Part A: The Report

“The Wellbeing of Australians – Gambling, Chocolate and Swine Flu”

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Executive Summary

Introduction

The Australian Unity Wellbeing Index monitors the subjective wellbeing of the Australian population. Our first survey was conducted in April 2001 and this report concerns the 21st survey, undertaken in May 2009. Our previous survey had been conducted six months earlier in October 2008. This six month period corresponded to the 12-18 month period of the new Labor Government, elected in November 2007. It was also marked by an increasing appreciation that the international financial situation was worsening and that Australia would be adversely affected to some degree.

By the time of the survey, the share market had decreased by over 30%. Clearly this threatened many people’s investments and superannuation. However, few people had lost their jobs as a direct consequence of the economic environment and, for those people with jobs, many were better-off financially due to cuts in interest rates, and so, in mortgage repayments.

Each survey involves a telephone interview with a new sample of 2,000 Australians, selected to represent the geographic distribution of the national population. These surveys comprise the Personal Wellbeing Index, which measures people’s satisfaction with their own lives, and the National Wellbeing Index, which measures how satisfied people are with life in Australia. Other items include a standard set of demographic questions and other survey-specific questions. The specific topics for Survey 21 are Swine Flu, Chocolate Eating, and Gambling.

The Theory

The theoretical framework for the interpretation of data is the theory of Subjective Wellbeing Homeostasis. This proposes that each person has a ‘set-point’ for personal wellbeing that is internally maintained and defended. This set-point is genetically determined and, on average, causes personal wellbeing to be held at 75 points on a 0-100 scale. The normal level of individual set-point variation is between about 60-90 percentage points. The provision of personal resources, such as money or relationships, cannot normally increase the set-point on a long term basis due to the genetic ceiling. However, they can strengthen defences against negative experience. Moreover, for someone who is suffering homeostatic defeat, the provision of additional resources may allow them to regain control of the wellbeing. In this case the provision of resources will cause personal wellbeing to rise until the set-point is achieved.

Low levels of personal resources, such as occasioned by low income or absence of a partner, weakens homeostasis. If personal challenges such as stress or pain exceed resources, homeostasis is defeated, and subjective wellbeing decreases below its normal range.

The Analyses

All data have been standardized to a 0-100 range. Thus, the magnitude of group differences is referred to in terms of percentage points. Reference is also made to normative ranges. These have been calculated for the Personal Wellbeing Index in terms of the whole data-set that combines data across all surveys (see Appendix 2). Norms have also been calculated separately for each of the Personal Wellbeing Index domains. They have also been calculated for gender, age groups and work-status groups. These norms are presented at the back of their respective chapters. All of the reported trends are statistically significant.

Dot point summaries are provided at the end of each Chapter.
The Results

Personal Wellbeing Index:

The Personal Wellbeing Index has fallen-back slightly since the special survey conducted in February 2009 immediately following the Victorian bushfire tragedy.

Satisfaction with Standard of Living is now at its second-highest level yet recorded.

Satisfaction with Safety has been maintained at its second-highest level yet recorded.

Satisfaction with Community has fallen-back somewhat since February 2009 when it reached a record high. It remains at a very high level.

Satisfaction with Future Security has risen marginally since October 2008 but remains quite low.

► The level of population wellbeing remains high.

National Wellbeing Index

The National Wellbeing Index has fallen by a non-significant 0.4 points since October 2008.

Satisfaction with the Economic Situation remains low.

Satisfaction with Government has declined steadily since April 2008 but remains very high.

It is interesting to note the degree of disconnection between the Economic Situation and Government. Clearly, at the time of the survey the population was not blaming the Government.

► Overall, the National Wellbeing Index is holding up quite well.

Terrorist Threat

The proportion of the sample who believe that a terrorist attack in Australia is likely to occur within the near future fell by 1.3% since the previous survey. About 40% of the sample still considered such an attack likely. Those people who thought an attack likely also showed no change in the strength of their conviction since the last survey.

It is notable that strong beliefs in the likelihood of an attack are associated with low personal wellbeing. The people who regard the likelihood of such an attack as 9/10 or 10/10 have below normal wellbeing. This finding raises the issue of the benefits and disadvantages of Government warnings concerning the possibility of terrorist attacks on Australia.

► About 40% of the sample still consider that the threat of a terrorist attack in Australia is likely in the near future. Since people who regard such an attack as highly likely have lower than normal wellbeing, there is a clear downside to issuing national terrorist alerts.
Special Survey Topics

Swine Flu

(a) During the period of the survey, swine flu did not reach Australia. Perhaps because of this, only the people reporting the highest level of worry (2.6% of the whole sample) have lower than normal wellbeing.

(b) Females report higher levels of worry than males. This is consistent with gender trends showing females to be more concerned with many other aspects of life than males.

(c) People living with their partner and children show a fall in wellbeing at high levels of worry. This may be due to the perceived consequences of catching the disease for either their children or for themselves in their caring role.

(d) People engaged in full-time home/family care show a fall in wellbeing at high levels of worry. This may be due to the perceived consequences of catching the disease in their carer role.

In May 2009 Swine Flu had not reached Australia in its infectious form. Thus, the level of worry concerning the disease was generally low. However, people caring for children had high levels of worry and the small proportion of the whole sample (2.5%) who had a 10/10 level of worry did have reduced wellbeing. Whether this level of worry was compounded by other factors is not known but seems likely.

Chocolate

(a) People who would prefer to eat chocolate either more or less often than they do have low levels of wellbeing. These people comprise 43.7% of chocolate eaters.

(b) Females are at higher risk than males of wishing they ate less chocolate.

(c) The people who wish they could eat chocolate more often than they do have low satisfaction in the domains that concern other people (Relationships and Community). This may reflect dissatisfaction with the source of control.

(d) People who live alone have, on average, low wellbeing. This does not apply, however, to people who are contented with the chocolate they eat. It is only the people who would like to change the amount they eat who have low wellbeing. This is probably a reflection of a general feeling to low control in their lives that results in low wellbeing.

(e) People who experience low control over their lives are likely to experience generally enhanced levels of anxiety and worry. This is reflected in the enhanced levels of worry about swine flu among people who wish they could change the amount of chocolate they eat.

The frequency with which people eat chocolate is not related to their wellbeing. However, if people are concerned at the amount they eat, wishing they could eat either more or less chocolate, then they are likely to have low wellbeing. The reason may be linked to reduced personal control. If people wish they could eat more then it is likely their behaviour is being controlled by another person. And, if their chocolate eating is being controlled so, probably, are many other aspects of their life. Alternatively, if they wish they could eat less chocolate then they are likely to feel guilt. Both low personal control and guilt reduce wellbeing.

Gambling

(a) About half of the sample (46.1%) gamble for money and their wellbeing is significantly lower than for the people who do not gamble.

(b) People who have Spiritual/Religious beliefs and who also gamble have significantly lower wellbeing. Their losses may be doubly disappointing if they expect their belief to protect them against loss.
(c) The low wellbeing associated with Spiritual/Religious beliefs and gambling is only evident in people who have low Spiritual/Religious satisfaction.

(d) The gamblers with low wellbeing are those who gamble each week or more frequently.

(e) Gambling is more common among males (56.3% vs 51.5% for females)

(f) People with Spiritual/Religious beliefs who gamble once each week or more often have low wellbeing.

(g) People who gamble alone once or more each week have low wellbeing.

(h) The people most likely to gamble alone have lost their partner through separation, divorce or widowhood.

(i) People who wish they could gamble either more or less frequently than they do have low wellbeing. Their gambling behavior is not under their control.

(j) Only 3.3% of the whole sample, and 7.4% of gamblers feel that their gambling makes their life worse.

► While gamblers in general have low wellbeing, their low group average is caused by some identified sub-groups, rather than applying to gamblers in general. These sub-groups with low wellbeing are described as: (a) gambling each week or more often; (b) having a low level of spiritual/religious satisfaction; (c) gambling alone.

Demographic Influences

Household Income:

(a) Personal wellbeing consistently rises with income up to $101-150K. The 6.4 point gain over this range is associated with a change in wellbeing from below to well above the normative range. Whether the rise in SWB becomes significant beyond $101-150K will be revealed by the addition of further data.

(b) The cost of increasing happiness increases with income. One additional percentage point of wellbeing for someone with a household income of $151-250K is an additional $108,695.

(c) Income has the largest effect on the domain of satisfaction with Standard of Living. It has no systematic influence on satisfaction with Community Connection.

(d) The personal wellbeing of people aged 26-55 years is highly sensitive to low income.

(e) Between the ages of 36-55 years, low income is associated with lower wellbeing for males than for females.

(f) (1) Household incomes under $30,000 combined with the presence of children, on average, take wellbeing below the normal range.

(2) For people who also have a partner, wellbeing enters the normal range at $31-$60K. The wellbeing of sole parents enters the normal range only at an income of $61,000-$100,000.

(g) Males who live alone have lower wellbeing than females who live alone. Moreover, whereas females enter the normal range at an income of $15-30K, males require three times as much ($100-150K)

(h) The negative effects of separation and divorce on wellbeing can be reduced by a decent household income. However, both groups remain below the normal range.

(i) Married males and females have a very similar level of wellbeing. However, divorced males have lower wellbeing than divorced females at all incomes except the lowest.
The wellbeing of people engaged in Fulltime home/family care is highly income dependent, from below normal at less than $30,000 to above normal at more than $60,000. People who are unemployed enter the normal range at $101-150K.

Unemployment has a stronger detrimental effect on the wellbeing of unemployed males than females at all levels of household income.

Happiness is bought at discount by people who are poor. For people with a household income <$15,000, and additional $6,522 buys an extra point of wellbeing. At a household income of $151,000-$250,000, an arithmetic extrapolation suggests an extra point requires an extra $147,056. However, due to ceiling effects, this increase may not be actually possible to achieve.

Gender:

(a) Females generally have higher levels of personal wellbeing than males. However, this is survey-dependent. There is no gender difference over the 2.5 year period Survey 14 to Survey 18.1 and in Survey 19 males > females.

(b) The only personal domain to be consistently lower for females is safety. This dropped lower following September 11 for females but not for males. These differences were maintained for about 18 months. Since then the gender differences have been unpredictable.

(c) Relationships shows a significant interaction between gender and survey. It seems possible that the sense of threat over surveys 2-12 increased the level of relationship satisfaction for both genders, but more so for females than males. Since May 2005 the satisfaction level of both genders has returned to their baseline Survey 1 values.

(d) The National Wellbeing Index remains at a high level for both genders. Males score higher than females showing that the Personal Wellbeing Index difference is not due to gender response bias.

(e) Gender differences in personal wellbeing only emerge at 26-35 years of age. They then progressively decrease with increasing age. The reason for this is not understood.

(f) The gender difference in satisfaction with relationships is most pronounced in the youngest groups. Males are lower than females.

(g) Males who live alone have lower personal wellbeing than females.

(h) Female wellbeing does not significantly differ between full-time employed and full-time home care (0.8 points). Male wellbeing is higher for full-time employment than full-time home care (+3.2 points).

(i) In terms of the lowest margin of the normal distribution, the risk of depression (scores <50) is highest in males aged 36-55 years and females aged 46-55 years.

(j) Since Survey 9, the wellbeing of male fulltime workers has increased while the wellbeing of females has remained steady or even decreased.

(k) Unemployment has a more devastating effect on the wellbeing of males than on females.

Age:

(a) The youngest group is above their normative level for Survey 19. They also have the lowest proportion who believe a terrorist attack is imminent.

Three groups as 36-45, 46-55 and 66-75 have low wellbeing relative to their normative range.
(b) After being significantly different from one another over Surveys 2-16, the youngest group has sustained its rise to be statistically no different from the oldest group. The reason for this change is not known.

(c) The two groups that seem to be evidencing signs of distress are 36-45y and 66-75y groups. On several domains as Health, Achieving and Future Security, they are at levels that are either very low, or even below, their age-normative ranges. This pattern may be tied to emerging economic stress and uncertainty for people raising families and for self-funded retirees.

(d) (1) The most surprising result is that satisfaction with the economic situation and business in Australia are rated so differently from one another. While satisfaction with the Economic Situation is rated uniformly at the bottom of each age-specific normal range, satisfaction with Business continues to be generally rated above average.

(2) It is also clear that the Government is not being blamed for the economic down-turn. Satisfaction ratings for all groups up to 56-65y continue to rate their level of satisfaction as very high.

(3) Satisfaction with National Security continues to be very high across all age groups. This has been a persistent finding for some time now and possibly reflects an earlier terrorist threat that has not eventuated.

(e) In the middle age, people who do not live with a partner are at risk of low wellbeing.

(f) Living with your children as a sole parent from 66 years and older is good for your wellbeing.

(g) The average wellbeing of married people varies by 2.4 points across the age-range. The wellbeing of people who are divorced varies by 6.2 points, is lowest at 46-55, and never enters the normal range.

(h) Unemployment has a devastating effect on personal wellbeing beyond 25 years of

The two groups that seem to be showing signs of distress are the 36-45y and 66-75y groups. This may be tied to economic stress and uncertainty for people raising young families and self-funded retirees.

Household composition – who people live with:

(a) The highest levels of personal wellbeing are achieved by people living with their partner. The lowest personal wellbeing is found among sole parents. Their low wellbeing puts many of them at risk of depression.

(b) People who live alone have a major loss of wellbeing in terms of relationships and health. The relative lack of buffering caused by poor relationship availability makes the person more vulnerable to life stressors. Thus, minor health issues may seem important due to the lack of a close friend with whom such matters can be discussed.

(c) For a couple living together, the presence of children reduces two domains (Standard of Living, Relationships) and enhances one domain (Health). This may be an example of domain compensation involving perceived health. The net result is little difference between these groups in the overall Personal Wellbeing Index. However, since money and relationships are the most important domains for overall wellbeing, the relative deficit in these for partners with children may make them less resilient to additional stress, particularly if this is caused by poor health.

(d) The domain that is most deficient for sole parents is Relationships. It is particularly notable that this disparity in satisfaction is far higher than it is for Standard of Living even though the Sole Parents are a very low income group. It seems evident that the major factor missing from the lives of Sole Parents is an intimate relationship with another adult.

(e) For people who live alone, those who are married, and widows have above normal range Personal Wellbeing Index.
With the exception of widows, the Personal Wellbeing people who live alone is highly income-dependent. The wellbeing of Never Married and Separated enters the normal range at an income of about $101-150K. However, the wellbeing of people who are divorced remains below the normal range at this level of income.

Sole parents who are widowed or married have normal-range wellbeing at $61-100K. Those who have never married or who are separated or divorced require $101-150K to achieve normative range wellbeing.

One key to wellbeing for people who are unemployed is to live with a partner. The presence of children diminishes wellbeing to some extent, but only among low income couples.

For Sole Parents, part-time work is associated with only marginally higher wellbeing than part-time volunteering. Both groups enter the normal range at $61-100K.

Children, or other dependent family members, drain the financial and emotional resources of their supporting adults. When the resources are adequate, dependents have little influence on parental wellbeing. When resources are inadequate children place the wellbeing of co-habiting adults at risk.

Marital Status:

People who are married have a significantly (2.2 point) higher wellbeing than people in a defacto relationship. In part this may be due to lower household income for the defacto group.

Widows have an average level of wellbeing that lies at the top of the normal range. This is despite low income for this group.

People who have never married have a level of personal wellbeing that lies between people who remain married and those who have separated or divorced. However, this is age dependent and is only evidenced by people aged between 26-65 years. Younger and older people who have never married have normal levels of wellbeing. See Chapter 5 for a full discussion.

Widows have relatively low health satisfaction. This is probably due to the burden of accumulated medical condition, that yield pain, such as arthritis.

Despite this, their overall wellbeing lies at the top of the normal range. This is due to compensating high levels in other domains.

The fact of full-time employment is not, of itself, able to bring all marital status groups into the normal range. Thus, the idea that work, of itself, has some intrinsic value to enhance personal wellbeing is not supported.

The negative effect of unemployment on wellbeing is partially buffered through marriage. However, the combination of separation/divorce and unemployment is devastating, yielding one of our lowest group mean scores for personal wellbeing (58.8).

Part-time volunteers have higher wellbeing than non-volunteers. The group to benefit most are people who are separated. This, may imply that the positive effect of volunteering is most evident in the early stages and dissipates as the activity become routine.

Even though people who are divorced and have a full-time well-paid job, their average level of wellbeing remains below the normal range.

For people who have never married, those who have retired require only $15-30K to enter the normal range. This does not occur for Fulltime students until their household income reaches $61-100K, while those in Fulltime employment require $101-150K. These differences are strongly influenced by effects due to age.
The presence of a partner acts as a buffer against negative life experiences. Through this means partners strengthen one another’s personal wellbeing.

**Work Status:**

(a) The personal wellbeing of most work-status groups falls in the normal range. People full-time retired lie above the normal range while people who are unemployed fall below.

(b) Even though full-time retired have lower than normal health satisfaction, their personal wellbeing is above normal (see above). This emphasises that measures of subjective health are invalid as measures of overall wellbeing.

(c) Even though full-time volunteers have low health satisfaction, they have higher than normal satisfaction with Community.

(d) Full-time students have below-normal satisfaction in both domains that indicate connection to other people (relationships and community). This likely makes students more vulnerable to the effects of misfortune. On such occasions, inter-personal relationships constitute a major buffer.

(e) People who are unemployed have lower than normal wellbeing for all domains except safety.

(f) Of those people full-time employed, the 10.0% who are looking for work have lower than normal wellbeing. This is most particularly evident in the domain of Achieving. This domain pattern may be diagnostic of employees who are functioning poorly in their current employment.

(g) Whether people who are unemployed are looking for work or not makes no significant difference to their low personal wellbeing. On a domain basis, people not looking for work have higher satisfaction with Achieving and Future Security.

(h) Engaging in part-time volunteer work has a marginal relationship with higher wellbeing for people who are unemployed. It does not bring their wellbeing into the normal range.

(i) Relative to gender-specific norms, fulltime employment favors the wellbeing of males slightly more than females.

(j) Males who are engaged in fulltime home or family care are positioned below their normative range. Their wellbeing is -3.5 points below males who are fulltime employed. The wellbeing of full-time home care females is -0.6 points below employed females. Thus, compared to Fulltime employment, males in full-time home care have a relatively greater wellbeing loss than females.

The low levels of wellbeing associated with unemployment are not significantly ameliorated by either active job hunting or volunteer work.

**Life Events:**

(a) About half of the sample consider that a recent life event, that has happened to them, has made them feel happier or sadder than normal.

(b) Both males and females were more likely to report a personal sad event in the period immediately following September 11 and just prior to the electoral defeat of 2007. More males than normal, but not females, reported a personal happy event immediately prior to the Iraq war.

(c) Females are more likely to recall the experience of a sad than a happy event in their lives.

(d) Young adults are more likely to report the experience of happy than sad events in their lives. This changes at 36-45 years. At this age and older, people are more likely to report the occurrence of a sad event.
(e) The recalled frequency of sad events is income sensitive up to an income of $61-100K. The recalled frequency of happy events continues to rise with income at least up to $151-250K.

(f) Females experience the intensity of both happy and sad events more strongly than males. This represents a pattern of enhanced emotional responsiveness for females.

(g) An investigation into changes in Personal Wellbeing Index across the days of the week detected no systematic effects. This is true irrespective of work-status.

Females experience the intensity of both happy and sad events more strongly than males. This represents a pattern of enhanced emotional responsiveness for females.
1. Introduction

The Australian Unity Wellbeing Index is a barometer of Australians’ satisfaction with their lives and life in Australia. Unlike most official indicators of quality of life and wellbeing, it is subjective – it measures how Australians feel about life, and incorporates both personal and national perspectives. The Index shows how various aspects of life – both personal and national – affects our sense of wellbeing.

The Index is an alternative measure of population wellbeing to such economic indicators as Gross Domestic Product and other objective indicators such as population health, literacy and crime statistics. The Australian Unity Wellbeing Index measures quality of life as experienced by the average Australian.

