	47.4	7%	54.0	47.9	60.0	6%	4.5	2.6	7.5	27%
At risk, at least weekly	32.4	26.3	39.0	10%	59.6	52.9	65.9	6%	7.0	4.6	10.6	21%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.5	2%	5.0	4.2	6.0	9%

Physical activity, by subjective wellbeing

Physical activity level	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Sedentary	31.7	23.1	41.8	15%	53.3	42.9	63.5	10%	14.3	7.9	24.4	29%
Insufficient	35.1	31.2	39.2	6%	59.2	55.1	63.1	3%	4.8	3.6	6.3	14%
Sufficient	44.2	41.9	46.7	3%	50.7	48.3	53.2	2%	4.4	3.5	5.5	12%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Fruit consumption, by subjective wellbeing

Met guidelines for daily fruit consumption?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No	36.2	33.6	38.8	4%	56.5	53.8	59.2	2%	6.2	5.1	7.7	10%
Yes	45.7	42.8	48.7	3%	50.1	47.2	53.1	3%	3.5	2.6	4.7	15%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Vegetable consumption, by subjective wellbeing

Met guidelines for daily vegetable consumption?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No	39.9	37.9	42.0	3%	54.0	51.9	56.1	2%	5.2	4.3	6.2	9%
Yes	48.9	41.6	56.3	8%	47.3	40.0	54.6	8%	2.9	1.6	5.2	30%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Sugar-sweetened soft drink consumption, by subjective wellbeing

Consumed sugar-sweetened soft drinks daily?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
No	40.1	37.8	42.5	3%	53.7	51.4	56.1	2%	5.0	4.1	6.2	10%
Yes	35.7	31.0	40.8	7%	56.6	51.4	61.6	5%	6.3	4.3	8.9	19%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Healthcare

Primary health care: last visit to a general practitioner (GP), by subjective wellbeing

Last visit to a GP	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
12 months or more / never	44.3	39.1	49.6	6%	51.6	46.2	57.0	5%	3.4	1.9	5.8	28%
6 to < 12 months	41.6	35.5	47.9	8%	51.4	45.1	57.7	6%	5.2	2.6	10.2	36%
3 to < 6 months	42.3	38.0	46.8	5%	53.3	48.8	57.7	4%	3.6	2.4	5.6	22%
Less than 3 months	39.7	37.1	42.4	3%	53.5	50.8	56.1	3%	5.6	4.5	6.9	11%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Primary health care: blood pressure checked by a health professional in past 2 years, by subjective wellbeing

Had blood pressure checked in past 2 years	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	41.1	38.8	43.5	3%	53.4	51.1	55.8	2%	4.6	3.8	5.6	10%
No	40.7	36.3	45.2	6%	51.7	47.0	56.3	5%	6.4	4.3	9.2	19%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Primary health care: blood cholesterol checked by a health professional in past 2 years, by subjective wellbeing

Had blood cholesterol checked in past 2 years	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	41.1	37.4	44.8	5%	52.9	49.2	56.6	4%	5.3	4.0	6.9	14%
No	40.8	37.8	43.8	4%	53.1	50.0	56.1	3%	4.6	3.4	6.2	16%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Primary health care: blood glucose checked by a health professional in past 2 years, by subjective wellbeing

Had blood glucose checked in past 2 years	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	43.3	40.0	46.6	4%	50.9	47.6	54.2	3%	5.2	4.0	6.7	13%
No	38.3	35.6	41.1	4%	55.1	52.2	57.9	3%	4.9	3.7	6.4	14%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Mental healthcare: sought professional help for a mental health related problem in past year, by subjective wellbeing

Sought professional help for a mental health related problem?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	26.5	21.9	31.6	9%	55.9	50.4	61.3	5%	15.8	12.1	20.6	14%
No	41.9	39.8	44.0	3%	53.3	51.1	55.4	2%	3.7	3.0	4.6	11%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Mental healthcare: number of visits to a health care professional due to negative feelings, by subjective wellbeing

Number of visits to a health professional due to negative feelings	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
None	38.3	36.2	40.5	3%	56.5	54.3	58.7	2%	4.5	3.6	5.5	11%
Once	23.7	16.8	32.2	17%	58.6	46.6	69.7	10%	16.5	8.4	29.8	33%
Twice	14.6	8.0	25.2	29%	55.6	43.0	67.5	12%	26.1	17.0	37.9	21%
More than twice	11.7	5.3	24.1	39%	57.9	45.8	69.1	10%	26.5	18.1	37.0	18%
Total	36.6	34.6	38.7	3%	56.8	54.7	58.8	2%	5.8	4.9	6.8	9%

Dental healthcare: Last visit to a dental health professional, by subjective wellbeing

Last dental healthcare visit	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Less than 12 months ago	43.2	40.7	45.8	3%	50.9	48.3	53.5	3%	5.0	4.0	6.3	12%
1 to < 2 years	40.3	35.9	44.8	6%	54.9	50.4	59.4	4%	4.3	3.0	6.1	18%
2 to < 5 years	32.1	27.2	37.4	8%	59.6	54.1	65.0	5%	7.0	4.7	10.4	21%
5 years or more	34.6	29.1	40.5	8%	59.2	53.4	64.8	5%	4.3	2.6	6.9	25%
Never	26.8	14.8	43.4	28%	55.6	41.4	68.8	13%	1.7	0.3	8.9	86%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Dental healthcare: avoided or delayed dentist healthcare in last 12 months due to cost, by subjective wellbeing

Avoided or delayed dental healthcare in last 12 months due to cost	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
Yes	30.4	27.0	34.1	6%	60.8	57.0	64.4	3%	7.9	6.3	10.0	12%
No	44.3	42.0	46.7	3%	50.7	48.4	53.1	2%	3.8	2.9	4.8	13%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Health outcomes

Self-reported health status, by subjective wellbeing

| Self-reported health status | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Excellent / very Good	57.9	55.2	60.6	2%	40.2	37.5	42.9	3%	1.4	1.0	2.2	21%
Good	28.7	25.9	31.6	5%	66.4	63.3	69.3	2%	4.3	3.2	5.9	16%
Fair / poor	11.6	8.9	15.1	14%	67.3	62.2	72.1	4%	18.5	14.5	23.4	12%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Depression and/or anxiety, by subjective wellbeing

| Ever been diagnosed with depression or anxiety by a doctor? | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Yes	28.4	24.6	32.5	7%	58.2	54.0	62.3	4%	12.0	9.7	14.8	11%
No	43.6	41.3	45.8	3%	52.4	50.1	54.6	2%	3.3	2.5	4.3	14%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Cancer, by subjective wellbeing

| Ever been diagnosed with cancer by a doctor? | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Yes	24.5	20.3	29.2	9%	70.4	65.6	74.8	3%	4.6	3.1	6.8	20%
No	40.8	38.8	42.8	2%	53.3	51.2	55.3	2%	4.9	4.1	5.9	9%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Osteoporosis, by subjective wellbeing

| Ever been diagnosed with osteoporosis by a doctor? | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
Yes	27.1	15.2	43.7	27%	43.7	33.8	54.2	12%	25.3	15.1	39.1	24%
No	41.1	39.2	43.1	2%	53.2	51.2	55.2	2%	4.7	3.9	5.7	9%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Asthma, by subjective wellbeing

| Experienced asthma in last 12 months? | Very high SWB | | | | High SWB | | | | Low/very low SWB | | | |
| | % | 95% CI | | RSE | % | 95% CI | | RSE | % | 95% CI | | RSE |
		LL	UL			LL	UL			LL	UL	
None	41.6	39.3	44.0	3%	53.1	50.7	55.5	2%	4.3	3.4	5.3	11%
Current asthma	36.4	31.5	41.7	7%	53.6	48.2	58.9	5%	8.1	5.5	11.8	19%
Past asthma, not current	36.6	31.9	41.6	7%	55.2	50.0	60.4	5%	6.4	4.2	9.9	22%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Self-reported dental health, by subjective wellbeing

Self-reported dental health status	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Excellent or very good	53.7	50.9	56.5	3%	43.7	40.9	46.5	3%	2.0	1.5	2.8	16%
Good	33.2	30.1	36.4	5%	60.3	56.9	63.6	3%	5.5	4.0	7.5	16%
Fair or Poor	21.9	18.3	26.1	9%	66.1	61.5	70.4	3%	10.7	8.2	13.9	13%
Has dentures, no natural teeth	28.2	16.6	43.6	25%	46.2	33.1	59.9	15%	2.2	1.5	3.2	20%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Mean number of hours slept on previous night, by subjective wellbeing

Subjective wellbeing	Mean number of hours sleep the previous night			
	%	95% CI		RSE
		LL	UL	
Very high SWB	7.4	7.3	7.5	1%
High SWB	7.1	7.0	7.2	1%
Low/very low SWB	6.4	6.1	6.8	3%

Quality of sleep, by subjective wellbeing

Quality of sleep	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
Very good	57.0	52.9	61.0	4%	40.9	36.9	45.0	5%	1.6	1.1	2.2	18%
Fairly good	39.7	37.1	42.3	3%	56.2	53.6	58.9	2%	3.2	2.4	4.3	15%
Fairly bad	21.8	18.3	25.8	9%	65.8	61.2	70.0	3%	11.3	8.6	14.6	13%
Very bad	26.6	19.1	35.8	16%	47.5	39.0	56.2	9%	24.0	17.9	31.2	14%
Total	40.4	38.4	42.3	2%	53.5	51.5	55.4	2%	5.0	4.2	6.0	9%

Number of days totally unable to work or manage day-to-day activites due to negative feelings, by subjective wellbeing

Number of days unable to work or manage day-to-day activities due to negative feelings	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
None	39.1	36.9	41.3	3%	55.6	53.3	57.8	2%	4.7	3.7	5.8	11%
1 to 7 days	19.6	14.5	26.0	15%	68.6	61.9	74.6	5%	10.6	7.5	14.6	17%
8 to 14 days	8.6	4.5	15.8	32%	71.6	62.7	79.0	6%	15.8	9.8	24.4	23%
15 to 28 days	6.3	2.3	16.0	50%	56.3	44.1	67.8	11%	33.3	23.5	44.6	16%
Total	36.6	34.6	38.7	3%	56.8	54.7	58.8	2%	5.8	4.9	6.8	9%

Number of days cut down on work or day-to-day activities due to negative feelings, by subjective wellbeing