The Index yields two major numbers. The Personal Wellbeing Index is the average level of satisfaction across seven aspects of personal life – health, personal relationships, safety, standard of living, achieving, community connectedness, and future security. The National Wellbeing Index is the average satisfaction score across six aspects of national life – the economy, the environment, social conditions, governance, business, and national security.

A considerable body of research has demonstrated that most people are satisfied with their own life. In Western nations, the average value for population samples is about 75 percentage points of satisfaction. That is, on a standardised scale from 0 (completely dissatisfied) to 100 (completely satisfied) the average person rates their level of life satisfaction as 75. The normal range is from 70 points to 80 points. We find the Personal Wellbeing Index to always fall within this range. However, satisfaction with aspects of national life are normally lower, falling in the range 55 to 65 points in Australia.

The first index survey, of 2,000 adults from all parts of Australia, was conducted in April 2001. Since then 20 additional surveys have been conducted, with this most recent survey in May 2009. Copies of earlier reports can be obtained either from the Australian Unity website (www.australianunity.com.au) or from the Australian Centre on Quality of Life website at Deakin University (http://www.deakin.edu.au/research/acqol/index.htm). This report concerns the most recent survey.

The same core index questions, forming the Personal and the National Wellbeing Index, are asked within each survey. In addition we ask two highly general questions. One concerns ‘Satisfaction with Life as a Whole’. This abstract, personal measure of wellbeing has a very long history within the survey literature and its measurement allows a direct comparison with such data. The second is intended as an analogous ‘national’ item. It concerns ‘Satisfaction With Life in Australia’.

Each survey also includes demographic questions and a small number of additional items that change from one survey to the next. These explore specific issues of interest, either personal or national. Such data have several purposes. They allow validation of the Index, the creation of new population sub-groups, and permit further exploration of the wellbeing construct.

1.1. Understanding Personal Wellbeing

The major measurement instrument used in our surveys is the Personal Wellbeing Index (PWI). This is designed as the first level deconstruction of ‘Life as a Whole’. It comprises seven questions relating to satisfaction with life domains, such as ‘health’ and ‘standard of living’. Each question is answered on a 0-10 scale of satisfaction. The scores are then combined across the seven domains to yield an overall Index score, which is adjusted to have a range of 0-100.

On a population basis the scores that we derive from this PWI are quite remarkably stable. Appendix AI presents these values, each derived from a geographically representative sample of 2,000 randomly
selected adults across Australia. As can be seen, these values range from 73.5 to 76.6, a fluctuation of only 3.1 points. How can such stability be achieved?

We hypothesize that personal wellbeing is not simply free to vary over the theoretical 0-100 range. Rather, it is held fairly constant for each individual in a manner analogous to blood pressure or body temperature. This implies an active management system for personal wellbeing that has the task of maintaining wellbeing, on average, at about 75 points. We call this process Subjective Wellbeing Homeostasis (Cummins et al., 2002).

The proper functioning of this homeostatic system is essential to life. At normal levels of wellbeing, which for group average scores lies in the range of 70-80 points, people feel good about themselves, are well motivated to conduct their lives, and have a strong sense of optimism. When this homeostatic system fails, however, these essential qualities are severely compromised, and people are at risk of depression. This can come about through such circumstances as exposure to chronic stress, chronic pain, failed personal relationships, etc.

Fortunately for us, the homeostatic system is remarkably robust. Many people live in difficult personal circumstances which may involve low income or medical problems, and yet manage to maintain normal levels of wellbeing. This is why the Index is so stable when averaged across the population. But as with any human attribute, some homeostatic systems are more robust than others. Or, put around the other way, some people have fragile systems which are prone to failure.

Homeostatic fragility, in these terms, can be caused by two different influences. The first of these is genetic. Some people have a constitutional weakness in their ability to maintain wellbeing within the normal range. The second influence is the experience of life. Here, as has been mentioned, some experiences such as chronic stress can challenge homeostasis. Other influences, such as intimate personal relationships, can strengthen homeostasis.

In summary, personal wellbeing is under active management and most people are able to maintain normal levels of wellbeing even when challenged by negative life experiences. A minority of people, however, have weaker homeostatic systems as a result of either constitutional or experiential influences. These people are vulnerable to their environment and may evidence homeostatic failure. The identification of sub-groups that contain a larger than normal proportion in homeostatic failure of people is an important feature of our survey analyses.

1.2. The Survey Methodology

A geographically representative national sample of people aged 18 years or over and fluent in English, were surveyed by telephone over the period 6th May to 20th May 2009. Interviewers asked to speak to the person in the house who had the most recent birthday and was at least 18 years old. A total of 111,203 calls were made. Of these, 6,035 connected with an eligible respondent and 2,002 agreed to complete the survey. This gives an effective response rate of 33.2%. This low response rate reflects, in part, the methodological constraint that an even geographic and gender split was maintained at all times through the survey.

All responses are made on a 0 to 10 scale. The satisfaction responses are anchored by 0 (completely dissatisfied) and 10 (completely satisfied). Initial data screening was completed before data analysis.

1.3. Presentation of results and type of analysis

In the presentation of results to follow, the trends that are described in the text are all statistically significant at p<.05. More detailed analyses are presented as Appendices. These are arranged in sections that correspond numerically with sections in the main report. All Appendix Tables have the designation ‘A’ in addition to their numerical identifier (e.g. Table A9.2).
All satisfaction values are expressed as the strength of satisfaction on a scale that ranges from 0 to 100 percentage points.

In situations where homogeneity of variance assumptions has been violated, Dunnett's T3 Post-Hoc Test has been used. In the case of t-tests we have used the SPSS option for significance when equality of variance cannot be assumed.

The raw data for this and all previous reports are available from our website: http://www.deakin.edu.au/research/acqol/index_wellbeing/index.htm.

1.4. **Internal Report Organisation**

(a) The new results from this survey are summarised in Table 2.1 (see Chapter 2).

(b) Most Tables are presented as appendices.

(c) Chapter 2 presents a comparative analysis of Personal and National Wellbeing with previous surveys.

(d) Chapters 3-8 present the major groupings of independent (demographic) variables. Within each Chapter, the first section concerns the analysis of all dependent variables listed in Table 2.1. This is followed by analyses of the demographic variables in combination with the Personal Wellbeing Index and other measures.

(e) Chapter 9 concerns Life Events.

(f) Chapters 10-12 concern the special topics for this survey which are Swine Flu, Chocolate Eating, and Gambling.

(g) Chapter 13 concerns a technical analysis of data in relation to homeostasis.

(h) Each Chapter contains a dot-point summary.
2. A Comparison Between Survey 20 and Survey 21

2.1. Overview

Table 2.1: Means and standard deviations of the 21st survey

<table>
<thead>
<tr>
<th>Question</th>
<th>Mean</th>
<th>SD</th>
<th>Point change from October 2007</th>
<th>t-test</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERSONAL WELLBEING INDEX</td>
<td>75.62</td>
<td>12.32</td>
<td>.74</td>
<td>.065</td>
<td></td>
</tr>
<tr>
<td>Personal domains</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Standard of living</td>
<td>78.79</td>
<td>16.47</td>
<td>1.54</td>
<td>.004</td>
<td></td>
</tr>
<tr>
<td>2. Health</td>
<td>74.69</td>
<td>19.50</td>
<td>.98</td>
<td>.115</td>
<td></td>
</tr>
<tr>
<td>3. Achieving in life</td>
<td>73.39</td>
<td>18.64</td>
<td>.99</td>
<td>.101</td>
<td></td>
</tr>
<tr>
<td>4. Personal relationships</td>
<td>79.42</td>
<td>20.99</td>
<td>-.18</td>
<td>.789</td>
<td></td>
</tr>
<tr>
<td>5. How safe you feel</td>
<td>80.74</td>
<td>16.93</td>
<td>.49</td>
<td>.370</td>
<td></td>
</tr>
<tr>
<td>6. Community connect</td>
<td>72.00</td>
<td>18.99</td>
<td>1.01</td>
<td>.108</td>
<td></td>
</tr>
<tr>
<td>7. Future security</td>
<td>70.65</td>
<td>19.00</td>
<td>.87</td>
<td>.159</td>
<td></td>
</tr>
<tr>
<td>8. Spiritual/ Religious Fulfilment</td>
<td>71.81</td>
<td>24.46</td>
<td>.50</td>
<td>.549</td>
<td></td>
</tr>
<tr>
<td>Life as a whole</td>
<td>78.21</td>
<td>16.95</td>
<td>1.19</td>
<td>.028</td>
<td></td>
</tr>
<tr>
<td>NATIONAL WELLBEING INDEX</td>
<td>61.50</td>
<td>13.01</td>
<td>-.35</td>
<td>.411</td>
<td></td>
</tr>
<tr>
<td>National domains</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Economic situation</td>
<td>59.91</td>
<td>19.09</td>
<td>1.36</td>
<td>.026</td>
<td></td>
</tr>
<tr>
<td>2. State of the environment</td>
<td>59.80</td>
<td>18.11</td>
<td>1.56</td>
<td>.007</td>
<td></td>
</tr>
<tr>
<td>3. Social conditions</td>
<td>62.56</td>
<td>17.59</td>
<td>.08</td>
<td>.891</td>
<td></td>
</tr>
<tr>
<td>4. Government</td>
<td>57.70</td>
<td>22.47</td>
<td>-1.09</td>
<td>.122</td>
<td></td>
</tr>
<tr>
<td>5. Business</td>
<td>61.60</td>
<td>16.37</td>
<td>-.64</td>
<td>.234</td>
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<tr>
<td>6. National security</td>
<td>67.60</td>
<td>18.72</td>
<td>-2.89</td>
<td>.000</td>
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</tr>
<tr>
<td>Life in Australia</td>
<td>85.28</td>
<td>15.16</td>
<td>1.34</td>
<td>.008</td>
<td></td>
</tr>
</tbody>
</table>

Likelihood of Terrorist Attack in Australia

% who think it likely 38.4% -1.3%
Strength of likelihood 65.58 17.39 .75 .425

The Major Indices

These results are found in Table 2.1 (Survey 21), Table 2.1.1 (Comparative between surveys). Past comparative results between surveys are found in Tables A2.1.2 and A2.1.3.
2.2. Personal Wellbeing Index

The Personal Wellbeing Index has fallen by a non-significant 0.7 percentage points since Survey 20 in October 2008. It current value of 75.6 points remains higher than Survey 1 but very close to the overall mean value across all surveys of 75.06 points. It has fallen marginally by 0.3 points since the special Survey 20.1 conducted immediately following the bush-fires in Victoria.

Over all the surveys, it is notable that the Personal Wellbeing Index is so stable. It has varied by just 3.1 points over all the surveys. Moreover, the change from one survey to the next has been 1 point or less except for 4 of the 21 surveys. These occasions have been S1-S2 (September 11), S11-S12/S12-S13 (Sydney Olympics) ,S14-S15 (Second Bali Bombing), and S20-S20.1 (Victorian Bush Fires). The Personal Wellbeing Index is currently 2.3 points above its level at Survey 1, which is significant.

Trends over time

The most obvious trend for the Personal Wellbeing Index is that the it rose following September 11 and remained generally higher. Of the 19 surveys conducted since Survey 1, 13 (68.4%) have been significantly higher than this initial value.

It seems that both positive and negative events have acted to raise the wellbeing of the Australian population. In terms of the negative events, it appears that the presence of external threat causes the population wellbeing to rise. This has occurred first followed September 11 and reached its maximum about 6 months after the event. The second occurred immediately following the Bali Bombing and ran into the build-up in tension surrounding the Iraq war. It is possible that the Second Bali Bombing,
which substantially increased the perceived probability of a terrorist attack in Australia (see section 2.8) prevented the Personal Wellbeing Index continuing its fall back to the baseline value recorded at that time. In Survey 12, the positive influence of Olympic success also caused personal wellbeing to rise, to an even greater extent than either of the terrorist or war events. It is notable that the same set of domains seem to be affected by both kinds of event, as can be seen in Section 2.2 of this chapter.

In other respects Australia was remarkably politically stable over Surveys 1-18, with Prime Minister Howard leading the Liberal Party to successful re-election in both November 2001 and October 2004. At the time of Survey 18 (October 2007) it was looking as though a change of Government was likely at the November 2007 election, and indeed this transpired with Kevin Rudd becoming the new Labor Prime Minister. However, this was thought to be due to a generally sense in the electorate that it was time for a change, rather than a perception of the government as incompetent. Moreover, the policies of the two major parties contesting the election were very similar. These factors further enhance the sense of political and social stability, as shown by the lack of significant change in the Personal Wellbeing Index at the time of the special survey (18.1) conducted three months following the election.

The influence of homeostasis

The purpose of SWB homeostasis is to maintain the wellbeing of each individual person close to their genetically-determined set-point, which averages 75 points. However, of course, wellbeing fluctuates around its set-point. These fluctuations can be very large if homeostasis is defeated in the presence of an unusually good or bad experience. While such experiences are unusual, when they do occur, people will normally return quite quickly to a level of wellbeing that approximates their set-point once again.

For these reasons, the wellbeing of individuals is normally highly predictable. It is lying within a restricted range around the set-point, called the set-point-range. The homeostatic processes attempt to hold each individual’s wellbeing within this range. Therefore, since there is a normal distribution of set-points around 75, probably between about 60 and 90 points, there is an associated distribution of overlapping set-point-ranges. This explains why the population mean is so predictable. The distribution of scores conforms to the distribution of set-point ranges, and these are genetically determined.

Why, then, does the mean of the survey samples vary from one time to the next? The answer, we propose, is that events which are experienced by the whole population will exert a systematic influence on the wellbeing of the individuals making up the whole sample. These influences will act to cause the wellbeing of each affected individual to be more likely to lie either above or below its set-point. Thus, a national event, such as Olympic success, will exert a systematic influence, such that each person’s wellbeing will be more likely to be found above their set-point than below. In other words, a meaningful national event will systematically change the probability of measured wellbeing being dominated by scores that lie within the upper or lower halves of the set-point-ranges. Moreover, the stronger and more universal the experience, the more likely is each individual level of wellbeing to be found above or below its set-point, and the more the sample average will deviate from 75 points.

So, how much variation in survey mean scores is possible? There are two answers to this. The first involves a catastrophic experience, such as might occur in a sudden financial depression. In this event, the average wellbeing of the sample will sink below any approximation of the normal range as a high proportion of the population suffer homeostatic defeat. This, however, will be a most unusual situation and one not yet experienced in the history of these surveys.

The second form of variation in survey mean scores will reflect systematic shifts in the probability of wellbeing being found above or below each set-point, but within each set-point range, and under homeostatic control. The extent of such variation depends on a number of factors as:

(a) The strength and ubiquity of the experience.
Section 2 A Comparison Between Survey 20 and Survey 2 continued

(b) The width of the set-point-range. While this remains somewhat speculative, a ball-park figure seems to be about 12 points.

(c) The strength of homeostasis vs the distance each measure of wellbeing lies beyond the set-point. We assume that the influence of homeostasis to control small fluctuations around the set-point is minimal. However, as wellbeing strays further and further from the set-point, homeostatic forces are increasingly unleashed to reign it back. We propose that these controlling forces increase in intensity with distance from the set-point until they lose control and SWB goes into free-rise or free-fall under the control of the experience.

So, given all these suppositions, how much movement is possible while most people’s wellbeing remains under homeostatic control? The answer is uncertain but certainly much less than the full six points on either side of the set-point defining the set-point range. The boundaries of this range demarcate homeostatic failure and so wellbeing would normally be maintained much closer to the set-point.

The total variation of population mean scores to date is 3.1 percentage points, or about 1.5 points on either side of the average set-point. This represents just 25% of the set-point-range. What this indicates is that the mood of the nation normally fluctuates within only a very tight band of values. What is not known is the extent that these small movements indicate anything important about the frequency of psychopathology or changed behaviour at a national level.

Causal influences

It is not possible from these cross-sectional data to determine causation of the changes in personal wellbeing between surveys. However, a number of ideas concerning possible sources of influence can be advanced. These are acknowledged in the caption to each figure. It is at least notable that the major changes in the level of the PWI have been associated with major national events. This trend has been continued in this most recent survey.
The National Wellbeing Index has fallen by a non-significant 0.4 percentage points since Survey 20. It remains higher than it was at Surveys 1 and 2. This decrease in National Wellbeing has been sustained since October 2007 (Survey 17) and the domains mainly contributing to this fall are Business in Australia, Economic Conditions and Government. The National Index is more volatile than the Personal Index due to the relatively low level of homeostatic control. Its range is 7.9 points from April 2001 (S1:55.8) to October 2007 (S18: 63.7 points).

**Note:** No test of significance can be run against Survey 1 due to a different composition of the NWI at that time.
2.3. **Personal Wellbeing Domains**

The personal domains have generally risen since Survey 20.

**Standard of Living**

![Graph showing Standard of Living satisfaction]

Satisfaction with standard of living has risen by a significant 1.5 points since Survey 20 (Table A2.1) and is now (78.8) at its second highest level yet recorded. The values for this domain have generally remained significantly higher than they were at Survey 1, with only two (Survey 4 in 2002 and Survey 15 in 2006) being statistically at the same level as this first survey. Thus, 20/22 (90.9%) of the subsequent survey mean scores are higher than Survey 1. The range of scores is 4.7% between April 2001 (S1:74.5) and August 2004 (S12:Olympics: 79.2).

It is interesting to note that the rise in satisfaction with Standard of Living between May 2006 (S15) and October 2007 (S18) occurred despite a succession of 0.25 point rises in interest rates and that the current rise in wellbeing occurred in the face of a substantial economic down-turn. There are probably two current reasons for this. One is that the various economic stimulus packages released by the Government has provided households with additional discretional income. The second is that the poor national economic situation has had a serious negative effect on only a minority of the population. The people who have been personally adversely affected are those who have lost their job, or who are reliant on interest from shares or other investments for their income. But these people are in a great minority. While a majority of people have lost wealth with the downturn, for the most part their investments are intact and so they feel they can just wait for the economy to recover. And, in the meantime, if they still have a job and a mortgage, and if their wage has not diminished, then they are better off financially than maybe they have ever been due to the decrease in interest rates and, so, their mortgage payments.
Health

Satisfaction with health really does not change significantly between surveys and so is a good benchmark to indicate that the data set as a whole is reliable. In this survey (74.7 points) it has risen by a non-significant 1.0 points since Survey 20 but remains firmly within its normal range. It remains not different (+1.5 points) from its level at Survey 1.

Historically, this domain rose briefly at March 2003 (S6:Pre-Iraq war) but quickly returned to its original level. It is notable that the level of significance at Survey 6 was marginal ($p = .02$) and so probably reflects a random fluctuation. The overall ANOVA between surveys is non-significant ($p = .078$) (Table A 2.1). It is evident that satisfaction with personal health is little influenced by either world or national events and this stability is confirmation that the change in other domains since Survey 1 are valid. The range of scores is 2.4 points between April 2001 (S1:73.6) and March 2003 (S6:Pre-Iraq war:76.0).
Achieving in Life

Achieving in life, now at 73.4 points, has fallen by a non-significant 0.2 points since Survey 20. It remains no different than it was at Survey 1.

The wording of this item has changed once. From Survey 1 to Survey 10, satisfaction with ‘what you achieve’ barely changed over the surveys. It was marginally higher at Survey 6 (Pre-Iraq war), and over this period the range of scores was 1.8% between April 2001 (S1:73.2) and March 2003 (S6:Pre-Iraq war:75.0).

In Survey 11 the wording of this item changed from ‘How satisfied are you with what you achieve in life?’ to ‘How satisfied are you with what you are currently achieving in life?’. The reason for this change is to make it more explicit that the question referred to current life rather than to some past aggregation of achievement.

The effect of this word change has significantly reduced the score for this domain. The average value over Survey 1 to Survey 10 is 74.47 (SD=0.45). The average value over Survey 11-Survey 17 is 72.96 (SD = 0.53). So it appears to still be a highly reliable measure that has stabilised about 1.5 points below the original and no different from Survey 1.
Satisfaction with relationships, now at 79.4 points, has fallen by only 0.2 points since S20. It remains firmly within its normal range and no different from its level at Survey 1.