Number of days cut down on work or day-to-day activities due to negative feelings	Very high SWB				High SWB				Low/very low SWB			
	%	95% CI		RSE	%	95% CI		RSE	%	95% CI		RSE
		LL	UL			LL	UL			LL	UL	
None	39.9	37.6	42.3	3%	55.6	53.2	58.0	2%	3.8	3.0	4.8	12%
1 to 7 days	27.4	22.9	32.4	9%	60.0	54.7	65.1	4%	11.5	8.1	16.1	18%
8 to 14 days	21.3	12.3	34.4	27%	63.8	51.4	74.6	9%	14.9	9.8	22.0	21%
15 to 28 days	10.9	6.7	17.3	24%	72.7	63.1	80.5	6%	15.1	9.2	23.8	24%
Total	37.1	35.0	39.2	3%	56.8	54.7	58.9	2%	5.4	4.5	6.4	9%

How often physical health problems were the main cause of negative feelings, by subjective wellbeing

How often physical health problems were the main cause of negative feelings?	Very high SWB				High SWB				Low/very low SWB			
		95% CI				95% CI				95% CI		
	%	LL	UL	RSE	%	LL	UL	RSE	%	LL	UL	RSE
None of the time	41.3	39.0	43.8	3%	53.8	51.3	56.2	2%	4.2	3.3	5.4	12%
All or most of the time	22.1	16.2	29.3	15%	57.3	49.2	65.1	7%	18.3	12.5	25.9	19%
Some of the time	25.5	18.1	34.6	17%	67.4	58.4	75.3	6%	6.2	4.0	9.6	23%
A little of the time	26.0	21.7	30.9	9%	68.5	63.2	73.3	4%	5.3	3.2	8.5	25%
Total	36.6	34.6	38.7	3%	56.8	54.7	58.8	2%	5.8	4.9	6.8	9%

Appendix 2: Logistic regression analysis of subjective wellbeing

The following tables report the findings of the logistic regression analyses and include crude and adjusted odds ratios of subjective wellbeing by each indicator evaluated. The following notes apply to all tables:

1. SWB = subjective wellbeing, OR = odds ratio, 95% CI = 95 per cent confidence interval, LL = lower limit of confidence interval and UL = upper limit, and TAFE = technical and further education

2. The prevalence estimates were age-standardised to the 2011 Victorian population by 10-year age groups with the exception of the prevalence estimates of subjective wellbeing by age group.

3. Estimates may not add to 100 per cent due to a proportion of 'don't know' or 'refused to say' responses not reported here.

4. Subjective wellbeing was assessed by asking survey respondents 'In general, how satisfied are you with your life overall?'

5. Very high SWB = very satisfied, high SWB = satisfied, and low/very low SWB = dissatisfied or very dissatisfied

6. An odds ratio is statistically significant if the 95 per cent confidence interval does not contain the number '1.0'. Significant odds ratios are bolded.

7. Adjusted odds ratios were adjusted for both age and sex.

Socio-demography

Socio-demographic determinant	Very high/high subjective wellbeing			Low/very low subjective wellbeing			Crude odds ratio (OR)			Adjusted odds ratio (OR)		
	%	95% CI		%	95% CI		OR	95% CI		OR	95% CI	
		LL	UL		LL	UL		LL	UL		LL	UL
Age (years)												
18–24	**96.9**	93.3	98.6	**3.1**	1.4	6.7	1.0	–	–	–	–	–
25–34	**93.4**	89.1	96.2	**6.6**	3.8	10.9	2.2	0.8	6.0	–	–	–
35–44	**95.3**	93.4	96.7	**4.7**	3.3	6.6	1.6	0.6	3.8	–	–	–
45–54	**94.2**	92.3	95.6	**5.8**	4.4	7.7	2.0	0.8	4.7	–	–	–
55–64	**94.3**	92.8	95.6	**5.7**	4.4	7.2	1.9	0.8	4.5	–	–	–
65+	**95.3**	94.1	96.2	**4.7**	3.8	5.9	1.6	0.7	3.7	–	–	–
Sex												
Males	**94.9**	93.2	96.1	**5.1**	3.9	6.8	1.0	–	–	–	–	–
Females	**95.0**	93.9	95.9	**5.0**	4.1	6.1	1.0	0.7	1.4	–	–	–
Marital status												
Married or living with partner	**96.0**	94.6	97.1	**4.0**	2.9	5.4	1.0	–	–	1.0	–	–
Widowed or divorced or separated	**92.6**	90.3	94.4	**7.4**	5.6	9.7	**2.3**	**1.6**	**3.2**	**2.5**	**1.8**	**3.5**
Never married	**91.1**	87.5	93.6	**8.9**	6.4	12.5	1.5	0.9	2.4	2.3	1.3	4.3
NESB and COB status												
English-speaking born in Australia	**95.2**	94.2	96.1	**4.8**	3.9	5.8	1.0	–	–	1.0	–	–
English-speaking born overseas	**95.3**	92.2	97.2	**4.7**	2.8	7.8	1.2	0.7	2.0	1.2	0.7	1.9
LOTE born overseas	**93.9**	91.3	95.7	**6.1**	4.3	8.7	**1.5**	**1.0**	**2.6**	**1.5**	**1.0**	**2.4**
LOTE born in Australia	**97.7**	94.8	99.0	**2.3**	1.0	5.2	0.5	0.2	1.4	0.5	0.2	1.4
Household type												
Couple	**96.5**	94.4	97.9	**3.5**	2.1	5.6	1.0	–	–	1.0	–	–
Couple with dependent child	**96.9**	95.4	97.9	**3.1**	2.1	4.6	0.9	0.5	1.4	0.8	0.5	1.4
Couple with non-dependent child	**94.9**	90.1	97.4	**5.1**	2.6	9.9	1.4	0.7	2.5	1.4	0.7	2.6
One-parent family with dependent child	**92.6**	88.6	95.2	**7.4**	4.8	11.4	**2.6**	**1.4**	**4.6**	**2.6**	**1.4**	**4.8**
One-parent family with non-dependent child	**86.8**	78.0	92.4	**13.2**	7.6	22.0	**3.5**	**1.9**	**6.6**	**3.4**	**1.8**	**6.5**
Group household	**89.5**	81.8	94.2	**10.5**	5.8	18.2	**2.8**	**1.3**	**6.3**	**2.6**	**1.2**	**5.6**
Lone household	**82.3**	68.1	91.0	**17.7**	9.0	31.9	**2.3**	**1.6**	**3.5**	**2.5**	**1.7**	**3.7**
Household with children?												
Yes	**96.0**	94.2	97.2	**4.0**	2.8	5.8	1.0	–	–	1.0	–	–
No	**94.3**	92.7	95.5	**5.7**	4.5	7.3	1.2	0.8	1.9	1.4	0.8	2.2
Ethnicity												
English-speaking born in Australia	**95.2**	94.2	96.1	**4.8**	3.9	5.8	1.0	–	–	1.0	–	–
English-speaking born overseas	**95.3**	92.2	97.2	**4.7**	2.8	7.8	1.2	0.7	2.0	1.2	0.7	1.9
LOTE born overseas	**93.9**	91.3	95.7	**6.1**	4.3	8.7	**1.5**	**1.0**	**2.6**	**1.5**	**1.0**	**2.4**
LOTE born in Australia	**97.7**	94.8	99.0	**2.3**	1.0	5.2	0.5	0.2	1.4	0.5	0.2	1.4

Socioeconomic status

Socioeconomic determinant	Very high/ high subjective wellbeing %	95% CI LL	95% CI UL	Low/very low subjective wellbeing %	95% CI LL	95% CI UL	Crude odds ratio (OR) OR	95% CI LL	95% CI UL	Adjusted odds ratio (OR) OR	95% CI LL	95% CI UL
Total annual household income												
$100,000 or more	**96.9**	94.8	98.1	**3.1**	1.9	5.2	1.0	–	–	1.0	–	–
$80,000–$99,999	**97.8**	95.5	98.9	**2.2**	1.1	4.5	0.7	0.3	1.7	0.7	0.3	1.8
$60,000–$79,000	**94.2**	90.7	96.5	**5.8**	3.5	9.3	1.5	0.7	3.1	1.6	0.8	3.2
$40,000–$59,999	**96.3**	94.4	97.6	**3.7**	2.4	5.6	0.9	0.5	1.9	1.0	0.5	2.0
$20,000–$39,999	**90.1**	85.3	93.4	**9.9**	6.6	14.7	**2.4**	**1.3**	**4.3**	**3.2**	**1.7**	**5.9**
Less than $20,000	**92.1**	88.9	94.5	**7.9**	5.5	11.1	**2.0**	**1.1**	**3.8**	**2.7**	**1.5**	**5.1**
Employment status												
Employed	**96.0**	94.9	96.9	**4.0**	3.1	5.1	1.0	–	–	1.0	–	–
Unemployed	**86.8**	81.8	90.5	**8.2**	4.8	13.6	1.8	0.97	3.5	**1.9**	**1.0**	**3.8**
Home duties	**96.3**	93.4	97.9	**3.7**	2.1	6.6	0.8	0.4	1.6	0.7	0.3	1.5
Student	**87.8**	79.5	93.0	**7.2**	2.8	17.2	1.1	0.5	2.8	2.0	0.5	7.8
Retired	**98.3**	97.7	98.7	**1.7**	1.3	2.3	1.1	0.7	1.5	1.2	0.8	1.9
Unable to work	**84.2**	76.6	89.6	**15.8**	10.4	23.4	**5.1**	**3.0**	**8.6**	**5.1**	**3.0**	**8.5**
Highest level of education												
Tertiary	**95.5**	93.7	96.8	**4.5**	3.2	6.3	1.0	–	–	1.0	–	–
Technical and further education (TAFE)	**94.9**	92.3	96.6	**5.1**	3.4	7.7	1.0	0.5	1.8	1.0	0.5	1.8
Secondary (Year 12)	**95.3**	92.8	97.0	**4.7**	3.0	7.2	0.8	0.4	1.6	1.0	0.6	1.9
Primary	**93.4**	91.2	95.0	**6.6**	5.0	8.8	1.4	0.9	2.1	**1.5**	**1.0**	**2.3**
Occupational status												
Professional	**95.4**	92.4	97.3	**4.6**	2.7	7.6	1.0	–	–	1.0	–	–
Non-professional	**96.0**	94.6	97.1	**4.0**	2.9	5.4	1.0	0.6	1.7	1.0	0.5	2.0
Homeownership												
Owned or paying a mortgage	**95.2**	94.1	96.1	**4.8**	3.9	5.9	1.0	–	–	1.0	–	–
Public renter	**92.8**	88.4	95.6	**7.2**	4.4	11.6	1.4	0.7	2.5	1.4	0.7	2.6
Private renter	**90.5**	86.7	93.3	**9.5**	6.7	13.3	**1.7**	**1.0**	**2.7**	1.6	0.9	2.7