The highest value for this domain has been 81.39 points at the time of the Athens Olympics (S12). At Survey 13 this domain dropped to one of its lowest values (77.64) down 3.8 points from the Olympics level. It has not statistically changed since then.

The overall pattern of change for this domain does not conform to that of the Personal Wellbeing Index (Figure 2.1) in that the earlier rise is restricted to the period surrounding the Iraq war. It therefore differs from the domains Standard of Living, Safety, Community, and Future Security, all of which rose significantly in the period following September 11. Perhaps this difference is due to the fact that these other domain changes were reactions to a past event, whereas the rise in Satisfaction with relationships at Survey 6 was in anticipation of the looming war, to which Australian troops were clearly to be committed. At this time, both of the domains involving other people rose significantly (relationships and community). Perhaps the anticipation of war drew people closer to their family and friends as well as enhancing bonding with the general community. These changes then dissipated as the period of the war was left behind, but the domain was again briefly elevated during the period of the Olympics. The range of scores is 4.2 points between February 2008 (S18.1:77.2) and February 2008 (S18.1: Olympics:81.4).
Safety

Satisfaction with personal safety, now at 80.7 points, is at its second highest level yet recorded, up a non-significant 0.5 points since Survey 20. At Survey 20.1 it rose by a non-significant 1.1 points since Survey 20 (Table 2.1), but this continued a long trend of rising satisfaction with safety. It is possible that this was the result of a contrast effect. That the images of danger from fire and floods had been so vividly portrayed by the media, yet the majority of people living in unaffected areas, such as the major cities, which dominate our samples. It is possible that these city dwellers felt an enhanced sense of safety in contrast.

The first major rise followed the defeat of Saddam Hussein in Iraq at Survey 7 and has been maintained ever since. This sustained rise may have been linked to the positive feelings of relief following the defeat of Hussein without unleashing weapons of mass destruction, and subsequently our increasingly strong American alliance. The rise during the Olympics (S12) may have been more due to the overall sense of elevated wellbeing than to specific feelings of greater safety. The further rise is hard to explain but is associated with a decreasing proportion of the sample feeling that a terrorist attack is likely. The range of scores is 5.1 points between April 2001 (S1:75.2) and October 2008 (S20: 80.3).

It is interesting to relate these data on safety to the sense of terrorist threat that is felt by the population. Since Survey 9 (November 2003) we have asked people ‘whether they think a terrorist attack is likely in Australia in the near future’ and, if they say ‘Yes’, we ask about the strength of their belief that such an attack will occur.

These data are combined with the population levels of ‘Satisfaction with Safety’ in Table A2.9. It can be seen that the average level of safety satisfaction correlates negatively with the percentage of people who think an attack is likely ($r = -.65$, which is highly significant) but much less strongly with the
The strength of belief among those respondents who think an attack likely ($r = -.12$, non-significant). The correlation of -.65 explains about 42% of the variance between these two measures, which is a significant degree of co-variation. Other factors that will be contributing variance to safety are homeostasis, personal circumstances and, quite possibly, the sense of security offered by an effective wellbeing military force and alliance with the USA. The latter influence, exemplified by the rise in safety at Survey 7 (defeat of Hussein) may represent a constant background factor onto which the fluctuations in terrorist attack probabilities are imposed.

One implication of these results is that raising terrorist attack fears through issuing terrorist alerts, harms the safety satisfaction, and thereby compromises the overall wellbeing of vulnerable members of the population. However, the most remarkable feature of this graph is its continued rise over the period of these surveys. This is further discussed in Section 2.4.1.
Community

People’s satisfaction with feeling part of their community, now at 72.0 points, is down 1.0 points from its highest level yet recorded at Survey 20.1. At this time it had risen by a significant 2.0 points since Survey 20 and was 0.3 points higher than it was at the time of the Athens Olympics, and 4.4 points higher than it was in Survey 1. It seems self-evident that this rise has been due to the increased sense of community generated by the tragedy of the floods and fires. These events generated an enormous out-pouring of sympathy and tangible assistance, which caused the population to experience a heightened sense of belonging to the ‘Australian family’.

Apart from the Olympic period elevation (S12) and the current survey, the previous rises are coherently related to times of major conflict. In the six months following September 11, satisfaction with community connectedness went up from its lowest level in April 2001, and was maintained at this higher level for a further six months. It then fell, but returned to an even higher level in the lead-up to the Iraq war (S6). This higher level was maintained for six months following the defeat of Hussein (S9), then dissipated only to be recharged once again following the second Bali bombing (S14). This pattern is consistent with social psychological theory. A perceived source of threat will cause a group (or population) to become more socially cohesive. However, it must also be noted that the level of safety satisfaction also rose at the time of the Athens 2004 Olympics (Survey 12) and around the period of the election of the new Labor Government (Surveys 18 and 18.1). The range of scores is 4.4 points between April 2001 (S1:68.6) and February 2009 (S20.1:Victorian Fires:72.99).
Future Security

Satisfaction with future security, now at 70.7 points, has risen by a non-significant 0.9 points since Survey 20. It seems evident that the economy is dominating people’s views of their future. It remains at a level no different from Survey 1.

In previous surveys, satisfaction with future security dropped to its lowest level immediately following September 11, and then rose to a significantly higher level six months later (S3). It then rose again immediately following the Iraq war (S7), and then gradually fell back. This pattern is very similar to that shown by safety and the explanations are probably similar to those that have been stated for the safety domain. The correlation between the survey mean scores for safety and future security is $r = .45$ (Table A2.18). The range of scores is 4.6 points between September 2001 (S2: 68.6) and February 2008 (S18.1: 73.2).
Spiritual/Religious

The new Personal Wellbeing Index domain ‘How satisfied are you with your spiritual fulfilment or religion’ was included for the first time in Survey 16. In Survey 17 this was changed to ‘How satisfied are you with your spirituality or religion?’ The current value of 71.8 points at the same level as Survey 20.1 and 0.5 points higher than at Survey 20. It is evident that these natural disasters have not had a significant effect on satisfaction in this domain.

Figure 2.10: Satisfaction with Spirituality/Religion

The first survey to include Satisfaction with Spirituality/Religion was conducted in October 2006. Since that time satisfaction with this domain has increased and it is now at its maximum level yet recorded.

While 11.6 percent of the combined sample respond that they do not have the Spiritual/Religious experience, there is another 3.2% who respond that they are zero satisfied with their experience. These are two very different groups of people as seen by matching of the strength of the Spiritual/Religious experience to the Personal Wellbeing Index. This is shown in Table A2.14 and below.
This figure shows the relationship between the Spiritual/Religious experience and personal wellbeing. These can be summarised as:

1. People who have no spiritual/religious experience (11.1% of the combined samples) have normal levels of wellbeing.
2. People who rate their spiritual/religious experience as providing 0-6 levels of satisfaction have a level of personal wellbeing that lies below the normal range (37.2% of the sample of believers).
3. The Personal Wellbeing Index of the spiritual/religious group does not enter the normal range until people rate their level of satisfaction as 7/10.

The three groups of Spiritual/Religious experience are shown in relation to the Personal Wellbeing Index domains in Table A2.15. From this it can be seen that:

1. There are no significant differences in the Personal Wellbeing Index between people who do, and those who do not have the Spiritual/Religious experience, on any other domain.
2. For all domains, the zero Spiritual/Religious satisfaction group are significantly lower than the other two groups.

In conclusion: People who have low satisfaction (0-6) with their Spiritual/Religious beliefs are likely to have very low wellbeing. The wellbeing of ‘believers’ only reaches that of ‘non-believers’ when the strength of satisfaction with their beliefs reaches 7/10.

An important perspective onto the interpretation of these results is that the low Personal Wellbeing Index for the people rating 0-6 on Spiritual/Religious is typical of all the domains. The level of domain satisfaction more strongly reflects overall subjective wellbeing than the specific domain. If someone is depressed, they will register low levels of satisfaction with all domains. Whether the domains differ in their sensitivity to low SWB remains to be determined.

Implications for the Personal Wellbeing Index

The inclusion of the Spiritual/Religious domain changes the composition of the Personal Wellbeing Index. The implications of this are shown in Table A2.15 where comparative statistics have been calculated over Surveys 17-21.
The results show that the mean score for the Personal Wellbeing Index that includes the Spiritual/Religious domain is 0.67 points lower than for the original seven-domain scale (74.62 vs 75.29 points). Thus, satisfaction for Spiritual/Religious domain is rated lower than the average of the other seven domains.
2.4. Life as a Whole

“How satisfied are you with your Life as a Whole?”

Satisfaction with life as a whole has risen to 78.2 points, which is a significant 1.2 point rise since Survey 20. It is once again higher than its level at Survey 1.

After the initial rise one year following September 2001 (S3), this global item dropped back 6 months later, only to rise again after the Bali bombing (S5) and during the period of the Iraq war (S6-S7). Then it gradually decreased until, one year after Hussein had been defeated it was no different from Survey 1 once again. Since Survey 12 it seems to have stabilized at about 77-78 points which is marginally significantly higher than at Survey 1. The range of scores is 3.9 points between April 2001 (S1:75.2) and August 2004 (S12:Olympics:79.1).

2.4.1. Summary of the Changes in Personal Wellbeing

The personal wellbeing of Australians has risen by a non-significant 0.7 points since November 2007. It remains higher than it was at Survey 1 at a very similar level to the special survey conducted in February of this year.

Looking back over the entire record of the Index (Figure 2.1) it appears that it has mainly varied within a band of just two percentage points, from 76 to 74. There have been two slight variations outside this range. The first of these was the very first survey, which registered 73.2 points. The second was the survey run at the time of the Athens Olympics (76.3 points). It is the first survey which is most deviant. Even though the data have been checked and the result appears reliable, the deduction that the events of September 11 somehow triggered a rise in the Personal Wellbeing Index rests entirely on this initial value.
It is interesting to reflect on the domains that have fuelled this rise and those that have not.

<table>
<thead>
<tr>
<th>Domains</th>
<th>Standard</th>
<th>Health</th>
<th>Achieving</th>
<th>Relationships</th>
<th>Safety</th>
<th>Community</th>
<th>Future</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1 arithmetically lower than all others</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>S1 lower than the normal range</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>S2 lower than the normal range</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other values outside the normal range</td>
<td>+</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓S12</td>
<td>X</td>
</tr>
</tbody>
</table>

In summary of these results:

(a) In terms of simple arithmetic comparisons, Survey 1 is the lowest value for 4/7 domains.

(b) In statistical terms, Survey 1 is lower than the normal range for 3/7 domains.

(c) Only one domain (Community) has registered a subsequent value outside (above) the normal range.

**Conclusion**

The fact that only about half of the domains registered a highly unusual value at Survey 1 is encouraging to the view of Survey 1 data as generally reliable. However, the fact that, of the total 4 values that lie outside the normal range, 75% are found in Survey 1 remains a concern.

At Survey 12 (Athens Olympics, August 2004) all domains except Health and Achieving were significantly higher than normal. The domains of Health and Achieving have shown virtually no change through the entire survey sequence and since Survey 13 (May, 2005) no significant change has occurred in Relationships, which has remained at the same statistical level as Survey 1.

Since Survey 13, the other domains have changed as follows:

**Safety:** This domain has been crescent since Survey 16 (October 2006) and remains at one of its highest levels. While the correlation of -.65 with the % of the sample expecting a terrorist attack is interesting (Table A2.9), this cannot explain the full pattern of results. The lowest level of safety was immediately prior to September 11; a time at which the possibility of terrorist attacks in Australia were not even being considered by the general population.

**Future Security:** This domain has changed markedly since its recent nadir in Survey 15, (May, 2006) it rose to unprecedented heights in Survey 18.1 (February 2008) and then plummeted. It is currently at the same statistical level as Survey 1, but higher than Survey 2. The reason for this fall seems likely to be linked to the recent falls in personal wealth.

It is important to note that these two domains do not measure the same experience. While the mean scores between surveys show a high correlation (.64, Table A2.13), the within-survey correlation, using the scores of individuals (Table A2.18) is much lower (.42). It can also be noted that, while Safety remained high over Surveys 15-16 (Table A2.1), Future Security fell to be no different from Survey 1.

Why, then, did population satisfaction with Safety and Security suddenly rise to such heights? It is most unclear, but some co-indicators can be identified.
The reason for rising satisfaction with safety is uncertain. One possibility is that the continued presence of a ‘terrorist threat’ during this period has given people a heightened sense of safety because the threat has not materialised as an attack on Australian soil. This may give rise to feelings that the anti-terrorist measures, so evident at airports and in the media, are effective. This brings to consciousness a domain of life that is normally of little real consequence to most Australians, and so they have increased positive regard for their safety, instead of the more neutral feelings they held before the threat was evident.

It may also be fuelled by perceptions of competence in the military and the police to deal with difficult situations. In terms of the military, Australian troops are playing an increasingly active role as peacekeepers within the Pacific region, with troops deployed in New Guinea, the Solomon Islands, and East Timore. The Australian police have uncovered terrorist threats and, working with other authorities, successfully prevented a recurrence of the Sydney ‘race riots’ of November 2005. There is also increasing evidence of Islamic integration within Australia and, perhaps therefore, a sense that potential threats are being effectively managed.

**Community:** This domain has peaked twice, with values above the normal range. The first occasion was Survey 12 (August 2004) at the time of the Athens Olympics, and the second was Survey 20.1 (February 2009) at the time of the devastating Victorian bushfires. It seems likely that either national elation at the demonstration of sporting prowess or national horror at the level of bush-fire destruction, bonds the community and makes people feel more connected to one another.
2.5. **National Wellbeing Domains**

“How satisfied are you with the Economic Situation in Australia?”

![Diagram showing Economic Situation](image)

**Figure 2.13: Satisfaction with the Economic Situation in Australia**

Satisfaction with the economic situation has risen by a significant 1.4 points since Survey 20. It is now at a level only higher than Survey 1.

In historical terms, this domain rose significantly from its baseline (S1) immediately following September 11 (S2) and again six months later (S3). This was followed by a sustained and gradual rise up to Survey 18. It then showed a precipitous 12.4 point fall between Survey 18 (October 2007) and Survey 20 (October 2009). The reason is almost certainly tied to the major fall in the stock market over this period. This is the most volatile domain. The range of values is 14.9 points, being between April 2001 (S1:53.6) and October 2007 (S18: 70.9 points).
Section 2 A Comparison Between Survey 20 and Survey 2 continued

“How satisfied are you with your state of the Natural Environment in Australia?”

Figure 2.14: Satisfaction with the State of the Natural Environment in Australia

Satisfaction with the state of the environment has risen to 59.8 points, which is a significant 1.6 point rise since Survey 20. It fell by a dramatic 3.1 points between Survey 15 to Survey 16 and remained significantly below its value at Survey 1 at least six months, up to Survey 17. Then returned to be no different from Survey 1 once again.

This is the only domain to have fallen significantly below the level of Survey 1 values in any survey. Prior to Survey 16 the domain was very stable, fluctuating by only 3.0 points over the entire time-series. While the satisfaction with the natural environment has, on occasion, moved to be significantly higher than Survey 1, the reason is not clear but probably reflects general increases and decreases in the Index overall, rather than anything directly attributable to the environment.

In this context of stability, the fall of 3.1 points at Survey 16 is both remarkable and attributable. In the period since the previous survey Al Gore’s film ‘An Inconvenient Truth’ had been released and widely discussed in Australia. Moreover, in the few months prior to Survey 16 the media had repeatedly featured ‘global warming’ and the various doomsday scenarios. Thus it appears that this negative publicity has changed people’s perception of the degree to which they feel satisfied with the natural environment.

This decreased level of satisfaction is interesting for two reasons. First, it is one of the few times we have been able to link a change in a particular domain to a national phenomenon (negative publicity). Second, it reinforces the separate performance of objective and subjective variables. The actual state of the natural environment had not changed discernibly between Survey 15 and Survey 16.
It is also interesting that this lower satisfaction lasted somewhere between 6-12 months. People then generally adapted to the negative information and it lost the power to influence their satisfaction with the environment.

The range is 5.1 points between October 2006 (S16:55.8) and November 2003 (S9:5 months/following the Iraq War: 60.9).
Satiation with social conditions is now at 62.6 points and has risen by a non-significant 0.1 points since Survey 20, to remain higher than Survey 1.

Looking over the whole record, the rise in satisfaction with social conditions, evident following September 11 (S2), was sustained over the next two years (S9), after which it fell back to be no different from Survey 1. Then, at the time of the Olympics, it rose to its record high and reached this level again at Survey 14. If the falls from Survey 14 to Survey 16 reflected the new Industrial Relations laws that came into effect shortly before Survey 15, this effect has now dissipated. The range of values is 3.8% between April 2001 (S1: 59.3) and August 2004 (S12 - Olympics and S14: 63.1).
Satisfaction with Government is now at 57.7 points. It has fallen a non-significant 1.1 points since Survey 20. However, it remains high and approximates the highest level recorded for the Howard Government (S2) immediately following September 11.

Satisfaction with Government rose a significant 2.1 points between Surveys 17 to 18, and a further 5.4 points between Surveys 18 and 19. This took the total rise from April 2007 to April 2008 to 7.5 points. It recorded its lowest level at Survey 16 (52.6 points) and is currently about 5 points above this earlier level. The 2.7 point fall over the 18 month period from Survey 13 to Survey 16 is significant.

Satisfaction with Government appears to rise in times of national threat. If this is correct, it explains the elevated satisfaction with Government in September 2001 (S2) as a direct result of the September 11 attacks. A similar, but more muted rise is evident in the Bali bombing (S5) survey, and again following the overthrow of Hussein (S7). The most obvious explanation for the September 11 (S2) and Bali (S5) rise is that the perception of external threat causes satisfaction with Government (authority) to increase.

The pre-Iraq war situation (S6) was different. While it constituted a threat to Australia in so far as there were fears of Weapons of Mass Destruction being unleashed in Iraq and perhaps elsewhere, Australian troops were committed to fight in the front-line. This involvement divided the nation, with 23% in favour and 53% opposed to the war (Report 6.0). Perhaps because of this division, the rise in satisfaction with Government did not materialise. Moreover, the subsequent rise at S7 may represent an increased satisfaction for a quite different set of reasons, which involve relief at no deaths among the Australian troops and the bolstered American alliance.
It is interesting that none of these rises associated with external threat are sustained over more than three months and that the substantial rise in national wellbeing occasioned by the Olympics was not reflected in Satisfaction with Government.

The rise following Survey 16 may be linked to the election of a new leader of the opposition (Labor) party in December 2006 and the general feeling since that time that a change of government was due. This was followed in November 2007 with the election of the Labor Government and a significant rise in satisfaction with Government that has now been sustained for one year. The range of values is 8.9 points between October 2006 (S16:52.6) and April 2008 (S19:61.5).

"How satisfied are you with Business in Australia?"

![Chart showing satisfaction with Business in Australia]

Satisfaction with Business is at 61.6 points. It has fallen by a non-significant 0.6 points since Survey 20, down from its highest recorded level (64.7 points).

Satisfaction with both Business and the economy may have increased following September 11 because the doomsayers were proved wrong. The attacks did not, as has been widely predicted, drive the global economy into recession. Moreover, the Australian economy has performed better than expected over the entire post-September 11 period. The range of values is 9.3 points between September 2001 (S2:55.4) and October 2007 (S18: 64.7 points).
“How satisfied are you with National Security in Australia?

Satisfaction with national security is at 67.6 points. It has fallen by a significant 2.9 points since Survey 20, down from its highest level yet recorded at Survey 19. It is possible that this recent fall may be attributed to the surge in ‘boat people’ arriving as illegal immigrants in Australian waters. These events may remind Australians that our boarders are not completely secure.

The dramatic rise of 4.6 points from Survey 2 to Survey 7 probably reflects the September 11 induced low point followed by the strengthened American alliance and the lack of terrorist events in Australia. However, this has now been eclipsed by the 6.4 point rise over the 18 month period between October 2006 (Survey 16) and April 2008 (Survey 19). It is notable that this rise parallels the rise in Satisfaction with Government. However, over all of the surveys, the mean scores of these two national domains are not significantly correlated with one another ($r = .15$, Table A2.13).