Psychosocial risk factors

Psychosocial risk factor	Very high/high subjective wellbeing %	95% CI LL	95% CI UL	Low/very low subjective wellbeing %	95% CI LL	95% CI UL	Crude odds ratio (OR) OR	95% CI LL	95% CI UL	Adjusted odds ratio (OR) OR	95% CI LL	95% CI UL
Psychological distress (Kessler 10 score)												
Low (K10 < 16)	98.5	97.9	98.9	1.5	1.1	2.1	1.0	–	–	1.0	–	–
Moderate (K10 = 16 to 21)	93.6	91.3	95.4	6.4	4.6	8.7	4.2	2.6	6.7	4.4	2.7	7.0
High (K10 = 22 to 29)	83.8	78.1	88.2	16.2	11.8	21.9	12.0	7.1	20.3	12.2	7.3	20.6
Very high (K10 ≥ 30)	58.9	48.1	68.9	41.1	31.1	51.9	42.1	23.9	74.2	45.8	25.6	81.9
Food insecure?												
No	95.3	94.3	96.1	4.7	3.9	5.7	1.0	–	–	1.0	–	–
Yes	82.2	75.0	87.7	17.8	12.3	25.0	3.9	2.3	6.6	3.9	2.3	6.8
Financial stress – able to raise $2,000 within 2 days?												
Yes	95.6	94.5	96.4	4.4	3.6	5.5	1.0	–	–	1.0	–	–
No	88.4	85.1	91.1	11.6	8.9	14.9	2.6	1.8	3.8	2.7	1.8	4.0

Social capital

Social capital indicator	Very high/ high subjective wellbeing %	95% CI LL	95% CI UL	Low/very low subjective wellbeing %	95% CI LL	95% CI UL	Crude odds ratio (OR) OR	95% CI LL	95% CI UL	Adjusted odds ratio (OR) OR	95% CI LL	95% CI UL
Number of people spoken with on previous day												
10 or more	97.1	95.9	97.9	2.9	2.1	4.1	1.0	–	–	1.0	–	–
5 to 9	93.7	91.5	95.3	6.3	4.7	8.5	2.1	1.3	3.5	2.1	1.3	3.5
1 to 4	91.0	88.0	93.3	9.0	6.7	12.0	3.1	1.9	4.9	3.1	1.9	5.1
None	88.9	81.2	93.7	11.1	6.3	18.8	4.1	1.8	9.3	4.1	1.7	9.6
Believe multiculturalism makes life better?												
Yes	96.4	95.2	97.4	3.6	2.6	4.8	1.0	–	–	1.0	–	–
Sometimes	95.2	93.7	96.3	4.8	3.7	6.3	1.4	0.9	2.1	1.4	0.9	2.1
No or not often	87.4	82.3	91.1	12.6	8.9	17.7	3.9	2.3	6.6	3.9	2.3	6.6
Neighbourhood tenure												
10 years or more	95.3	94.1	96.3	4.7	3.7	5.9	1.0	–	–	1.0	–	–
5 years to 10 years	94.9	92.7	96.5	5.1	3.5	7.3	1.1	0.6	1.8	1.1	0.6	1.7
One to five years	93.4	91.2	95.1	6.6	4.9	8.8	1.2	0.8	2.0	1.2	0.7	1.9
Less than one year	94.1	82.6	98.2	5.9	1.8	17.4	2.1	0.5	8.6	2.0	0.5	7.8
Able to get help from family?												
Yes, definitely	96.3	95.4	97.0	3.7	3.0	4.6	1.0	–	–	1.0	–	–
Sometimes	89.0	83.6	92.8	11.0	7.2	16.4	2.8	1.8	4.3	2.7	1.7	4.3
No or not often	85.3	78.0	90.5	14.7	9.5	22.0	4.6	2.8	7.6	4.5	2.7	7.5
Able to get help from friends?												
Yes, definitely	96.8	96.0	97.5	3.2	2.5	4.0	1.0	–	–	1.0	–	–
Sometimes	90.3	86.6	93.0	9.7	7.0	13.4	3.5	2.3	5.6	3.4	2.2	5.3
No or not often	74.5	60.8	84.6	25.5	15.4	39.2	7.8	4.9	12.5	8.1	5.0	12.9
Able to get help from neighbours?												
Yes, definitely	97.3	96.4	97.9	2.7	2.1	3.6	1.0	–	–	1.0	–	–
Sometimes	94.9	92.8	96.5	5.1	3.5	7.2	1.8	1.0	3.0	1.8	1.1	3.1
No or not often	90.0	87.5	92.0	10.0	8.0	12.5	3.7	2.5	5.4	3.8	2.6	5.6

Social capital indicator	Very high/ high subjective wellbeing			Low/very low subjective wellbeing			Crude odds ratio (OR)			Adjusted odds ratio (OR)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	OR	LL	UL	OR	LL	UL
Social support												
High	97.0	96.0	97.7	3.0	2.3	4.0	1.0	–	–	1.0	–	–
Moderate	92.3	90.1	94.1	7.7	5.9	9.9	2.5	1.7	3.8	2.5	1.6	3.8
Low	78.5	68.2	86.2	21.5	13.8	31.8	7.9	4.5	14.0	8.0	4.5	14.1
None	77.0	57.2	89.3	23.0	10.7	42.8	10.6	5.0	22.5	11.0	5.2	23.4
Attended local community event												
Yes	96.5	95.4	97.3	3.5	2.7	4.6	1.0	–	–	1.0	–	–
No	92.7	90.8	94.2	7.3	5.8	9.2	2.2	1.5	3.1	2.2	1.5	3.1
Member of a sports club?												
Yes	97.0	95.8	97.9	3.0	2.1	4.2	1.0	–	–	1.0	–	–
No	94.0	92.7	95.1	6.0	4.9	7.3	2.1	1.4	3.3	2.1	1.4	3.3
Member of a religious group?												
Yes	96.9	95.2	97.9	3.1	2.1	4.8	1.0	–	–	1.0	–	–
No	94.5	93.4	95.4	5.5	4.6	6.6	1.7	1.1	2.7	1.7	1.1	2.6
Member of a school group?												
Yes	98.5	97.3	99.2	1.5	0.8	2.7	1.0	–	–	1.0	–	–
No	94.3	93.2	95.3	5.7	4.7	6.8	4.4	2.3	8.2	4.3	2.3	8.0
Member of an other community group?												
Yes	97.6	96.5	98.4	2.4	1.6	3.5	1.0	–	–	1.0	–	–
No	94.3	93.2	95.2	5.7	4.8	6.8	2.3	1.5	3.5	2.4	1.6	3.6
Volunteered												
Yes, definitely	97.1	95.7	98.1	2.9	1.9	4.3	1.0	–	–	1.0	–	–
Sometimes	97.1	94.7	98.4	2.9	1.6	5.3	1.1	0.5	2.3	1.1	0.5	2.4
No or not often	93.6	92.3	94.7	6.4	5.3	7.7	2.3	1.5	3.4	2.3	1.6	3.5
Feel safe walking down street alone after dark?												
Yes	96.3	95.3	97.0	3.7	3.0	4.7	1.0	–	–	1.0	–	–
Sometimes	96.1	94.0	97.5	3.9	2.5	6.0	0.9	0.5	1.6	1.1	0.6	1.8
No or not often	90.1	86.4	92.9	9.9	7.1	13.6	2.7	1.8	4.0	3.3	1.9	5.6
Believe that most people can be trusted?												
Yes	96.9	95.8	97.7	3.1	2.3	4.2	1.0	–	–	1.0	–	–
Sometimes	95.6	94.4	96.6	4.4	3.4	5.6	1.3	0.9	1.9	1.3	0.9	1.9
No or not often	88.7	85.0	91.6	11.3	8.4	15.0	3.8	2.5	6.0	3.9	2.5	6.0
Feel valued by society?												
Yes	97.5	96.4	98.3	2.5	1.7	3.6	1.0	–	–	1.0	–	–
Sometimes	94.8	93.2	96.1	5.2	3.9	6.8	2.1	1.3	3.5	2.1	1.3	3.5
No or not often	81.7	76.3	86.1	18.3	13.9	23.7	8.1	4.9	13.2	7.9	4.8	13.1
Believe there are opportunities to have a real say on important issues?												
Yes	97.5	96.5	98.3	2.5	1.7	3.5	1.0	–	–	1.0	–	–
Sometimes	96.5	95.4	97.3	3.5	2.7	4.6	1.3	0.8	2.0	1.3	0.8	2.0
No or not often	87.7	84.4	90.4	12.3	9.6	15.6	5.2	3.3	8.0	5.2	3.4	7.9
Civic and social trust												
Very high	98.3	97.6	98.8	1.7	1.2	2.4	1.0	–	–	1.0	–	–
HIgh	95.9	94.6	96.9	4.1	3.1	5.4	2.4	1.5	3.7	2.4	1.5	3.9
Moderate	86.0	80.5	90.1	14.0	9.9	19.5	8.4	5.0	14.2	8.7	5.1	14.7
Low	80.2	71.3	86.8	19.8	13.2	28.7	15.3	7.7	30.6	16.2	8.2	32.0
None	72.6	54.4	85.5	27.4	14.5	45.6	21.3	8.5	53.3	22.5	8.4	60.9