The range of values is 13.6 points between September 2001 (S2:57.3) and April 2008 (S19: 70.9)
2.6. **Life in Australia**

“How satisfied are you with Life in Australia?”

Satisfaction with life in Australia is at 85.3 points. It has risen by a significant 1.3 points since Survey 20 and is now at its highest level yet recorded. This may well be due to the fact that Australia has weathered the economic storm so well and people are contrasting Australia with other countries that have not been so lucky.

This domain rose consistently from April 2001 (S1) to March 2002 (S3) and has since remained fairly stable and high. The major change occurred between S2 and S3, when the strength of satisfaction rose by 10.9%. Since then it appears to be gradually falling, but remains very substantially higher than it was at Survey 1.

The range of scores is 15.2% between April 2001 (S1:69.7) and May 2009 (S20:85.3).

Of all the personal and national measures, ‘Life in Australia’ has shown the strangest behaviour. Over the first three surveys it increased by around 15 points and has since remained quite stable. The reason for this early rise between April 2001 and March 2002 is not known. However, it is notable that it involves both Survey 1 and Survey 2, thereby giving credibility to the initial survey.
Summary of changes in National Wellbeing

The National Wellbeing Index has remained fairly steady between Surveys 20 and 21. However, this average masks changes at the level of individual domains. Two domains have risen (Economic Situation and Environment), one has fallen (National Security), and Satisfaction with Life in Australia continues its seemingly inexorable rise. The details are as follows:

1. The domains of Economic Situation and Business in Australia showed an almost continuous rise over the six-year period of these surveys from 2001 to 2007. This run ended in October 2007 with both domains posting significant falls (Economic situation -8.5 points and Business -2.2 points). These falls may have been influenced by rising interest rates or by popular perceptions of Labor governments in general as poor economic managers. The stock-market collapse in 2008 further enhanced this loss of satisfaction. The current rise of 1.4 points may be due to the Government’s various measures to stimulate the economy, most particularly the $900 one-off cash payments to tax-payers and school-age children in March/April.

2. The sudden decrease in satisfaction with the natural environment, that occurred towards the end of 2006, was sustained over just two surveys (Survey 16 and Survey 17) conducted six months apart. By the following survey in November 2007, satisfaction had returned to its original level, and this has now been sustained, with the current 1.6 point rise being part of this recovery process. These results attest to the speed of adaptation by the population to continuous negative publicity.

3. National Security: This domain has fallen by a significant 2.9 points since Survey 20. This may represent a return to the baseline level for this domain of about 62-65 points, but if so this still leaves the question of why there was such a surge in satisfaction with this domain over the period 2006-2009 (Figure 2.18). There are two obvious contenders as:

   (a) The diminishing threat from terrorism. Over the period 2006-2008 the proportion of our sample expecting a terrorist attack ‘in the near future’ dropped from around 60% to 40% and this level may represent a stable baseline (Figure 2.21). However, this does not explain the rise in satisfaction with national security following the First Bali Bombing (Figure 2.18).

   (b) The arrival of illegal immigrants by boat. This really started to become a significant problem for Australia around the turn of the century. Whereas in 1997/8 only 157 people arrived by boat, by 1999/2000 the number had swelled to 4,175. The Howard Government responded to this threat by instigating increasingly harsh penalties for arrivals, which were internationally publicised and were associated with a reduced number of new arrivals. The Labor Government, elected in November 2007, was known to have a more humane attitude, and new arrivals increased once again. The rise in the number of boat people became most evident only during the past year or so, and this may be associated with the decrease in Satisfaction with National Security.

4. Life in Australia: This has been the most volatile domain, showing and extraordinary 15 point rise from 2001 to 2002. Since then it has stabilised at about 82-85 points, and its current 1.3 point rise takes it to the highest level yet recorded. This may be due to the common perception that Australia has weathered the economic storm so well and people are contrasting Australia with other countries that have not been so lucky.
2.7. **Australian Wellbeing Summary**

A summary of these changes in population wellbeing is shown in Figure 2.33 below. In this figure, the vertical bars show the normal range for the Personal Wellbeing Index and for each domain. The bold vertical lines indicate the strength of satisfaction in Survey 21.

![Figure 2.20: Normative Range for Group Data: Personal Wellbeing Mean Scores (N=21)](image)

It can be seen that the Personal Wellbeing Index and all domains lie well within their normal range.

Over the course of these surveys, changes have occurred in both the Personal Wellbeing Index and National Wellbeing Index. While, for the most part, the cause of these changes is unclear, they are not occurring at random. This is evidenced by those domains that do not change, such as the Health and Achieving domains in the Personal Wellbeing Index. Other domains seem to change in a manner which shows at least the possibility of causality. Satisfaction with Government appears to rise at times of perceived national threat, at the prospect of a change in leadership, and during the first six months of office. Satisfaction with the Natural Environment fell over the period of one year with the public perception of climate change as a reality.

Other, speculative comments on these domain changes are as follows:
Threat Events

International events that are either nationally threatening (terrorist threats or war) can enhance personal and national wellbeing. Moreover, they involve much the same set of domains as:

Enhanced satisfaction with material conditions (Standard of Living, Social Conditions, Natural Environment, Business and Economy). The purpose of this, terms of a threat response, may be to encouraging satisfaction with the living environment that requires defending. The alternative would be to leave the living environment for somewhere else, but for most people this is not a realistic option due to issues of personal investment.

Enhanced satisfaction with the other people who share the environment under threat (personal relationships and feeling connected to the community) and with the leaders of these people (Government). The increased strength of these connections means people feel they are not alone in facing the threat and that they have worthy leaders.

Enhanced satisfaction with general issues of safety (personal safety, future security, national security). If the source of threat is to be approached and met, with the aim of defending the living environment, then it is necessary that people have confidence in their own survival as a consequence of such action.

Domain exceptions

While most of the 13 domains are accounted for in the above description, one domain (Health) shows no reliable change as a consequence of these national and international events. There are various possible reasons for the stability of this domain as follows:

1. The sense of personal health could be under competing forces. In a threat situation, it could be adaptive to have a heightened sense of one’s own powers to defend oneself, and this would be expected to cause an increased satisfaction with health. However, perceived health may be more chronically under threat than the other domains. Practically everybody has some source of health concern and, thus, the homeostatic devices that maintain health satisfaction are already working overtime, such that another source of external threat has little additional impact.

2. The perceptions of personal health may be driven more by comparisons with other people than the other domains. That is, the most obvious systematic changes in health, on a population basis, are due to age. Thus, given such obvious differences between age-groups, perhaps people judge their health against their age-cohort rather than using an internal standard. The result of such comparisons, if this is true, would be a dominant reference for health satisfaction (age-cohort) that would attenuate the influence of other external influences.

Nationally Enhancing Events

While both threat and enhancement events caused wellbeing to rise, the cause of each rise should be different. The preceding description is based on a sociobiological interpretation of an adaptive response to threat. The rise in wellbeing due to nationally enhancing events has no such adaptive links and is more simply explained in the personal pride of being part of a winning team.

There are likely to be two major differences between these two event types. First, the threat event should be longer lasting. It may be adaptive to maintain a sense of threat for a long period after the event, thereby maintaining the alertness to detect a new source of harm and the resources to deal with it. Enhancement events, on the other hand, are likely to be far more transitory. The fact of the team’s success is soon submerged within the caldron of current life realities. This is consistent with the data shown in Report 12.0 at the time of the Athens Olympics.

The second difference is in the domains that are responsive. The Olympic enhancement event had no effect on the following domains:
Health: This may be for the reasons already described.

Achieving: The grand achievements of others is a double-edge sword. The reflected glory is tempered by an upward-comparison against lower personal achievement.

Natural environment: This is not a domain that involves connection to other people.

Government: The achievements are those of the athletes, not of the leaders.

Regional disasters

Survey 20.1 was conducted at the tail-end of savage bushfires in Victoria that claimed 173 lives. This regional disaster generated outpourings of grief and sympathy from across Australia, and was associated with a significant rise in the Personal Wellbeing Index. This was led most conspicuously by the domain of Community but all other personal domains showed an upward trend.

Prospect of a change in Government

Survey 17 was held at a time when a new and credible contender for the position of Prime Minister had appeared and satisfaction with Government in the preceding survey showed an all-time low. The polls at this time showed a real sense that the control of the Government could change to the Labor party at the forthcoming election later in the year. This represented the strongest potential challenge to the Government since its time in office, which spans the series of these surveys from Survey 1 to Survey 17.

It is notable that the domains most positively affected over this period were been safety and security. It is possible that this is a consequence of the voters having the prospect of two good candidates. One is the steady and reliable incumbent and the other a well-equipped challenger who offers the prospect of limited change. The population would be well served by any election outcome and this may be a source of security.

Conclusion

While this explanatory account is stronger in some respects than in others, and suffers from the inevitable post-hoc nature of the arguments, it does appear to have some degree of cohesion. But perhaps the most important observation is at least some of the significant changes that have been observed, and the lack of change in some domains, clearly indicates that these patterns are not due to random variation.
2.8. **Likelihood of a Terrorist Attack**

The above figure indicates the percentage of respondents in each survey (since Survey 9) who think that a terrorist attack in Australia is likely in the near future. As markers of such attacks, the first Bali Bombing occurred prior to Survey 5 (November 2002), which was one year prior to the start of this record. The Second Bali Bombing occurred in October 2005, just before Survey 14. It is evident from Table 2.21 that the proportion of people expecting an attack has decreased by only 1.3% since the previous survey. It is possible that this value has now stabilized.

As can be seen, the strength of this belief has changed little over the past three years but remains higher than it had been over the period February 2004 to May 2005.

The following observations can be made:

1. One year following the first Bombing (Survey 9) 64.1% of the sample thought an attack to be likely. One year following the second bombing (Survey 16) the percentage of such people (61.9) is 2.2% lower. Moreover, 2 years after each event the figures are 59.7% (Survey 12) and 49.4% (Survey 18) a difference of 10.3%. It is evident that more people are adapting faster to the second bombing in terms of its perceived threat to Australian security. This is as expected.
2. The strength of belief shows the reverse pattern (Figure 2.21). One year following the first Bombing (Survey 9) the mean strength of belief was 64.6 points. This is 3.3 points less than the equivalent period (Survey 16) following the second Bombing. The same pattern is shown two years after each event (Survey 12: 62.6 points vs. Survey 18: 66.5 points) with a 3.9 point higher estimation after the second bombing. Thus, at each of these time intervals, the second bombing produced fewer people who regarded a future attack likely but with stronger convictions.

The explanation for these changes may lie with the threshold belief strength people require to answer ‘Yes’. That is, there is likely to be some minimal level of belief strength (say 7/10) that causes people to say ‘Yes’ an attack is likely.

Then, assuming that the average strength of belief will decrease over time, fewer people will meet the threshold for a ‘Yes’ response, and so the proportion of the sample responding in this way will progressively decrease. However, since the ‘Yes’ responders have a supra-threshold strength of belief, the belief strength within this group will decrease only marginally over time.

While this explanation is consistent with the data pattern following each attack, it does not explain why the threshold for the ‘Yes’ response is higher after the Second Bali Bombing. This change, however, could be explained through adaptation. That is, repeated exposure makes the organism less responsive.

Figure 2.23 has been prepared on the basis of the accumulated data shown in Table A2.3.

![Figure 2.23: Likelihood of Terrorist Attack x Personal Wellbeing Index (combined surveys 9-15)](image)

Using the PWI mean scores in Table A2.3 and Figure 2.23, the correlation between the perceived likelihood of a terrorist attack and personal wellbeing is -.82 (p<.01). This is the statistic that would normally be reported, but it is quite misleading. It implies that there is a simple, progressive decrease in SWB as the perceived likelihood of an attack increases. This is quite wrong as can be shown by some additional calculations and thought.

The correlation of .816 shows that 66.6% of the variance in SWB can be explained by perceived attack probability. However, this estimate is exquisitely sensitive to the extreme values as follows.

Only 0.5% of the sample have answered ‘Yes’ on this basis of an estimated attack probability of 1/10. Their inclusion is problematic. Not only do most people require a higher level of probability before answering ‘Yes’ but their Personal Wellbeing Index of 77.1 points is also anomalous, being 0.6 points above the normative range. Thus, their inclusion powerfully influences the correlation. If the correlation calculation includes all probabilities 1-8, the $r = -.606$ (36.7% explained variance) whereas
if the calculation omits those extreme values and includes the probabilities 2-8, then $r = -.345$ (11.9% explained variance). Thus, an alternative interpretation of these results is as follows.

People who rate the probability as 1/10 are anomalous and should be removed from the analysis. Then, over the range of probability from 2/10 to 8/10 personal wellbeing does not reliably change. Thus, for most of the probability range, believing there is a probability of a terrorist attack has no measurable effect on wellbeing. This changes at a probability estimate of 9 or 10/10. These people comprise 15.8% of the sample and are mainly responsible for the high overall linear correlation. If the correlation calculation includes values 2-10 then $r = .742$ explaining 55.1% of the variance.

It is therefore evident that the -.74 correlation has been generated by the distributional extremes and cannot be validly used to indicate a progressive negative influence of one variable upon the other. This is perfectly consistent with homeostasis theory, such that personal wellbeing is being actively managed. Only at the extreme levels of perceived probability is there evidence of a damaging influence of attack beliefs on wellbeing.

![Figure 2.24: Likelihood of Attack x Personal Wellbeing Index Showing 2SD Below the Mean](image)

Figure 2.24 shows the two-standard deviation range of the Personal Wellbeing Index for each level of attack likelihood (Table A2.3). The interpretation of this figure is as follows:

1. The 50 point level marks the transition from positive satisfaction (above) to negative dissatisfaction (below). Since we propose on the basis of homeostatic theory, that people normally have a positive level of SWB, all values should normally lie above 50 points.

2. The mean and standard deviation of the Personal Wellbeing Index has been calculated for each sub-group representing a level of perceived likelihood of an attack. The lower margin of the distribution for each sub-group has been calculated as the mean – (2 x SD). To be consistent with (1) above, this lower margin should lie above 50 points.

3. It can be seen that, for likelihood estimations ranging from 1 (10%) to 8 (80%), the lower margin of each distribution approximates 50 points.

4. The sample that represents the lowest likelihood of an attack (10% likely) has the highest mean score (77.1) and the highest margin above 50 points (54.2). The implications of this are as follows:
Section 2 A Comparison Between Survey 20 and Survey 2 continued

5. The actual value for the Personal Wellbeing Index is determined by the following two influences:
   (a) A genetically determined set-point range. On average this set point is 75 and the magnitude of the range is about 12 points. Ranges can be set higher or lower than this but will be (approximately) equally distributed throughout the likelihood sub-groups.
   
   (b) The probability of someone, at any moment, providing a response that represents the top or the bottom of their range depends on their current state. That is, normal fluctuations in their current experience will influence Personal Wellbeing within a 12 point range.

6. Within any survey there will be a small group of people who are being unusually positively influenced by their circumstances. These people will not only record a high Personal Wellbeing Index but will also, as a consequence, be more likely to record a low probability of attack. It is well known that one consequence of high SWB is the perception of low levels of risk. Thus, this group will record a higher-than-normal level of SWB.

7. At higher levels of attack probability the cognitive assessment of the probability does not systematically influence the distribution of set-point ranges or the likelihood that people are operating at the top or bottom of their range. As a consequence, the distribution of SWB is normal between the attack probabilities of 20-80%.

8. At a perceived probability of 90% the influences mentioned before are at work as:
   (a) People who are under the influence of a sad experience will be more likely to perceive a high risk of attack. They will, as a consequence, tend to cluster in the high risk categories.
   
   (b) Because of their recent experience they are likely to provide a Personal Wellbeing Index that represents the bottom of their set-point range.
   
   (c) Some of these people will be suffering homeostatic-defeat. This is unlikely to be caused by the perception of an imminent attack. More likely, their prior depressed condition causes them to regard the risk of an attack, and no doubt other negative events, as high.

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**Figure 2.25: Personal Wellbeing Index x Attack Probability x Life Events**

Figure 2.25 depicts the Personal Wellbeing Index of people characterized in two separate ways (Table A2.7). First by whether they have recently experienced a happy or sad event (or no event). Second by
their perceived probability of a terrorist attack. Values <20% probability are omitted since the number of cases is too small to be reliable.

To take the ‘no event’ group first, it can be seen that all levels of attack probability failed to shift Personal Wellbeing Index much beyond the normal range. Thus, even when people perceived an attack as 100% certain (N=496) their Personal Wellbeing Index remained only just below the normal range. This surely indicates that such perceptions are not able, of themselves, to defeat SWB homeostasis. The total range of values for the Personal Wellbeing Index for this group is 2.6 points.

People who recall having recently experienced a happy event lie at the top or above the normal Personal Wellbeing Index range. The range of values spans 4.4 percentage points, from 79.9 to 75.5. This may represent people with high set-points who are pre-disposed to recall happy events and to optimistically regard the probability of a terrorist attack as low. The perception of a high risk of attack may take their SWB towards the bottom of their set-point range, but this level still represents the top of the normal range for the general population.

The range of Personal Wellbeing Index values for the happy event group (4.4 points) is double the range of 2.4 points for the no-event group. The interpretation that is offered is that these two groups are constitutionally different in terms of their relative set-point ranges. The ‘happy event’ group are more likely to perceive things positively due to their high set point. However, the effect of the perceived probability of a terrorist to decrease SWB within each group’s set-point-ranges is the same for both.

The ‘sad event’ group exhibits a less regular pattern than the other two. However, the pattern has two interesting characteristics as:

(a) The range of values is 6.2 points, which is higher than the other two groups. However, there is something strange about the PWI value of 73.0 points at 50% probability. This value lies well above the trend-line for the other mean scores. If this value is ignored then the range becomes 5.4 points, which is similar to the happy event group.

(b) The value of Personal Wellbeing Index does not systematically decrease with increasing attack probability. Rather it does not reliably change between probability estimates of 20 to 80/100. Then, at higher levels of probability, the Personal Wellbeing Index falls.

This is highly relevant because we have argued elsewhere, on theoretical and empirical grounds, that 70 points represents the level that is most vigorously defended by the homeostatic system. Thus, the interpretation of these ‘sad event’ data is as follows. These people have naturally low set-point-ranges. This gives them a less positive view of their life which, in turn, makes them more likely to recall sad events and to perceive threat. As a consequence, their homeostatic system is working harder to maintain SWB and at a perceived threat of 90-100% the system fails. At a mean Personal Wellbeing Index of 66.8 points a higher-than-normal proportion of the people will be experiencing symptoms of depression.

2.8.1. Satisfaction with Safety and Terrorist Attack Probability

As a point of validation, it would be expected that there would be some degree of correlation between changes between surveys in satisfaction with safety and the perceived probability of a terrorist attack. These data are presented in Table A2.9. With only 13 survey mean scores to work with the one-tail criterion for significance is \( r = .48 \). Thus, the actual correlations with safety (percentage who think an attack likely = -.65; strength of belief = -.12). Only the former is significant. There are several reasons for this as:

1. The fear of a terrorist attack is not the only factor influencing the population’s sense of safety.
2. Only a minority of people with strong convictions that an attack is highly likely and with a low set-point will be likely to drive this relationship (see Figure 2.25).

It is also notable that the correlation between the percentage of the sample who think an attack is likely and the strength of their belief is .29. This is convergent validation for the two measures between surveys.

2.9. State Comparisons

The data for this survey were collected from Victoria (VIC), Queensland (QLD), and South Australia (SA). See the Methodology section (1.2) for a more complete description.

Before studying the data from this survey, it is useful to observe the baseline comparisons between the states, produced by combining all of our data from the regular surveys.

2.9.1. State/Territory Comparisons using Cumulative Data

Table A2.10 shows the mean Personal Wellbeing Index score for each State and Territory using the combined data (N = 42,085). The results are shown below.

<table>
<thead>
<tr>
<th>State/Territory</th>
<th>PWI</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tas</td>
<td>76.0</td>
<td>1,078</td>
</tr>
<tr>
<td>SA</td>
<td>75.7</td>
<td>3,774</td>
</tr>
<tr>
<td>VIC</td>
<td>75.5</td>
<td>10,483</td>
</tr>
<tr>
<td>QLD</td>
<td>75.3</td>
<td>8,023</td>
</tr>
<tr>
<td>ACT</td>
<td>75.2</td>
<td>764</td>
</tr>
<tr>
<td>NT</td>
<td>74.7</td>
<td>395</td>
</tr>
<tr>
<td>NSW</td>
<td>74.6</td>
<td>13,693</td>
</tr>
<tr>
<td>WA</td>
<td>74.5</td>
<td>3,870</td>
</tr>
</tbody>
</table>

Figure 2.26: State/Territory Comparisons using Combined Data using Combined Data (Personal Wellbeing Index)

Statistical tests of significance show that TAS, VIC, SA, QLD > NSW, WA. However, it is important to note that these differences, while significant due to the large number of cases, are very small, with the maximum difference between States of only 0.5 points.
The comparisons in Figure 2.25.2 are derived from Tables A2.11 and A2.12. Apart from the first survey which stands alone, all other consecutive surveys have been combined. This is necessary in order to have sufficient numbers of respondents in each analytic cell to stabilize the patterns of change. Unfortunately the numbers of respondents from Tasmania, ACT and NT are too small to be reliable, and so have not been included. These small numbers come about because our sampling for each survey is based on a proportional basis relative to the geographic distribution of population across Australia.

What is evident from this pattern of change is that the five States were not different from one another at the time of the first survey. Following this, however, they can be roughly separated into three groups as follows:

Victoria, Queensland and South Australia all showed a significant rise following September 11 (Survey 2) and maintained much the same elevated pattern up to Surveys 12/13. In other words, the Personal Wellbeing of people in these states was elevated above normal between September 2001 and May 2005, a period of about 6.5 years.

New South Wales also shows a significant rise that parallels VIC, QLD and SA, but the rise is more muted such that, over this 6.5 year period, the NSW values generally lie below the level of the other three states.

Western Australia shows a pattern of change that is different from the other states. It shows no significant elevation following September 11 and the only significant change is at Surveys 12/13 when population wellbeing rises to be the same level as the other states. The general rise in wellbeing at this time coincided with the Athens Olympic Games during Survey 12.

From Surveys 12/13 to Surveys 16/17 the wellbeing in all states has gone down and, once again, there is no difference in wellbeing between the states. Then, at Surveys 18.1/18 VIC>NSW and WA once again.

Conclusions

Our preferred explanation for this general rise in wellbeing following September 11 is that the sense of an external threat caused people to become more socially cohesive. This elevated their satisfaction with the domains of Relationships, Community connectedness and Safety. Satisfaction with Standard of Living also rose. This sense of threat was then maintained by the First Bali Bombing and the start of the war with Iraq. It is not clear why wellbeing in WA failed to also rise at the time of these events. Possible explanations might be:

(a) That, due to the relative isolation of WA, the sense of threat was more real than in the rest of Australia, and a sense of personal fear counteracted the general trend evident elsewhere.

(b) That the explosive economic growth in WA, and the massive influx of new workers and their families, is disrupting the sense of social cohesion.

2.10. **Normative Data**

Two forms of normative data can be generated as follows:

(a) The scores of individuals can be combined. The variance of the resulting statistic will indicate the degree of variation between individuals and between surveys.

(b) The mean scores of surveys can be combined. The variance from this procedure indicates the extent to which each measure varies between surveys and the range indicates the normative band of values for the mean of any general population group.
2.10.1. *Normative Data from Individual Scores*

The distribution of values on the 0-10 response scale is given below for the Personal Wellbeing Index using the aggregate data from all surveys S10-S21 (N=25,293, Table A2.5).

![Frequency Distribution of Personal Wellbeing Index](image)

The important feature of this Figure is the highly regular normal distribution that involves all of the intermediate scale values. This is strong evidence to support the use of a 0-10 scale. It is also notable that a total of 4.6% of the combined sample fall below 50 points. The value of 50 points is critical in that scores below this are indicative of a high risk for depression.

This is confirmed in the next Figure that shows the frequency of responses to the single item ‘How satisfied are you with your life as a whole?’ (Table A2.4, N=43,835).

![Frequency Distribution of ‘Life as a Whole’](image)

As can be seen, the distribution is again highly regular, again reinforcing the reliability of the 0-10 scale. The proportion of people scoring <50 is also very similar to the proportion derived from the Personal Wellbeing Index.

**Personal Wellbeing Index and Domains (individual scores)**

The size of the smallest data-set used in Figure 2.29 is N=42,503 for the Personal Wellbeing Index (Table A2.21). Each range represents two standard deviations on each side of the mean. It can be
seen that while the range of the Personal Wellbeing Index almost exactly matches the range of positive wellbeing (50-100), the range for the domains consistently exceed these boundaries. The fact that the Personal Wellbeing Index almost perfectly covers the range of positive wellbeing in an empirico-theoretical match. The highest degree of variability is given by Relationships, which extends over 84.5 percentage points.

These normative are highly stable, with the variation being no more than 0.1 percentage point from the calculations using the previous data set.

**National Wellbeing Index and Domains (individual scores)**

The size of the smallest data-set for the ranges in Figure 2.30 is \(N=36,102\) for National Wellbeing Index (Table A2.21). The ranges are generally larger than for personal wellbeing and the largest is for Government which is 97.9 percentage points. It is notable that the range of the National Wellbeing Index (58.7 percentage points) is larger than that of the Personal Index (49.7). Moreover, the National Wellbeing Index range does not cover the top 9.3% of the positive range, and the extension of the range magnitude has mainly occurred from the bottom. This is consistent with the idea that distal (national) life aspects are under less homeostatic control, and more cognitive control, than proximal (personal) life aspects (Cummins, et al., 2003).

These values are all highly stable. The maximum degree of change since Report 11.0 has been 0.3 points.
Life as a Whole and Life in Australia (individual scores)

Figure 2.31: Normative Range for Life as a Whole and Life in Australia

The ranges and mean scores of these two variables are very similar (Table A2.19).

This does not fit with theory. Here, the distal variable (life in Australia : 82.2) is being rated as higher than the proximal variable (Life as a whole : 77.6), which is against theory. However, it was not always so as the Figure below shows.

Figure 2.32: Life as a Whole vs. Life in Australia: Survey Means

It is evident that the ordering of the means was consistent with proximal-distal theory prior to, and immediately following, September 11. Then, six months following September 11 (S3), satisfaction with life in Australia increased by an astonishing 11.0 percentage points. Then there was a decreasing trend, with the Survey 11 value of 81.6 being the lowest since Survey 3. The rate of decrease was very gradual, with only 3.6 percentage points shed since the peak at Survey 3. Then the Olympic success (S12) caused both measures to rise again.

Pretty clearly, the terrorist attacks, Iraq war, and the Olympic success caused Australians to think more positively about their country. It also caused them to think more positively about themselves, but the change here is less marked, as homeostasis would predict.

Interestingly, however, these two distributions are related to one another. A correlation coefficient applied to the mean scores of each variable across the surveys yields $r=.65, p<.001$ (Table A2.13). Thus, when the population as a whole think more positively about themselves, they also think more positively about life in Australia, but the latter is more responsive in measurement terms.
Table A2.6 shows the distribution of Life as a Whole matched to the distribution of the Personal Wellbeing Index, and Table A2.8 shows the distribution of the Personal Wellbeing Index matched to the distribution of life as a whole. The correlation between these two measures is quite modest using individual scores ($r = .65$) which means they share only 42.3% of their variance. There are many more people scoring very low on life as a whole than on the Personal Wellbeing Index.

2.10.2. **Normative Data using Survey Mean Scores as Data (N=23)**

**Personal Wellbeing Index and Domains (mean scores as data: N=23)**

![Figure 2.33: Normative Range for Group Data: Personal Wellbeing Mean Scores (N=20)](image)

As can be seen from Figure 2.33 and Table A2.22, the ranges show modest variation with a 13.3% difference between the top of the highest range (Relationships: 81.5) to the bottom of the lowest range (Future Security: 68.2). The ranges also differ in magnitude, from the largest (Safety: 6.7 points) to the smallest (Health: 2.3 points). These ranges are used to judge whether the domain scores produced by the population sub-groups, described later in this report, lie above or below the normal range.

Of particularly importance in this regard are the values for the Personal Wellbeing Index. The overall mean (75.1) is remarkably close to the predicted mean for Western populations (75.0). However, the range of 73.7 to 76.5 is just 2.8 percentage points, which is far smaller than the 70 to 80 range that has been previously estimated from the data reported from general reviews of the literature. This figure of 2.8 points is the most accurate estimate of the true range of population values yet published due to the use of consistent methodology between the surveys.

It is quite remarkable to be able to predict the population mean score on subjective wellbeing with 95% confidence to within 2.8 percentage points.
The normative range for the National Wellbeing Index (Table A2.22) calculated from survey mean scores is 11.8 percentage points. This is higher than the range for the Personal Wellbeing Index (2.8 points). This indicates that the National Wellbeing Index is more volatile between surveys than the Personal Wellbeing Index, as predicted by homeostatic theory.

The domains differ widely in the extent to which they have varied across the surveys. The most volatile is Economic Situation, with a range that spans 16.2 percentage points. The smallest are Environment (5.6) and Social Condition (4.1), which makes sense since these two domains represent highly stable entities over most of the temporal range of the surveys.

Both the mean score and the normative range of ‘Life in Australia’ are higher than for ‘Life as a Whole’ (Table A2.20). The x2 standard deviation range of 14.5 percentage points indicates that this variable is much more volatile between surveys than is Life as a Whole (range 3.3 percentage points). This is consistent with homeostasis theory.

### 2.10.3. Relationships Between the Indices and Their Domains (survey mean scores as data)

The correlation matrix showing the relationship between the survey mean scores for the Personal Wellbeing Index, National Wellbeing Index and their constituent domains is shown in Table A2.13.
The crucial information in understanding this table is that the correlations do not involve raw data from individuals within surveys. If this was the case then all of the values would be positive, reflecting the power of the SWB set-point to influence all domains in the same direction.

Instead, the data used for these correlations are the mean scores from surveys. Thus, the correlations are a measure of the extent to which these sample mean scores vary together between surveys. The following observations pertain:

1. In terms of the Personal Wellbeing Index domains (top-left quadrant of Table A2.13), the correlations are mainly positive and significant, showing that the domains tend to move together between surveys. This is interesting in showing that there must exist some common force for change in domain satisfaction that is experienced at the level of the whole sample. This could be sampling bias, such as if the samples differed markedly in the ratio to high to low income households, or it could be some common experiential variable, such as national elation at Olympic success. These possibilities require further analysis for their resolution.

Some domains, on the other hand, are showing a high level of independent variation between surveys. These include Health, where only 1/6 of the correlations with other domains is significant, and Relationships, with only 2/6 significant. All other domains have at least 3/6 significant correlations with other Personal Wellbeing Index domains. The most strongly inter-dependent domains, each with 4/6 significant, are Standard of Living and Community Connection.

It is interesting to note that, even though Health is generally unrelated to the movement of the other domains, it is strongly tied to Achieving in Life (r = .67), sharing 44.9% of the variance. It is not clear why this link occurs.

2. The extent of co-variation between the National Wellbeing Index domains is generally much weaker than for the Personal Wellbeing Index domains. This is predicted from homeostasis theory on the basis that they refer to more distal targets, and so contain less core affect. Indeed, all six domains contain just one significant link to another domain.

Of these significant correlations, one of the most interesting is the negative relationship (-.59) between satisfaction with government and satisfaction with the economic situation in Australia.

2.11. Composition of the Personal Wellbeing Index

Tables A2.17 and A2.18 show the regression of 7 and 8 domains respectively on Life as a Whole. This is the criterion test for a domain – that to be included in the Personal Wellbeing Index it must make a unique and significant contribution to Life as a Whole.

It can be seen that all domains make a significant unique contribution. This is a most unusual result. Usually neither Safety nor Spiritual/Religious make a contribution. Notably also, the contribution for Safety is negative.

In order to determine whether strong satisfaction with the Spiritual/Religious domain causes it to make a stronger contribution, the combined surveys have been split as 0-6 (Table A2.19) and 7-10 (Table A2.20). Indeed, contribution for both Spiritual/Religious and Safety are significant in the 7-10 group.
Dot Point Summary for the Wellbeing of Australians

1. The Personal Wellbeing Index has fallen back slightly since the February special survey 20.1 conducted immediately following the Victorian bushfire tragedy.

Special Surveys:
18.1: Three months after the change in Government and following several consecutive interest-rate rises.
19.1: Following the Victoria Bush Fires in which 173 people died.

Note: In this and subsequent figures, the shaded (blue) area shows the normal range of values shown in Table A2.22. These represent two standard deviations around the mean using survey mean scores as data.
2. The National Wellbeing Index has fallen by a non-significant 0.4 points since October 2008.

3. Satisfaction with Standard of Living has risen by a significant 1.4 points since Survey 20 and is now at its second highest level yet recorded.
4. Satisfaction with Safety has been maintained at its second highest level yet recorded.

5. Satisfaction with Community has fallen back since Survey 20.1 in February, at which it recorded its highest level. It remains very high.
6. Satisfaction with Future Security has risen 0.9 points since October 2008 but remains quite low.

7. Satisfaction with the Economic Situation in Australia fell a massive 12.4 points between October 2007 and October 2008. Over the past six months it has regained a significant 1.4 points, but remains low. It is notable that Satisfaction with Business has decreased far less.
8. Satisfaction with Government in Australia has steadily decreased since Survey 19 but remains higher than the level of satisfaction with the Liberal government except for the period immediately following September 11.
9. Satisfaction with National Security has fallen by a significant 2.9 points since October 2008. The increasing number of refugees arriving by boat may be responsible.

10. The percentage of people who consider that there will be a terrorist attack ‘in the near future’ has fallen by 1.3% since October 2008.

11. People who regard the probability of a terrorist attack as 9 or 10/10 (15.5% of the total sample) have lower than normal wellbeing.
12. Using combined data, five states and territories have a level of wellbeing that does not differ from one another, and which is higher than both NSW and WA. However, all levels lie within the normal range.
3. Household Income

We ask: “I will now give you a number of categories for household income. Can you please give me an idea of your household’s total annual income before tax. Please stop me when I say your household income category.”

Table 3.1: Income Frequency (Survey 21)

<table>
<thead>
<tr>
<th>Cumulative (Survey 7-20)</th>
<th>% of respondents to this question</th>
<th>N</th>
<th>% of respondents to this question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $15,000</td>
<td>3072</td>
<td>138</td>
<td>8.4</td>
</tr>
<tr>
<td>$15,000 to $30,000</td>
<td>4786</td>
<td>295</td>
<td>17.9</td>
</tr>
<tr>
<td>$31,000 to $60,000</td>
<td>7126</td>
<td>346</td>
<td>20.7</td>
</tr>
<tr>
<td>$61,000 to $100,000</td>
<td>5747</td>
<td>464</td>
<td>27.4</td>
</tr>
<tr>
<td>$101,000 to $150,000</td>
<td>4166</td>
<td>279</td>
<td>16.6</td>
</tr>
<tr>
<td>$151,000 to $250,000</td>
<td>731</td>
<td>118</td>
<td>7.9</td>
</tr>
<tr>
<td>$251,000 to $500,000</td>
<td>174</td>
<td>28</td>
<td>1.6</td>
</tr>
<tr>
<td>$500,000 or more</td>
<td>54</td>
<td>10</td>
<td>0.6</td>
</tr>
<tr>
<td>Total</td>
<td>25,856</td>
<td>1,676</td>
<td>83.8% of respondents answered this question</td>
</tr>
</tbody>
</table>

The data in Table 3.1 are derived from A3.2. The three categories $151-250K, $250-500K and $500K+ were only introduced in Survey 17. It can be seen that the sample for Survey 21 is wealthier than the running average. This trend started being noticeable from Survey 16. The reason is the continued rise in wages. However, since these rises do not reflect increased buying power, due to the matching rise in the cost of living, they are unlikely to systematically bias the whole sample over time. It does mean that people in the lowest income categories have progressively less purchasing power. This should be a progressively negative influence on their wellbeing over time.

As background to the data in this chapter, annual gross incomes are currently as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>&lt;$15,000</th>
<th>$15,000-$30,000</th>
<th>$31,000-$60,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age pension (September 2009)</td>
<td>14,815</td>
<td>24,747</td>
<td></td>
</tr>
<tr>
<td>Youth allowance (September 2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(16-24y)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- single</td>
<td>9,656</td>
<td>12,652</td>
<td>21,206</td>
</tr>
<tr>
<td>- Single with children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Partnered with children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unemployment ('New Start')</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Single, with no children</td>
<td>11,786</td>
<td>12,750</td>
<td>21,268</td>
</tr>
<tr>
<td>- Single with children</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Partnered</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum full-time wage (July 2009)</td>
<td>27,152</td>
<td>36,400</td>
<td></td>
</tr>
<tr>
<td>Median full-time wage (July 2006)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average full-time adult cash earnings (August 2008)</td>
<td>65,364</td>
<td>61,100</td>
<td></td>
</tr>
<tr>
<td>Average full-time adult total earnings</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From the above it is notable that the only people within the social security system who have an income <$15,000 are single people on some form of welfare support. When people live with another adult, household income moves into the next income bracket of $15,000-$30,000. This is highly significant for the interpretation of results between these categories, since the presence of a partner has a substantial effect to facilitate wellbeing (see Chapter 7). Thus, determining the cause of the below-normal wellbeing experienced by people with household incomes <$15,000 is confounded by the lack of a partner, disability, unemployment, and single parenthood.

The other group who may have an income within this lowest range are people who are self-employed and whose business, clearly, is not doing well. In this light it is somewhat surprising that SWB only rises by about two percentage points as income changes from <$15K to $15-30K (see Figure 3.1).

The income category of $15-30K contains a very mixed group. It includes people on all types of welfare payment who are living with at least one other person. It also includes people living alone...
who are full-time employed on a low wage. It is not until the income bracket $31-60K that most people on welfare are excluded. Even here, however, it is quite possible for someone on welfare to be living with another person who has a higher income, or to be living in a shared household with other adults.

The influence of these various factors can only be determined by the break-down of data into sub-groups. This is being progressively achieved within this chapter as the combined data-set becomes large enough to support the reliable analysis of these sub-groups.

### 3.1. Personal Wellbeing Index

The relationship between income and the Personal Wellbeing Index is given in Table A3.1 for Survey 21, for comparative surveys in Table A3.3, and combined surveys in Table A3.4. The range of the Personal Wellbeing Index across income groups is 7.2 percentage points (Figure 3.1).

![Figure 3.1: Income and the Personal Wellbeing Index (combined surveys)](image)

The * in Figure 3.1 denote a significant increment in wellbeing from the previous level of income. There are four such increments covering the four income levels above <$15,000. The final increment is at $101-150K where wellbeing is higher than it was at $61-100K (Table A3.4). To some extent these determinations of significance are a function of the number of respondents and it is possible that as numbers accumulate in the highest category it will become significantly higher than the $101-150K group. However, the current increment from $101-150 to $151-250 of 0.3 points is not large enough to become significant, and the estimates for the two higher groups are unreliable due to low N. From these current data we must conclude that income loses its ability to reliably raise wellbeing beyond a household income of $100-150K. In the current sample from Survey 21, 26.7% of households have an income that exceeds $100,000.