Disease-inducing behaviours

Disease-inducing behaviour	Very high/ high subjective wellbeing			Low/very low subjective wellbeing			Crude odds ratio (OR)			Adjusted odds ratio (OR)		
	%	95% CI		%	95% CI		OR	95% CI		OR	95% CI	
		LL	UL		LL	UL		LL	UL		LL	UL
Smoking status												
Non-smoker	95.9	94.8	96.8	4.1	3.2	5.2	1.0	–	–	1.0	–	–
Current smoker	89.5	86.0	92.2	10.5	7.8	14.0	3.0	1.9	4.6	3.0	1.9	4.7
Ex-smoker	96.0	94.1	97.4	4.0	2.6	5.9	1.0	0.7	1.5	0.9	0.6	1.4
At short-term risk of alcohol-related harm												
Abstainer	94.1	91.8	95.8	5.9	4.2	8.2	1.0	–	–	1.0	–	–
Low risk	94.3	92.2	95.9	5.7	4.1	7.8	1.0	0.6	1.4	1.0	0.6	1.5
At least yearly	97.1	95.6	98.1	2.9	1.9	4.4	0.5	0.3	0.9	0.5	0.3	0.9
At least monthly	95.5	92.5	97.4	4.5	2.6	7.5	0.7	0.4	1.4	0.8	0.4	1.6
At least weekly	92.9	89.4	95.3	7.1	4.7	10.6	1.3	0.7	2.4	1.4	0.7	2.5
Body weight status												
Normal	95.8	94.6	96.8	4.2	3.2	5.4	1.0	–	–	1.0	–	–
Underweight	92.1	81.3	96.9	7.9	3.1	18.7	1.7	0.5	5.5	1.8	0.5	5.6
Overweight	95.7	94.1	96.8	4.3	3.2	5.9	1.1	0.7	1.8	1.1	0.7	1.7
Obese	91.2	86.8	94.2	8.8	5.8	13.2	2.3	1.4	3.6	2.1	1.3	3.4
Physical activity level												
Sufficient	95.6	94.5	96.5	4.4	3.5	5.5	1.0	–	–	1.0	–	–
Insufficient	95.1	93.6	96.3	4.9	3.7	6.4	1.2	0.8	1.7	1.2	0.8	1.7
Sedentary	85.7	75.5	92.1	14.3	7.9	24.5	2.9	1.4	5.9	3.0	1.4	6.3
Fruit consumption												
Adequate	93.7	92.3	94.9	6.3	5.1	7.7	1.0	–	–	1.0	–	–
Inadequate	96.5	95.3	97.4	3.5	2.6	4.7	1.9	1.3	2.7	1.9	1.3	2.7
Vegetable consumption												
Adequate	94.8	93.8	95.6	5.2	4.4	6.2	1.0	–	–	1.0	–	–
Inadequate	97.1	94.7	98.4	2.9	1.6	5.3	1.7	0.9	3.2	1.7	0.9	3.1
Consume sugar-sweetened softdrinks daily?												
No	94.9	93.8	95.9	5.1	4.1	6.2	1.0	–	–	1.0	–	–
Yes	93.6	90.9	95.6	6.4	4.4	9.1	1.3	0.8	2.2	1.4	0.8	2.2

Healthcare

Health outcome	Very high/ high subjective wellbeing			Low/very low subjective wellbeing			Crude odds ratio (OR)			Adjusted odds ratio (OR)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	OR	LL	UL	OR	LL	UL
Last GP visit												
More than 12 months or never	**96.6**	94.1	98.1	**3.4**	1.9	5.9	1.0	–	–	1.0	–	–
6 to < 12 months	**94.7**	89.6	97.4	**5.3**	2.6	10.4	1.6	0.6	4.5	1.6	0.6	4.4
3 to < 6 months	**96.3**	94.4	97.6	**3.7**	2.4	5.6	1.0	0.5	2.2	1.0	0.5	2.2
Less than 3 months	**94.3**	93.0	95.4	**5.7**	4.6	7.0	1.5	0.8	2.9	1.5	0.8	3.0
Blood pressure checked in past 2 years												
Yes	**95.4**	94.4	96.2	**4.6**	3.8	5.6	1.0	–	–	1.0	–	–
No	**93.6**	90.7	95.6	**6.4**	4.4	9.3	1.5	0.9	2.4	**1.7**	**1.0**	**2.8**
Blood cholesterol checked in past 2 years												
Yes	**94.7**	93.0	96.0	**5.3**	4.0	7.0	1.0	–	–	1.0	–	–
No	**95.3**	93.7	96.6	**4.7**	3.4	6.3	0.9	0.6	1.3	0.9	0.6	1.5
Blood glucose checked in past 2 years												
Yes	**94.8**	93.3	95.9	**5.2**	4.1	6.7	1.0	–	–	1.0	–	–
No	**95.0**	93.5	96.2	**5.0**	3.8	6.5	0.9	0.6	1.4	1.0	0.6	1.4
Mental health care visit in last year?												
No	**96.2**	95.4	97.0	**3.8**	3.0	4.6	1.0	–	–	1.0	–	–
Yes	**83.9**	79.2	87.7	**16.1**	12.3	20.8	4.6	3.1	6.7	4.7	3.2	7.1
Number of visits to a health professional in past month due to negative feelings												
None	**95.5**	94.5	96.4	**4.5**	3.6	5.5	1.0	–	–	1.0	–	–
Once	**83.3**	70.0	91.5	**16.7**	8.5	30.0	3.5	2.0	6.3	3.7	1.9	6.9
Twice	**73.0**	61.1	82.4	**27.0**	17.6	38.9	7.3	3.9	13.8	7.8	4.4	14.0
More than twice	**71.9**	61.3	80.6	**28.1**	19.4	38.7	8.5	4.7	15.2	9.4	5.2	17.0
Last dental visit												
Less than 12 months ago	**94.9**	93.6	96.0	**5.1**	4.0	6.4	1.0	–	–	1.0	–	–
1 to < 2 years	**95.7**	93.9	97.0	**4.3**	3.0	6.1	0.8	0.5	1.3	0.8	0.5	1.3
2 to < 5 years	**92.9**	89.4	95.3	**7.1**	4.7	10.6	1.5	0.9	2.6	1.5	0.9	2.5
5 years or more	**95.7**	93.0	97.3	**4.3**	2.7	7.0	0.8	0.5	1.4	0.8	0.5	1.4
Avoided or delayed visiting a dentist in last 12 months due to cost												
No	**96.2**	95.1	97.1	**3.8**	2.9	4.9	1.0	–	–	1.0	–	–
Yes	**92.0**	89.9	93.7	**8.0**	6.3	10.1	2.2	1.5	3.2	2.2	1.5	3.1