These calculations clearly indicate the diminishing returns with increasing household income. At the lowest income level an additional $15,000 buys 2.3 percentage points of wellbeing, or $6,522 per point. From the $15-30K baseline, it takes an additional $30,000 ($31-$60K) to buy 1.6 percentage points, or $18,750 per point. The complete calculation of the cost of a percentage-point rise in the Personal Wellbeing Index at each income level as shown in Table 3.2.
Table 3.2: The Cost of Each PWI Increment

<table>
<thead>
<tr>
<th>Income ($)</th>
<th>$ increment</th>
<th>Points gained</th>
<th>$ per point</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;15 to 15-30</td>
<td>15,000</td>
<td>2.3</td>
<td>6,522</td>
</tr>
<tr>
<td>15-30 to 31-60</td>
<td>30,000</td>
<td>1.6</td>
<td>18,750</td>
</tr>
<tr>
<td>31-60 to 61-100</td>
<td>40,000</td>
<td>1.5</td>
<td>26,667</td>
</tr>
<tr>
<td>61-100 to 101-150</td>
<td>50,000</td>
<td>1.5</td>
<td>33,333</td>
</tr>
<tr>
<td>101-150 to 151-250</td>
<td>100,000</td>
<td>0.3</td>
<td>333,333</td>
</tr>
<tr>
<td>151-250 to 251-500</td>
<td>250,000</td>
<td>1.7</td>
<td>147,056</td>
</tr>
</tbody>
</table>

The relationship between income and wellbeing shows the strongest connection at the lowest levels of income. Thus, a rise of $6,500 in gross household income is sufficient to raise average wellbeing by one percentage point. To some extent, however, this also reflects the different composition of the household in terms of disability and unemployment, as previously outlined.

Beyond an income of $15-30, the cost of an additional percentage point of wellbeing is around $20,000-$35,000 up to a gross household income of $61-$100K. Beyond this the cost becomes very much higher by a factor of 10 or so. However, these high-income figures remain approximations due to the small number of values in these analytic cells.

Two further observations can be made. First, while the extent of significance between income increments (Table A3.35) is N dependent, and therefore likely to change as more people are added to each income category, there is no reason to expect this to change the calculations of percentage-point costings above. These rely only on the reliability of each Personal Wellbeing Index mean score. Here the numbers are large enough to be reliable except for the very highest category (N=53). The second observation is that these data confirm, as a reasonable approximation, the upper limit of about 81 percentage points as the maximum for group data. This is consistent with many other calculations in this report and elsewhere.

It is also notable, however, that the income groups reflect more than simply differences in household income. As shown in Table 3.1, the category of <$15,000 is very over-represented by single people on pensions and people who are unemployed. Since living alone and unemployment are both associated with low SWB, especially for males, these are additional and powerful influences on the low SWB of the <$15,000 group.
3.1.1. **Personal Domains**

Statistical comparisons between income levels for all Personal Wellbeing Index and National Wellbeing Index variables for Survey 21 are reported in Table A3.1, for individual surveys in Table A3.3, and for the combined data set of Surveys 7-21 in Table A3.4 for the Personal Wellbeing Index and A3.5 for the National Wellbeing Index.

1. While Table A3.4 shows that the personal domains in Survey 21 generally follow the same pattern as the Index, there are a few exceptions. First, some domains are insensitive to the effects of income. These include the personal domain of community and the national domain of the Environment (see ANOVA main effect for income in left-margin of Table A.3.3). This is so even though they are sensitive to differences between surveys. It is interesting that these are probably the least personalized (the most distal) domains and, so, are likely the domains least affected by personal demographics.

   It is notable that only three domains show a significant income x survey interaction (left side of Table A3.3). The first is Achieving, and this was caused by the name change described in Chapter 2 and Section 2.3 below. The second is health but the level of significance is very marginal (.04).

2. The other personal domains show a great deal of variation in both the income threshold that causes the domain value to change, and also in the degree of consistency between surveys.

   2.1 It might reasonably be expected that Standard of Living would be the domain most sensitive to wealth, but this is not so in terms of its influence to cause change at higher incomes. It is true that in Surveys 7, 8 and 9 it showed significant increments of satisfaction to $60-90K in individual surveys, but that has not happened over the past couple of years. Moreover, while the cumulative data in Table A3.4 show significant increments up to this level, other domains as Health, Achieving, and Future Security also show sensitivity up to this level of income.

   2.2 In terms of income increments, satisfaction with health is sensitive to income only in the lower income ranges. With the single exception of Survey 19, in each survey either the lowest possible increment ($15-30K) or the $31-60K has shown a significant difference from <$15K. Interestingly, however, this sensitivity disappears at incomes higher than $31-60K. That is, there are no significant differences in health satisfaction between the groups with a household income >$60,000 in the surveys.

   This pattern probably reflects the fact that people in serious ill-health are likely to be over-represented in the lowest income groups. Thus, these groups, most particularly the <$15 group, comprise an usually high proportion of people whose ill-health is so severe that the associated pain or stress is defeating SWB homeostasis. However, other people in this income group are undoubtedly healthy, and will have normal levels of health satisfaction. The consequence of this mixture is an overall low group mean and a large standard deviation. The standard deviation of the <$15 group is predictably larger than that for higher income groups (Table A3.4), as it is also for the other domains.

   2.3 The domain of Achieving had shown good discrimination between the income groups up to, and including, Survey 17. This seems to have changed since Survey 18 with the Achieving domain showing poor sensitivity to income.

   The wording of this item changed in Survey 11 (from ‘achieve in life’ to ‘are achieving in life’) and this increased the discriminative capacity of the domain. Prior to this change the range of values across the income groups was about 6 points. The wording change has increased this to about 12 points. This is consistent with the new wording for this item being more appropriate for the Personal Wellbeing Index.
These data also allow an examination of the relative contribution of the domains to the income-sensitivity of the Personal Wellbeing Index. This can be done by observing the number of significant income group comparisons within each domain of Table A3.3 from Survey 7 to the present. These are as follows:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number of significant income-group comparisons with domains</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>171</td>
<td>32.3</td>
</tr>
<tr>
<td>Health</td>
<td>112</td>
<td>21.2</td>
</tr>
<tr>
<td>Achieve</td>
<td>71</td>
<td>13.4</td>
</tr>
<tr>
<td>Relationships</td>
<td>64</td>
<td>12.1</td>
</tr>
<tr>
<td>Future Security</td>
<td>64</td>
<td>12.1</td>
</tr>
<tr>
<td>Safety</td>
<td>47</td>
<td>8.9</td>
</tr>
<tr>
<td>Community</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>529</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

This is interesting in demonstrating an enormous degree of difference between the domains in the extent to which they are influenced by household income. Over half of the influence (53.5%) is provided by the two domains of Standard of Living and Health. The contribution of the others is generally unreliable, being present in some surveys but not others except for Community which is insensitive to income.

It is notable that ‘community’ is insensitive to income.

3.1.2. Domain Discrimination with Income

Another way to observe the domains as differentially sensitive to income, is to study the degree of change in satisfaction from low to high income.

The actual percentage point differences in the Personal Wellbeing Index domains between the highest income group with reliable data ($251-500K) and lowest (<$15K) income groups within each domain using combined data (Table A3.4) are shown below.

![Figure 3.3: The Influence of Household Income to create differences within the Personal Domains](image)

This is a logical sequence, in that the top three domains can be more easily ‘bought’ than the three lowest. Standard of Living is most obviously related to income, while good medical care can also be purchased, and people may gain a sense of future security by having a household income that is higher than average. On the other hand, safety is hard to purchase. People who feel unsafe may not be able to purchase arrangements that make them feel safe. And connection to others, either via relationships or community, requires personal effort rather than wealth.

These results provide important information for interventions designed to enhance wellbeing. Very often such interventions concentrate on the inter-personal domains, and whether these domains are...
amenable to change through such interventions, when they are not very amenable to change via wealth, is an interesting issue.

The second point worth noting is that this domain order shows some relationship with multiple regression analyses that study the contribution of each domain to ‘Satisfaction with Life as a Whole’ (Table A2.17).

Table 3.3: Rank Order of Domains (Survey 21)

<table>
<thead>
<tr>
<th>Points change with income (&lt;$15K to $251-500)</th>
<th>Predicting Life as a Whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank</td>
<td>β</td>
</tr>
<tr>
<td>Standard</td>
<td>14.6</td>
</tr>
<tr>
<td>Health</td>
<td>11.4</td>
</tr>
<tr>
<td>Future</td>
<td>10.1</td>
</tr>
<tr>
<td>Achieving</td>
<td>9.3</td>
</tr>
<tr>
<td>Safety</td>
<td>8.1</td>
</tr>
<tr>
<td>Relationships</td>
<td>7.8</td>
</tr>
<tr>
<td>Community</td>
<td>0.9</td>
</tr>
</tbody>
</table>

The Spearman Rank Order coefficient between these two rankings is .679, which is significant (p < .001). This indicates the possibility that the sensitivity of the domains to household income is related to the contribution made by the individual domains to ‘life as a whole’.

3.1.3. **Personal Wellbeing Index x Surveys x Income**

Table A3.6 provides these results. There is an overall trend of decreasing wellbeing with time. Across all of the income brackets there are 4 significant post-hocs and in each case the Personal Wellbeing Index in the earlier survey is higher. Of these changes, all are in the income groups <$60K, showing the higher vulnerability of low-income households to the rising cost of living. This is a clear indication that the relative value of the money represented by these fixed-income categories is decreasing over time.

3.1.3.1. Changes Over Surveys Within Domains

Three domains are shown in Tables A3.7 to A3.7.2. There does not appear to be any systematic change over surveys, just individual values for particular surveys that are higher or lower than normal.

3.2. **National Wellbeing Index**

The National Wellbeing Index is relatively insensitive to income within each survey. In Survey 21 there are 4 significant differences between the income brackets (Table A3.1). By comparison, the Personal Wellbeing Index shows 8 such differences.

When the sample sizes are increased by combining data across surveys (Table A3.5) then differences emerge between income brackets in a predictable manner, with higher incomes producing significantly higher National Wellbeing Index. However, the National Wellbeing Index remains less sensitive to income change than the Personal Wellbeing Index (Table A3.4), with their respective number of differences between categories being 13 vs 21. The greater sensitivity of the Personal Wellbeing Index to income is in part a function of a larger difference between income categories (<$15K to $251-500K: PWI = 8.9 vs. NWI = 5.5) but is also a function of smaller variance (e.g. $101-150K: PWI = 9.6 vs NWI = 13.1).

The direction of this difference is counterintuitive according to homeostatic theory. Since the Personal Wellbeing Index is more saturated with core affect, it should be less sensitive to the effects of income.
One possible explanation is that some people in the lower income brackets are experiencing homeostatic defeat. This, then, is causing the group mean to fall and the variance to rise. If this is so, the differences in variance between the Personal Wellbeing Index and National Wellbeing Index income groups should diminish with higher income. This is tested in Figure 3.4.

In fact, the trend is the opposite of that which is expected. The difference in variance between the two measures is lowest within the two lowest income categories. There is clearly no interaction and both measures have changing variance in synchrony with one another.

These results leave a gap in understanding. While the greater sensitivity of the Personal Wellbeing Index can be explained statistically (larger differences between the group means and lower variance) it cannot be so readily explained theoretically.

### 3.2.1. National Wellbeing Domains

In terms of Survey 21 data alone, the national domains show a weak change with income, with lower satisfaction within the low income groups.

When the combined data are analysed (Table A3.5) Economic Situation and Business show the greatest income sensitivity between low-income groups as shown in Figure 3.5.
The pattern of change has the same level of sensitivity to income as the Personal Wellbeing Index, in that satisfaction rises up to $101-150K and then plateaus.

### 3.3. **Terrorist Attack Probability**

We asked people whether they thought there would be a terrorist attack in Australia, in the near future. Those who said yes were asked to rate the strength of their belief (Table A3.1).

In Survey 21 the proportion of people who think an attack is likely is significantly higher in low income, but the strength of belief among those who believe an attack is likely does not change with income and neither does the strength of belief.

![Figure 3.6: Income x Terrorist attack beliefs (Surveys 19 and 20)](image)

What this shows is no significant change in the strength of belief in an attack, among the believers, either between surveys or across the levels of income. However, this is not true of the percentage of people who are still expecting an attack. This percentage has generally fallen slightly and may be reaching a steady baseline.
3.4. **Income and Gender**

The gender distribution of income shows more females in the lower income groupings (Table A3.8). This is mainly a consequence of relative longevity. More females are retired and live in single-pension households.

In terms of Survey 21, there are no gender differences for any level of income.

In terms of the combined data the gender differences are shown in Figure 3.7.

![Figure 3.7: Gender x Household Income (combined data)](image)

The shaded income categories indicate a significant gender difference. Females tend to have higher wellbeing at all incomes up to $101-150K. The shape of these slopes are similar. Both genders show a significant and progressive rise in Personal Wellbeing up to $101-150K. Thereafter, increased income provides no reliable increase in wellbeing for either gender. However, this lack of significance is more related to small N values than to the Personal Wellbeing Index mean scores, which continues to rise.

In summary, the higher wellbeing of females is evident throughout the range of incomes and both genders conform to the incremental wellbeing increase with rising income shown in Figure 3.1.
3.5. Income and Age

The age distribution of income is provided in Table A3.9 for Survey 19 and Table A3.10 for the combined survey data. These show a concentration of low income in the groups aged 66+ years. It can also be seen from the combined survey data that the most elderly group has the highest level of personal wellbeing despite having the lowest household income (Figure 3.7). This indicates a decreased reliance on money, as an external resource. These people have a level of personal wellbeing that is much more highly controlled by internal factors.

The following figure comprises the combined data taken from Table A3.10.

![Figure 3.8: Income x Age (combined data)](image)

The most obvious feature of this figure is that low household income is seriously compromising the wellbeing of people aged 26-55. The value of 61.9 points at 36-45 years is extremely low and it is clear that these people are living in situations where personal wellbeing is being severely damaged by their life circumstances. The people in such households clearly require assistance.

It can also be seen that:
(a) The effects of low household income to reduce middle-age wellbeing is evident for the two lowest income groups. At an income of $31-60K wellbeing remains within the normal range for all ages.

(b) There is a clear rank-order of wellbeing that reflects household income. This is pretty well maintained at all ages but is most pronounced in the normal working age-range of 26-65 years.
3.5.1. *Income x Age x Gender*

These combined data are taken from Tables A3.11 (Males) and A3.12 (Females).

In general it can be seen that the generally higher wellbeing of females is evident. However, there is a curious reversal in the low income groups aged 26-35 years in which females have lower wellbeing than males. This may be due to marital status with more females in this age group being sole parents. Certainly there are more females (N=67) than males (n=41) in this group. This requires further investigation, however the N is not sufficient to do so at this stage.
3.6. **Income and Household Composition**

Table A3.13 shows the results for Survey 20 and Table A3.14 shows the combined data, also presented in Figure 3.10. This shows that the general trend across household composition groups is for increased wellbeing with increased income, but some groups demonstrate this more markedly than others. These differences are caused by a combination of social support and financial demands.

![Figure 3.10: Income x Household Composition](image)

*Figure 3.10: Income x Household Composition: Personal Wellbeing Index (combined Surveys 9-20)*

The results shown above make three strong points about the management of personal wellbeing as follows:

1. **Living only with a partner** is consistently the best option for high wellbeing at all income levels. If people live only with their partner, in the absence of children, their wellbeing consistently approximates the top of the normal range and varies only 4.9 percentage points across the entire income range. The power of the relationship to support wellbeing is concentrated within the couple.

2. **Having the support of a partner** allows the wellbeing of parents living with their child to enter the normal range at an income of $31-60K. Sole parents do not enter the normal range until they reach an income of $61,000 - $100,000.

This is an important finding because it indicates the crucial relevance of household composition, rather than simply the number of household members, on wellbeing. Economists frequently assume that increasing the number of household members puts increased pressure on household resources (true) which then exerts a parallel and negative influence on wellbeing (false).
Clearly, were the economists’ position to hold, a sole parent would have higher wellbeing than a household that contained an additional adult. This is not what these data show.

The management of personal wellbeing is a function of stressors matched against resources. Income provides one form of resource, and social support provides another. If the relative advantage of the social support provided by another adult exceeds the financial demands required for their maintenance, then their presence will have an overall advantage in terms of wellbeing management. This is what has occurred, and a similar argument can be made in terms of the data on people who live alone. They have a lower level of wellbeing than the people who live only with their partner and their wellbeing does not enter the normal range until their income reaches $101-150.

The sensitivity of the living alone option to income has an important implication for the interpretation of the generally low wellbeing of people who live alone. It is apparent from these data that their level of wellbeing is unlikely to reflect some personality deficit, such as low levels of extraversion. Much more likely is that these people have achieved a level of resource, through an income of $101-150K that enables them to effectively buffer their wellbeing in the absence of a partner.

An alternative explanation is that this group of living alone, high income people, comprises a high proportion who have separated from their partner and who have high extraversion. This however, can be dismissed on two grounds. First, it is more likely that the low income groups would contain a greater proportion of people who have separated. This may occur either by income division following separation or the reliance of one partner on social security. The second reason is that people who have never married show the same sensitivity to rising income (Table A3.18).

3.6.1. Income x Household Composition x Gender

These results are shown for males in Table A3.15 and for females in Table A3.16.

![Figure 3.11: Income x Household Composition x Gender](combined Surveys 9-20)

These data indicate higher female than male wellbeing in the lowest income group irrespective of whether they are living with a partner or not. For the people living with a partner, this difference becomes non-significant at higher incomes, whereas for people living alone the gender difference is maintained. It is also notable that while female live-alone wellbeing enters the normal range at $15-30K, males require four times as much income ($101-150K) to enter the normal range. This probably attests to the greater use of relationship by single females than by single males.
3.6.2. Composition of the lowest income group: Household Composition x Age (26-55y)

These data are presented in Table A3.17. Few of these cells are large enough to be reliable. However, the difference between those with and without a partner is marked. Within the 46-55y group the comparison between those living alone (59.9) and those with a partner (71.2) is 11.3 points. This is remarkable testimony to the power of relationships over wealth.

3.7. Income and Relationship Status

Table A3.18 shows both the results from Survey 20 and also the combined data. From the latter it can be seen that de facto generally lie lower than married, and the extent of difference is maximal at household incomes of $15,000 to $60,000. The other groups are also shown below.

![Figure 3.12: Income x Relationship Status](image)

This Figure 3.12 depicts well the separate forces of relationships and money to influence wellbeing. People who are married enter the normal range at the lowest level of income (<$15,000). People who are separated do not achieve this level even with an income of $101-150K. People who have never married enter the normal range at $101-150K, while people who have divorced do not enter the normal range even at this high income level.

What these results indicate is two routes to achieving a normative level of personal wellbeing. One is through relationships. If people are married they can achieve normative status even at the lowest level of household income. If, on the other hand, they do not have a partner, then the external resource of money is an alternative means of achieving normative status. In these comparative terms, the presence of a partner roughly equates to about $100,000 per year for people with no partner.
3.7.1. Income x Relationship Status x Gender

These data are available for males in Table A3.19 and for females in Table 3.20. Figure 3.13 below shows the combined data.

As expected, the overall higher wellbeing of females is evident throughout.

For the people who have divorced, those with the lowest income both genders have equivalently depressed wellbeing. However, the rising income advantages females far more than males. At $61-100K females have almost entered the normal range while males still have not done so at $101-150K.

The data for Widows x Gender are shown in Figure 3.14 using results from Tables A3.19 and A3.20.

This shows the expected female advantage in wellbeing at incomes up to $31-60K. Many of these people from both genders would be living alone and this is likely a factor in the lower wellbeing of the males. However, the sudden reversal at $61-100K is unexpected. Perhaps more of the males in this income group have found another partner. This remains to be tested and, as yet, the numbers are too small to do this.
3.7.2. Composition of the lowest income group in terms of Relationship Status and Age

These data are provided in Table A3.21. It is quite surprising to find so many people who are Married (22.9%). A pension should take these people above the <$15K range (see Table 3.1). With the exception of the Married, 26-35 group, all other wellbeing values in this table are low, some of them very low.
3.8. **Income and Work Status**

These data are found in Table A3.22 for both Survey 21 and the combined results.

Figure 3.15: Income × **Work Status** (combined data)

Figure 3.15 show that the most spectacular rise in wellbeing through income is for people who are unemployed. This wellbeing rises by 14.7 points from 60.8 at <$15K to 75.5 at $101-150K.

The fact that fulltime retired have the highest personal wellbeing is a function of their age. However, it is notable that these people achieve normal or above-normal levels of wellbeing on low household incomes and that their wellbeing increases by only 6.7 points between <$15K and $101-150K.
3.8.1. *Income x Work Status x Gender*

These data come from Tables A3.23 and A3.24.

![Figure 3.16: Income x Work Status x Gender](image)

There is no reliable difference in the wellbeing of full-time employed males and females at any level of household income. This is not true, however, for people who are unemployed. Females have a higher wellbeing than males at all levels of household income.

3.8.2. *Composition of the lowest income in terms of Age and Work Status*

These results are in Table A3.25. Few cells contain enough respondents to be reliable. It is notable that 11.2% of this sub-group are full-time employed, yet earning $<15,000 per year, and with normal-range Personal Wellbeing Index. This is either response error or people working for themselves for very low remuneration.
3.9. **Regression of PWI Domains against Life as a Whole**

Tables A3.26-A3.32 show the regressions of the seven Personal Wellbeing Index domains against ‘Satisfaction with Life as a Whole’ across the range of household income. A summary is provided in Table A3.33. The relative proportion of explained and unique variance is shown below:

![Figure 3.17: The Proportion of Unique and Shared Variance by Income](image)

As can be seen, both trend lines show a gradual increase in the proportion of explained variance up to $151-250K. This indicates that both sources of variance are sharing in the increasing ability of the domains to explain variance in Life as a Whole. Why this trend changes at $251-500K is not clear.

The first conclusion from this is that the Personal Wellbeing Index works well at all levels of household income. The second is that the domains capture rather more unique than shared variance as household income rises. This is shown below.

![Figure 3.18: The Proportion of Unique/Shared Variance by Household Income](image)

Key: U/S = Unique variance divided by shared variance
This indicates that, as income rises, the domains play a larger role in explaining the total variance. This is consistent with the progressive release of domains from the influence of homeostatic failure due to low income. It can be seen that this rise continues up to $91-120K after which there is no further systematic increase. This is the same income level that shows the maximum rise in its effects on levels of wellbeing (Figure 3.1).

In order to investigate changes in the individual domain contributions (β) these are plotted below:

These results are drawn from Tables A3.26 to A3.32. There is no clearly discernable trend in these lines.

### 3.10. Testing Homeostasis

#### 3.10.1. Wellbeing Variation Within Income Groups using Combined Survey Data

The theory of subjective wellbeing homeostasis predicts that the amount of wellbeing variation within income groups will reflect two kinds of influence as:

(a) The range of genetic ‘set-point’ of subjective wellbeing for each person. This should be constant across the income groups.

(b) The degree to which the external environment impinges on each person to change their SWB levels. This influence is predicted to be greatest for the most vulnerable groups who are either people with constitutionally weak homeostatic systems (low SWB set-points and a vulnerability to depression) or people whose homeostatic systems are placed under pressure through external events that they cannot objectively control. This latter group will include people who are disabled and people who are elderly.

As a consequence, the theory predicts that the Personal Wellbeing Index will show greater variation within the lowest income groups. This is because money is a flexible resource that can be used to
defend people against possible stressors. Since people on low incomes have less access to this resource, they are more vulnerable to the vagaries of their daily environment. Table A3.34 shows the standard deviation of the Personal Wellbeing Index within income groups where the data have been combined across surveys. The minimum cell size is N=171.

As shown in Figure 3.20 above, the prediction matches the data. The highest standard deviation (16.2) is found within the lowest income group. This value declines with increasing income until it bottoms-out at $101-150 where it reaches a value of 9.7. This result is consistent with homeostatic theory. The fall in the standard deviation represented the reducing proportion of people in each sample who are experiencing homeostatic defeat through their economic circumstances.

In summary, these data are consistent with the predictions of homeostatic theory and shows that the tail of the distribution is not being systematically further contracted above an income of $101-150K as an average threshold for the avoidance of financially-dependent homeostatic defeat.

These standard deviations at the highest income levels also give possible insight into the range of set-points. That is, if income ceases to be a factor that exerts a significant influence on wellbeing then the variance is, quite possibly, dominated by genetic variation in set-points between the people concerned. However, of course, it can never be a true measure since other influences besides income will be contributing to this variance.

Nevertheless, an approximate calculation is interesting. It can be seen that the minimum standard deviation in Figure 3.20 is 9.7 points. Moreover, this curve downward is clearly exponential, so it is unlikely to ever get below 9.0 points. How much lower could it get if other experientially-influencing factors were eliminated? I would guess not more than 2 points at the most. This would leave a ‘natural’ standard deviation of 7 points.

The maximum reliable level of wellbeing for groups is probably about 82 points. Thus, two SDs around this defines a normal range for set-points at about 68-96 points.

3.10.2. Differential Personal-National Income Sensitivity

Why is the Personal Wellbeing Index more sensitive to income than the National Wellbeing Index? At first glance this seems the wrong way around. Since the Personal Wellbeing Index is more strongly influenced by homeostatic control on the proximal-distal dimension, it should be least affected by the relative strength of an external resource. The answer to this conundrum will lie within an examination of the means and variances. The data have been drawn from Tables A3.4 and A3.5 in Report 16.0.
Table 3.4: PWI and NWI Change with Income (Individual data: Surveys 7-16) (Retained from Report 16.0)

<table>
<thead>
<tr>
<th></th>
<th>&lt;$15</th>
<th>$15-$30</th>
<th>$31-$60</th>
<th>$61-$90</th>
<th>$91-$120</th>
<th>$121-$150</th>
<th>$151+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PWI</strong></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Increment</td>
<td>71.4</td>
<td>15.7</td>
<td>73.5</td>
<td>13.3</td>
<td>74.6</td>
<td>11.8</td>
<td>76.3</td>
</tr>
<tr>
<td>NWI</td>
<td>59.3</td>
<td>17.4</td>
<td>60.2</td>
<td>15.6</td>
<td>61.2</td>
<td>14.2</td>
<td>62.0</td>
</tr>
<tr>
<td></td>
<td>+0.9</td>
<td>-1.8</td>
<td>+1.0</td>
<td>-1.4</td>
<td>+0.8</td>
<td>-0.3</td>
<td>+1.3</td>
</tr>
<tr>
<td>PWI minus NWI</td>
<td>Mean</td>
<td>-1.7</td>
<td>-2.3</td>
<td>-2.4</td>
<td>-3.2</td>
<td>-3.4</td>
<td>-4.5</td>
</tr>
</tbody>
</table>

It is apparent that there are two statistical phenomena causing the Personal Wellbeing Index to be more sensitive to income than the National Wellbeing Index. The mean scores are rising faster and the variance is decreasing more rapidly. The psychological explanation for these changes is as follows.

The Personal Wellbeing Index range is naturally held higher and tighter than the National Wellbeing Index range due to the influence of homeostasis. At the lowest incomes, additional variance is added to the Personal Wellbeing Index range by individuals in homeostatic failure. As the income rises, money used as an external buffer reduces the proportion of the sample in homeostatic failure, such that the mean rises and the SD falls, up to $91-$120K when the range effectively stabilizes.

It is interesting to note how this Personal Wellbeing Index range has changed. Using two standard deviations around the mean (Table A3.32), at <$15,000 it is 38.9 to 102.9 points, while at $151,000+ it is 57.9 to 99.3 points. It is notable that the reliable change has occurred at the bottom of the range and that the $151+ range probably represents an approximation of the potential normative set-point range in the population (58-99 points).

3.11. Normative Data for Income

3.11.1. Normative Data for Individual Scores

Normative data can be created by pooling individual scores within income brackets. The results below are drawn from Tables A3.34.

![Figure 3.21: Personal Wellbeing Index Range Calculated from Individual Scores](image)

It can be seen that there is very little change at the top of each range (5.7 points). Two standard deviations above the group mean approximates the 100.0 ceiling for each calculation. The bottom of
Each range, however, is far more volatile, and changes by 21.9 percentage points between the lowest and the highest income bracket. These relative changes are consistent with the use of money as a resource to avoid homeostatic defeat. The major change at the bottom of the range occurs over the income span <$15K to $31-60K (12.4 points). Income increments from $61K and above add another 9.5 points to the bottom of the range.

The most important aspect of these distributions is the proportion of people lying below a satisfaction strength of 50. Other research (Cook & Cummins, 2004) shows that individuals below this level are at high risk of depression. The level of each vertical bar that lies below the 50 indicates the proportion of that group at risk of depression. Thus, the income brackets lying below $31,000 contain a sizeable proportion of people at high risk of depression. These data also indicate that a strategy for increasing mental health in the Australian population is to increase the income of the people on low incomes.

3.11.2. Normative Data for Group Means

The normative data for groups are provided by the survey mean scores (Tables A3.35 to A3.37. When these survey mean scores are used as data they can yield a mean and standard deviation. The mean, of course, will closely approximate the group means calculated from individual scores as above. The standard deviation is more interesting. It reflects the degree to which the income group has varied across the surveys. The result is shown in Figure 3.22.

The bars in Figure 3.22 indicate the PWI normal range for each income group calculated as two standard deviations around the mean. It is evident that the lower and higher income brackets show more between survey variation than the $31-60 and $61-90 groups.
Figure 3.23: Correspondence Between the Whole Sample Normative Range and the Income Specific Normative Range (Combined surveys)

The data for Figure 3.23 are drawn from Tables A3.35 to A3.37. The income-specific normative ranges are for groups and based on survey mean scores corresponding to each income range. It can be clearly seen how the base of the range stabilizes at $61-90K while the top of the range continues to increase. This is consistent with the idea that at an income of $61-100K few people are homeostatically defeated by matters financial. The increase in the top of the range represents the increasing probability that people can experience the upper portion of their set-point range.

It is notable (from Table A3.32) that 30.6% of the combined survey data come from people with incomes <$31,000 and 40.7% from people with household incomes >$60,000. Thus, in terms of income alone, about one third of the population have a level of household income that exposes them to a high probability of below-normal wellbeing, while about one third have a level that provides a high probability of above normal wellbeing.
NORMATIVE INCOME RANGES

The average household incomes have been drawn from Table A3.38 (cumulative data) and the caption to that table indicates the basis of this calculation.

Figure 3.24: Gender

Figure 3.25: Age
Section 3 Household Income continued

Figure 3.26: Household Structure

Figure 3.27: Relationship Status

Figure 3.28: Work Status (Full-time)
1. Personal wellbeing consistently rises with income up to $101-150K. The 6.4 point gain over this range is associated with a change in wellbeing from below to well above the normative range. Whether the rise in SWB becomes significant beyond $101-150K will be revealed by the addition of further data.

2. The cost of increasing happiness increases with income. One additional percentage point of wellbeing for someone with a household income of $151-250K is an additional $108,695.

3. Income has the largest effect on the domain of satisfaction with Standard of Living. It has no systematic influence on satisfaction with Community Connection.
4. The personal wellbeing of people aged 26-55 years is highly sensitive to low income.

5. Between the ages of 36-55 years, low income is associated with lower wellbeing for males than for females.
6. (a) Household incomes under $30,000 combined with the presence of children, on average, take wellbeing below the normal range.

(b) For people who also have a partner, wellbeing enters the normal range at $31-$60K. The wellbeing of sole parents enters the normal range only at an income of $61,000-$100,000.

7. Males who live alone have lower wellbeing than females who live alone. Moreover, whereas females enter the normal range at an income of $15-30K, males require three times as much ($100-150K).

8. The negative effects of separation and divorce on wellbeing can be reduced by a decent household income. However, both groups remain below the normal range.
9. Married males and females have a very similar level of wellbeing. However, divorced males have lower wellbeing than divorced females at all incomes except the lowest.

10. The wellbeing of people engaged in Fulltime home/family care is highly income dependent, from below normal at less than $30,000 to above normal at more than $60,000.

People who are unemployed enter the normal range at $101-150K.

11. Unemployment has a stronger detrimental effect on the wellbeing of unemployed males than females at all levels of household income.
4. Gender

4.1. Overall Distribution

The sample for Survey 21 comprised 959 males (50.1%) and 955 females (49.9%) (Table A4.1).

4.2. Gender and Wellbeing

The Index data are presented for this survey in Table A4.1 and analysed across all surveys in Table A4.2.

4.2.1. Personal Wellbeing Index

Over the first 13 surveys, females tended to have higher wellbeing than males (Figure 4.1). Then, over the next five surveys (14-18) there was no gender difference. In Surveys 19 and 20 the genders significantly separated once again, but in opposite directions, indicating no coherent trend. In Survey 21 they are again no different from one another.

From Figure 4.1 it can be seen that the gender differences have occurred in two phases. During the first 13 surveys, covering a period of 4 years (April 2001 to May 2005), female wellbeing was consistently higher. Then, over the following seven surveys to date, no simple trend in gender differences is evident. While the reason for this changed pattern is not known, it is clear that a single cross-sectional survey could have discovered any result in terms of the existence of a gender difference in wellbeing.

The trajectories for each gender over time have been quite different. Using the reference point of the first survey, the female scores became significantly higher after one year (S3, March 2002) and remained variably higher over the next 2.5 years, up to Survey 12 (August 2004), with 5/10 surveys during this period being higher than Survey 1. Then the female values returned to normal, with the last eight surveys, since Survey 13 in May 2005, being no different from Survey 1.
The male scores, on the other hand, first rose to be higher than Survey 1 at Survey 6 (March 2003) and have essentially remained at this higher level ever since. The significant interaction (Table A4.2) between the genders has been mainly caused by changes in male wellbeing.

4.2.2. Homeostasis

According to the theory of homeostasis, due to the ceiling imposed by each set-point, an upward movement in the Personal Wellbeing Index as shown in Figure 4.1 should be accompanied by a reduction in the standard deviation. This prediction is made through using the following logic.

Assume some ‘good’ is applied to all members of a population, then an upward shift in the mean could be caused by any of the following:

1. All people in the sample show the same degree of rise. This is obviously impossible due to individual differences in susceptibility.

2. Some people rise while others fall, but the rises outnumber the falls, and so the overall mean of the sample rises. Of itself, this should cause the SD to increase, reflecting the range being pushed up by the higher values.

3. The extent to which people can rise or fall is limited by their set-point range as follows:
   3.1 Assuming most people were within their set-point-range prior to the ‘good’, some small degree of movement is possible within their range.
   
   3.2 If baseline values were evenly distributed above and below the set-points, the ‘good’ will be more effective in moving wellbeing up to the set-point (congruent with homeostatic forces) than in moving wellbeing above the set point (incongruent with homeostatic forces). Thus, the range of values within the sample will tend to contract and the SD will decrease.

   3.3 For individual values lying below the set-point-range at baseline, the ‘good’ has the potential to move these values into the set-point-range and to re-establish normal range wellbeing for such people. The theoretical magnitude of change in such cases is substantial and, again, this would tend to decrease the standard deviation of the sample.

In summary, the application of homeostasis theory allows the prediction of an inverse relationship between the magnitude of sample mean scores and sample standard deviations.
These results come from Table A4.17 and A4.18. The magnitude of the correlations is as predicted by theory.
4.2.3. **Personal Wellbeing Domains**

### 4.2.3.1. Standard of Living

These results come from Table A4.2. On seven occasions there has been a gender difference, most commonly with females > males, and on one occasion males > females (Survey 19). The ANOVA shows a significant effect overall for gender (females > males) and an interaction with survey, such that the gender difference is systematically confined to the earlier surveys.

The male values, by contrast, show a persistent upward trend, where all subsequent surveys are higher than Survey 1.

### 4.2.3.2. Health

These results come from Table A4.2. This is the most stable domain, with a weak trend over surveys (p < .02) and no interaction. However, overall females > males and there have been two occasions when individual surveys (shaded) have shown this differences (Surveys 3 and 8). In Survey 19, males > females.
In Survey 20, male health fell 2.8 points since the previous survey. Numerically, but not significantly, this puts it at its lowest level yet recorded and 0.2 points below its level at Survey 1.

4.2.3.3. Achieving in Life

![Achieving in Life Graph](image)

Figure 4.6: Satisfaction with Safety across all Surveys: Achieving in Life

Satisfaction for both genders fell between Survey 10 and Survey 11 reflecting a change in the wording of this item (see Chapter 2).

The interaction is significant (p = .01) caused by the more rapid trend of falling female values relative to males after Survey 10.

4.2.3.4. Relationships

The second domain that shows a significant interaction between gender and surveys is Relationships (Table A4.2).

![Relationship Satisfaction Graph](image)

Figure 4.7: Gender x Survey (Relationship Satisfaction)

Over the first 12 surveys, females had higher relationship satisfaction than males. However, following Survey 12 (Olympics) the pattern dramatically changed, with subsequent surveys showing no
systematic gender difference. In fact, the gender difference in Relationships was quite marginal at Survey 1 (2.0 points, \( p = .036 \)) and the values for relationship satisfaction for both genders then returned to be no different from Survey 1. The interaction is significant (\( p = 0.000 \)).

The cause of the interaction appears to be primarily the change in female relationship satisfaction that occurred at Survey 13, which was the first survey following the Athens Olympic games. At this survey, the satisfaction of both males (-3.2 points) and females (-5.0 points) significantly decreased. However, while the male decrease took satisfaction to a level no different from most previous surveys, this was not true for females. Here the fall signalled an end to the elevated levels of satisfaction that had occurred from Survey 2 to Survey 12. The new level was no different from Survey 1 and it has remained at this lower level.

Thus, the significant interaction has been caused by an elevated period of relationship satisfaction over the period Survey 2 to Survey 12 that was more marked for females than for males.

It is possible that the sense of threat through either armed conflict or international sporting competition caused an increased sense of interpersonal bonding reflected by increased relationship satisfaction. Since there has been no such concern over the past 4 years, relationship satisfaction has returned to normal.

4.2.3.5. Safety

All of the domains except Safety show an overall higher level of satisfaction for females across the surveys (Table A4.2). Safety, on the other hand, is fairly consistently higher for males and is shown below.

The domain of safety is particularly interesting for a number of reasons as follows:

(a) It is the only domain to be generally statistically higher in males. This has occurred on 13/21 occasions (shaded).

(b) The satisfaction with safety for males has fallen back from its level at Surveys 17 and 18 which were the highest levels recorded. It remains significantly higher than seven previous surveys. It
Section 4 Gender continued

is also the highest male domain being, on average, 1.3 points higher than satisfaction with relationships.

(c) Safety, split by gender, is the domain that is most sensitive to the changes between surveys. The trend lines for both males and females (Figure 4.8) generate 89 significant differences within gender across the surveys (Table A4.2). The next highest is Future Security with 35 significant differences. The maximum ‘safety’ value for females occurred at Survey 20 (80.1 points). The maximum value for males (81.7 points) occurred at Survey 17 and is 6.5 points higher than it was at Survey 1. The maximum female value is 4.9 points higher than at Survey 1. This is a remarkable degree of correspondence.

(d) Safety does show a weak survey x gender interaction (p = .021), attesting to the stability of the gender difference over time.

(e) Safety is the only domain that generally fails to contribute unique variance to the prediction of satisfaction with Life as a Whole (see Table A2.17). This consistent result gave rise to a discussion in Report 11.0 as to whether safety should be considered a domain of the Personal Wellbeing Index. However, analysis of data from the International Wellbeing Group (see manual for the Personal Wellbeing Index) indicates that safety does contribute unique variance to ‘life as a whole’ in some other countries. Moreover, it occasionally makes a unique contribution in Australia both for the whole sample (see Survey 21) and for some sub-groups (e.g. Widows). Thus, it may generally be regarded as a ‘sleeper’ domain in Australia.

4.2.3.6. Community

![Figure 4.9: Satisfaction with Community across all Surveys](image)

These results come from Table A4.2. There are significant main effects showing females > males and a rise over surveys. Despite the fact that the interaction is not significant, the two genders have behaved differently across surveys. The only change for females is the elevation at Survey 12. Otherwise they evidence no change. Males, on the other hand, rose higher than Survey 1 at Survey 12, and this rise has been generally maintained in subsequent surveys. The value at Survey 21 of 71.3 points is the highest yet recorded.