Health outcomes

Health outcome	Very high/ high subjective wellbeing			Low/very low subjective wellbeing			Crude odds ratio (OR)			Adjusted odds ratio (OR)		
		95% CI			95% CI			95% CI			95% CI	
	%	LL	UL	%	LL	UL	OR	LL	UL	OR	LL	UL
Self-reported health status												
Excellent or very Good	98.6	97.8	99.0	1.4	1.0	2.2	1.0	–	–	1.0	–	–
Good	95.6	94.1	96.8	4.4	3.2	5.9	3.1	1.8	5.2	3.0	1.8	5.2
Fair / poor	81.0	76.1	85.1	19.0	14.9	23.9	16.1	9.8	26.6	16.5	10.0	27.3
Depression and/or anxiety												
No	96.7	95.7	97.5	3.3	2.5	4.3	1.0	–	–	1.0	–	–
Yes	87.8	85.0	90.2	12.2	9.8	15.0	4.1	2.9	5.9	4.2	2.9	6.0
Cancer												
No	95.1	94.1	95.9	4.9	4.1	5.9	1.0	–	–	1.0	–	–
Yes	95.4	93.2	96.9	4.6	3.1	6.8	1.4	0.9	2.1	1.4	0.9	2.2
Osteoporosis												
No	95.2	94.3	96.0	4.8	4.0	5.7	1.0	–	–	1.0	–	–
Yes	74.3	60.3	84.5	25.7	15.5	39.7	2.3	1.5	3.6	2.7	1.7	4.2
Experienced asthma in last 12 months?												
No	95.7	94.7	96.5	4.3	3.5	5.3	1.0	–	–	1.0	–	–
Yes	91.7	88.0	94.4	8.3	5.6	12.0	1.9	1.2	3.1	1.9	1.1	3.1
Past asthma, not current	93.5	90.0	95.8	6.5	4.2	10.0	1.7	1.0	2.9	1.8	1.0	3.1
Self-reported dental health status												
Excellent or very good	98.0	97.2	98.5	2.0	1.5	2.8	1.0	–	–	1.0	–	–
Good	94.4	92.4	96.0	5.6	4.0	7.6	2.7	1.7	4.3	2.7	1.7	4.4
Fair or poor	89.1	85.9	91.6	10.9	8.4	14.1	6.3	4.0	10.0	6.4	4.0	10.2
Quality of sleep												
Very good	98.4	97.7	98.9	1.6	1.1	2.3	1.0	–	–	1.0	–	–
Fairly good	96.8	95.7	97.6	3.2	2.4	4.3	2.0	1.2	3.1	2.0	1.3	3.1
Fairly bad	88.6	85.3	91.3	11.4	8.7	14.7	8.1	5.0	13.2	8.2	5.2	13.2
Very bad	75.5	68.2	81.6	24.5	18.4	31.8	18.3	10.6	31.6	19.0	11.1	32.6
Number of days unable to work or do day-to-day activities due to negative feelings												
None	39.1	36.9	41.3	4.7	3.7	5.8	1.0	–	–	1.0	–	–
1 to 7 days	19.6	14.5	26.0	10.6	7.5	14.6	2.1	1.3	3.4	2.1	1.3	3.6
8 to 14 days	8.6	4.5	15.8	15.8	9.8	24.4	4.6	2.1	10.4	4.8	2.2	10.6
15 to 28 days	6.3	2.3	16.0	33.3	23.5	44.6	10.1	4.8	21.0	9.4	4.3	20.5
Number of days cut down on work or day-to-day activities due to negative feelings												
None	39.9	37.6	42.3	3.8	3.0	4.8	1.0	–	–	1.0	–	–
1 to 7 days	27.4	22.9	32.4	11.5	8.1	16.1	3.2	1.9	5.2	3.3	2.0	5.4
8 to 14 days	21.3	12.3	34.4	14.9	9.8	22.0	3.9	2.0	7.8	4.0	2.0	8.2
15 to 28 days	10.9	6.7	17.3	15.1	9.2	23.8	3.6	1.8	7.3	3.4	1.6	7.2
How often have physical health problems been the cause of the negative feelings?												
None of the time	41.3	39.0	43.8	4.2	3.3	5.4	1.0	–	–	1.0	–	–
A little of the time	26.0	21.7	30.9	5.3	3.2	8.5	1.2	0.7	2.2	1.2	0.7	2.2
Some of the time	25.5	18.1	34.6	6.2	4.0	9.6	1.5	0.9	2.5	1.5	0.9	2.5
All or most of the time	22.1	16.2	29.3	18.3	12.5	25.9	5.3	3.3	8.5	5.4	3.4	8.7