These trend differences show that the genders seem to be gradually converging, but the interaction just fails to reach significance (p = .058).
4.2.3.7. Future Security

The third domain to show a gender x survey interaction is satisfaction with Future Security. This is shown in Figure 4.9 below.

![Graph showing gender x survey interaction for Future Security satisfaction.](image)

Key: Shaded boxes denote a significant gender difference.

**FM-1**: Male and female values above this line are significantly higher than S1, S2 and often other surveys as well. For details see Table A4.2.

Figure 4.10: Gender x Survey (Future Security Satisfaction)

The two genders have tended not to differ from one another over this series of measures, with just 3/21 comparisons being significantly different, in each case favouring females.

However, there is a trend of male satisfaction gradually rising through the series. While none of the first 9 surveys comparisons featured a male value higher than Survey 1, the last 11 surveys have yielded 7/11 that have been numerically (but not statistically) higher than females. This is the cause of the significant interaction.

The persistent rise in male satisfaction with future security up to Survey 18 may have been due to consistently good economic conditions and the continued presence of terrorist attacks and armed conflict outside Australia. This rising trend has now ended, with both male and female satisfaction at levels no different from Survey 1.
### 4.2.4. Domain Stability Across Surveys x Gender

Major shifts in domain satisfaction, defined as a change of greater than 2.0 percentage points between adjacent surveys, are shown in Table 4.2 for each gender. Where each large change has been recorded within one gender (bold) the magnitude of change in the other gender in the same survey is also shown.

**Table 4.1: Domain Changes >2.0% Between Adjacent Surveys within each Gender**

<table>
<thead>
<tr>
<th>Domain</th>
<th>Surveys</th>
<th>Male</th>
<th>Female</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard of Living</td>
<td>1-2</td>
<td>+4.18</td>
<td>+1.72</td>
<td>September 11</td>
</tr>
<tr>
<td></td>
<td>11-12</td>
<td>+1.90</td>
<td>+3.08</td>
<td>Olympics</td>
</tr>
<tr>
<td></td>
<td>12-13</td>
<td>-1.94</td>
<td>-2.06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-16</td>
<td>+0.89</td>
<td>+2.42</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18-19</td>
<td>-0.95</td>
<td>-2.25</td>
<td>Labor election</td>
</tr>
<tr>
<td>Health</td>
<td>19-20</td>
<td>-2.77</td>
<td>+0.59</td>
<td>Begin economic slump</td>
</tr>
<tr>
<td>Achieving</td>
<td>1-2</td>
<td>+2.08</td>
<td>+0.12</td>
<td>September 11</td>
</tr>
<tr>
<td></td>
<td>10-11</td>
<td>-2.06</td>
<td>-2.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12-13</td>
<td>-1.72</td>
<td>-2.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>18-19</td>
<td>+1.07</td>
<td>-2.99</td>
<td>Labor election</td>
</tr>
<tr>
<td>Relationships</td>
<td>5-6</td>
<td>+2.69</td>
<td>-1.03</td>
<td>First Bali Bombing</td>
</tr>
<tr>
<td></td>
<td>12-13</td>
<td>-3.15</td>
<td>-4.95</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19-20</td>
<td>-0.44</td>
<td>+2.33</td>
<td>Begin economic slump</td>
</tr>
<tr>
<td>Safety</td>
<td>4-5</td>
<td>-0.35</td>
<td>-2.32</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10-11</td>
<td>+0.53</td>
<td>-2.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11-12</td>
<td>+0.75</td>
<td>+2.88</td>
<td>Olympics</td>
</tr>
<tr>
<td></td>
<td>12-13</td>
<td>-2.04</td>
<td>-3.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14-15</td>
<td>-1.13</td>
<td>-3.21</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16-17</td>
<td>+2.89</td>
<td>+1.69</td>
<td></td>
</tr>
<tr>
<td>Future Security</td>
<td>6-7</td>
<td>+1.51</td>
<td>+2.43</td>
<td>Begin Iraq War</td>
</tr>
<tr>
<td></td>
<td>11-12</td>
<td>+0.17</td>
<td>+3.64</td>
<td>Olympics</td>
</tr>
<tr>
<td></td>
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<td>-2.04</td>
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<td></td>
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<td>+2.65</td>
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<td></td>
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<td>-2.24</td>
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<tr>
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<td>11-12</td>
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<td>+3.75</td>
<td>Olympics</td>
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<td></td>
<td>12-13</td>
<td>-2.42</td>
<td>-3.21</td>
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<td></td>
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<tr>
<td></td>
<td>19-20</td>
<td>-1.19</td>
<td>-2.26</td>
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<tr>
<td></td>
<td>20-21</td>
<td>+2.74</td>
<td>-0.70</td>
<td>Victorian bushfires</td>
</tr>
</tbody>
</table>

This table is interesting from a number of perspectives as follows:

1. It emphasizes the extraordinary stability of these measures of gender mean scores for domains. With one exception, no domain change between adjacent surveys has exceeded 3.8 points. Of the total 280 comparisons, (2 genders x 20 adjacent survey comparisons x 7 domains) only 29 (10.4%) have varied by >2 percentage points.

2. The outlying value of 4.18% (Standard of Living, Male, Surveys 1-2) is anomalous. There seems no obvious reason for such a marked change in this domain in response to September 11. However, female satisfaction with this domain also showed a substantial 1.72% rise at the same time, which lends some degree of credibility, but no additional explanation, to the result.

3. The changes in both genders for ‘achievements’ between Survey 10 and Survey 11 is an artefact caused by the wording change to this item. It is notable that the change has occurred equally within both genders.

4. Of, these major changes, 15/29 (50.0%) are temporally linked to the period immediately following one of the six major events: September 11 (S1-S2), Bali (S5-S6), the Iraq War (S6-S7), the Athens Olympics (S11-S12), the Labor election (S18-S19), the start of the economic slump (S19-S20), and the Victorian bushfires (S20-S21). Of the 29 major changes, 15 (51.7%)
are linked to a major event that could, possibly, be influencing the change. This is further evidence that the Index changes are more likely as a consequence of these international events, rather than simply occurring at random.

5. In terms of linking the specific domain changes with a logical explanation for such change, it is a mixed bag. But maybe too much can be made of this. These values are part of a wave of change that involves all of the domains to some degree. Additionally, we know nothing about the relative sensitivity of domains in particular circumstances, other than what these data can tell us. So the apparent logic of safety and security rising after the Iraq war needs to be balanced against the apparent illogicality of relationship satisfaction changing in opposite directions for males and females following the Bali bombing (S5-S6). More data are needed in order to explain some of these domain level changes.

6. It is notable that the domain of health has shown only one change >2 points between adjacent surveys for either gender. This confirms its status as the most stable domain.

4.2.5. New Domain of Spiritual/Religious Satisfaction

This new domain shows higher satisfaction for females (Table 4.2).

It seems evident from the six survey means so far available, that this domain may evidence the most reliable gender difference, with females consistently scoring 6-8 points higher than males.
4.2.6. National Wellbeing Index

Both genders have shown rising satisfaction over the course of these surveys. Since their zenith at Survey 18, female values have fallen to be no different from Survey 2, while male values remain higher.

Since the national domains are under less homeostatic control than the personal domains (they refer to content more distal to the self and so their levels are less determined by core affect) it is somewhat surprising to see how closely the male and female values across surveys mirror one another. The level of satisfaction is also very similar with only 6/21 surveys showing a gender difference. However, unlike the personal index, these differences tend to favour males (5/6).
4.3. National Wellbeing Domains

4.3.1. Economic Situation

Only two national domains show a significant interaction with gender across surveys. Satisfaction with economic situation is shown below.

Following the remarkable rise in satisfaction with the Economic Situation over the period between Survey 1 and Survey 3, and the slow but steady rise over the next 5.5 years, satisfaction after Survey 18 (October 2007). Interestingly, however, both genders retain a level of economic satisfaction higher than it was at Survey 1.

The reason for this early fall in April 2007 is not known. It is possible, however, that it reflects a perception in the community that Labor governments are not good economic managers. It could also reflect the cumulative effect of interest rises over the previous few years.

It is also notable that, while at Survey 1 females > males, since Survey 4 the direction of difference has been in the opposite direction. The highest gender difference was at Survey 16 (3.3 points)
4.3.2. National Security

The second national domain to show a gender x survey interaction is National Security shown below.

Following the initial dramatic rise from Survey 2 to Survey 3 of some 5-6 points, both genders trended upwards together. From Survey 13 to Survey 16 female satisfaction with national security fell while male satisfaction remained stable, causing a gender difference. After Survey 16, satisfaction rose for both genders, taking their satisfaction with national security to its maximum. Now, in Survey 21, female satisfaction has fallen a massive 4.3 points, while male satisfaction has remained unchanged. Both genders remain higher than they were at Survey 2.
4.3.3. **Environment**

Satisfaction with the natural environment shows a significant interaction between gender and survey (p = .006) in the absence of an overall gender difference (p = .180).

The interaction shows a progressive shift in satisfaction with the environment, from predominantly higher values for females over the first 10 surveys, to predominantly higher values for males. This has been due to falling satisfaction for females with no reliable trend for males.
4.4. **Life as a Whole and Life in Australia**

Satisfaction with life as a whole, but not satisfaction with life in Australia, shows an interaction with gender (p = .004) (Table A4.2).

![Graph showing the interaction of gender and life satisfaction over surveys.](image)

In general, females record higher satisfaction with life as a whole than do males. Over the first 13 surveys, female satisfaction with Life as a Whole was consistently higher than male satisfaction. This changed in October 2005, when the difference became non-significant, and since then there has been no systematic gender difference.

In comparison to their levels of Survey 1, female satisfaction has remained steady. However, at Survey 15 and Survey 19 the level of satisfaction dropped numerically below that of Survey 1.

The male values, on the other hand, have been maintained at an elevated level from Survey 6 to the present.
4.5. **Likelihood of a Terrorist Attack**

The proportion of the population who expect a terrorist attack is gradually diminishing, and Table A4.1 shows no gender difference in the perceived likelihood of a terrorist attack. However, Table A4.2 shows a significant interaction between survey and gender, shown below.

While there is no overall gender difference in the perceived likelihood of a terrorist attack, the value for females did significantly exceed that of males at Survey 13, which is a time of no special event, being some 6 months, following the Athens Olympics.

The significant interaction is caused by the slight reversal of relative satisfaction between Surveys 10-12 where male likelihood was slightly higher to the more recent surveys where females regard the likelihood as somewhat higher. However, given the lack of significant gender differences, this result has little importance.
4.6. Gender and Age

4.6.1. Personal Wellbeing Index

Gender differences with age

Table A4.3 shows few age related differences between Surveys 20 and 21 for either gender.

Table A4.4 provides the Gender x Age analysis using the entire database from all surveys. The combined PWI data are shown below (minimum N=1,438 for Male 76+y).

For both genders there is a highly consistent age-related change in the Personal Wellbeing Index. The initial rise in wellbeing occurs at 56-65 years, at which age the Personal Wellbeing Index rises higher than the younger age-groups. A second rise occurs at 66-75y, and for females only, a third rise at 76+y. Further discussion of these changes is provided in the chapter on Age.

The pattern of age-related change in the Personal Wellbeing Index is different between genders, with the age x gender interaction being significant ($p = .018$) (Table A4.4). As can be seen from Figure 4.18 differences between genders (shaded) are significant only between the older age groups. There is no gender difference within the youngest group. The systematic change in the gender difference with age is shown in Figure 4.19.

There is a very systematic pattern of gender difference in personal wellbeing that emerges initially, and most strongly, within the 26-35y groups, and thereafter diminishes.
This lack of a gender difference at 18-25y is so anomalous that Table 4.5 presents these data across all surveys for verification. As can be seen, not one survey has produced a significant gender difference at this age.

Report 11.0 investigated whether this marked gender difference for the two youngest groups applies to the individual domains. Figure 4.20 in that report revealed that the apparent simplicity of the sudden increase in the magnitude of gender differences from 18-25 to 26-35 years is not replicated at the level of domains. While three domains (eg. Standard of Living) show the same pattern as the overall Personal Wellbeing Index, others show no age-related change (Relationships) or even the reverse pattern (Future Security). No simple pattern can be discerned.

The reason for the sudden appearance of a gender wellbeing difference at 26-35 years remains mysterious.

4.6.2. Gender x Age: Domains

These results come from Table A4.4.

4.6.2.1. Standard of Living

With the exception of the youngest group, females tend to be more satisfied with their standard of living than males. However, the age-trends for standard of living are very similar for both genders (Table A4.4) and the gender x age interaction just fails to reach significance (p = .086). From an initial value of about 79 points, satisfaction for both genders falls significantly to reach a low at 36-45 years. It does not significantly rise until 56-65 years, at which age it reaches a level of equivalent to the 18-25y group. The level of satisfaction continues to increase until, at 76+ years, it exceeds both the 18-25y level and the 56-65y level.

This pattern is remarkable in the extent to which it is the reverse of household income. The middle-age groups have the highest income, and the oldest groups have the lowest income. It may reflect disposable income but this cannot be determined from the current data. Whether this pattern is caused by child-related expenditure is worthy of future investigation.

The pattern of Figure 4.20 is also shown by the domains of Achievements and Community Connectedness (Table A4.4). The other domains, however, exhibit a rather different pattern as follows:
Satisfaction with health shows a significant gender x age interaction ($p=.000$). At 18-25 years satisfaction with health is higher for males (Table A4.4 : $p=.001$). Thereafter the two genders show a very different pattern of change.

Male health satisfaction shows an immediate drop of 3.3 points between 18-25 and 26-35 years. Thereafter it stabilizes, only to fall significantly again at 46-55 years.

Female satisfaction, on the other hand, remains steady over the 18 to 45 years, until falling sharply by 2.9 points at 46-55 years. From that age it gradually decreases, also at about 1 percentage point per decade.

The reason for the drop in female health satisfaction at 46-55 years may be associated with the onset of menopause. The reason for the fall in male satisfaction at 26-35 years may reflect decreasing physical fitness which affects males more than females over this age-range. From 66 years and older there is no gender difference in health satisfaction.
4.6.2.2. Relationships

![Graph showing relationship satisfaction by gender and age.]

**Key:** Values above the trend-lines are significantly higher than the designated age groups for males (m) and for females (f). Shaded boxes denote a significant between-group difference.

Figure 4.22: Gender x Age: Relationships (combined surveys)

Even though the gender difference is significant at each age group, there is also a significant interaction ($p = .017$). It is apparent that the gender difference diminishes with age.

4.6.2.3. Safety

![Graph showing safety satisfaction by gender and age.]

There is a significant gender x age interaction ($p = .005$) reflecting convergence between the genders with increasing age. Gender difference in satisfaction with safety does not occur beyond 66 years.

Across the ages, both genders show their lowest level of safety satisfaction quite late in life, at 56-65 years for females and 66-75 years for males. This trend then reverses, with safety rising for the oldest groups.
4.6.2.4. Community

The other gender x age interaction occurs for Community ($p=.000$) and is shown below.

While both genders show increasing satisfaction with Community Connection as they get older, there is no gender difference within the 18-25y group. Moreover, whereas females show a marked 3.1 point increase in satisfaction from 18-25 to 26-35, males show no change (-0.4 points). Over the following decade, however, male satisfaction increases by 3.3 points.

In sociobiological terms, it is possible that the 18-35y period covers the ‘breeding years’ during which men are more concerned with providing for their immediate family while females are more concerned with creating mutually supportive ties with other mothers for the purpose of joint child care and protection. Thus, the initial rise in satisfaction with Community Connection is delayed in males with respect to females. It could also be tied to an earlier age for marriage by females.

4.6.2.5. Spiritual/Religious

These values come from Table A4.4 and show a significant gender effect (females > males), a significant age effect (satisfaction increases with age), and a significant interaction (satisfaction increases with age faster for females than it does for males).
4.7. Gender and Household Composition

Table A4.6 indicates the results for both Survey 20 and for the combined data. The combined data show higher personal wellbeing for females who live alone, and significantly higher wellbeing for males who are sole parents (see 4.4.1.1.).

Female wellbeing is above the gender-specific normative range (Table A4.15) for those living with their partner only (77.8 points) and for those living with their partner and children (77.3 points). This equally applies to males (77.1 and 76.2 points respectively).

Females living as sole parents (69.9 points) or with other adults (72.5 points) lie below the normative range. This also applies for males (71.9 and 72.0 points respectively). The type of household composition that has the strongest differential gender effect is living alone, as shown below.

While both males and females who live alone experience a relatively low level of wellbeing, the level for females lies almost within their normal range. This is not so for males who live alone. Their Personal Wellbeing Index value is 2.9 points below their normal range and 3.5 points below the level of single-living females. This low level for males indicates a higher than normal risk of depression.

4.7.1. Gender x Household Composition x Age

These results come from Table A4.7 (males) and A4.8 (females).
4.7.1.1. Sole Parents

Of special interest is the relative wellbeing deficit suffered by those groups that average <70 points. These have been separated by age as follows.

While there are more female than male sole parents in each age grouping, the highest disparity in wellbeing (5.7 points) occurs in the 26-35y group. It is possible that the males have higher household income.

4.7.1.2. Lives Alone

The only age at which males have a wellbeing advantage (1.8 points) is at the youngest age. This trend then progressively reverses until at 36-45 years it is the females who have a 4.3 point advantage. Thereafter the females continue to be most advantaged.
### 4.7.1.3. Other Adults

<table>
<thead>
<tr>
<th>Age</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>73.4</td>
<td>73.0</td>
</tr>
<tr>
<td>26-35</td>
<td>72.1</td>
<td>70.4</td>
</tr>
<tr>
<td>36-45</td>
<td>69.9</td>
<td>67.3</td>
</tr>
<tr>
<td>46-55</td>
<td>71.2</td>
<td>70.8</td>
</tr>
<tr>
<td>56-65</td>
<td>72.3</td>
<td>71.1</td>
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<tr>
<td>66-75</td>
<td>75.0</td>
<td></td>
</tr>
<tr>
<td>76+</td>
<td>79.0</td>
<td></td>
</tr>
</tbody>
</table>

The two genders follow much the same trajectory, with their lowest point at 36-45 years. It is likely that many of these people are recently divorced or separated.

Figure 4.29: Age x Lives with Other Adults x Gender (Personal Wellbeing Index)
4.8. Gender and Relationship Status

Reliable gender differences, favouring females, appear for people who are married and defacto (Table A4.9).

This might be taken to indicate that females benefit more from marriage than do males. However, this is not so as shown by taking the normative mean scores of females into account (Table A4.19).
points below the top of the male normative range. Notably, however, both male and female widows have normative levels of wellbeing.

4.8.1. Gender and Relationship Status x Household Composition

These results come from Table A4.10 (males) and A4.11 (females).

4.8.1.1. Married

None of these gender differences are significant, being no greater than 1.3 points.

4.8.1.2. Divorced

Only one group of divorcees lie within the normal range as females living only with their new partner. This does not apply to males, which is interesting. It may be that the males are being damaged by the payment of maintenance to their previous spouse whereas the females are the recipients of such maintenance, but this is entirely speculative.

It is interesting to note how few divorcees find a new partner to live with (Partner only; Partner and Children) as 6.0% of divorced males and 3.9% of females. This is an unexpected finding.
The lowest wellbeing for divorcees is suffered by males living with their parents (63.0 points).

4.8.1.3. Never Married

These results come from Table A4.10 and show almost no gender difference in wellbeing of people who have never married between the different household composition groups. The largest difference is 1.3 points for never-married sole parents, but this is not significant. This is quite a curious result given the much larger gender differences apparent when the whole sample of people making up these household composition groups is used.

It is also evident that people who have never married and are living with their partner and children have a level of wellbeing in the top-half of the normal range. Thus, there are very substantial wellbeing differences within the Never Married group, depending on who they live with.
4.9. **Gender x Work Status**

These results come from Table A4.12.

Given that there is an overall 1.0 percentage point advantage to females in the Personal Wellbeing Index (Table 4.1), it can be seen that this is generally carried-over into the various work-status groups. However, full-time employment reduces the female advantage in personal wellbeing to a non-significant +0.2 points as shown below:

![Figure 4.34: Fulltime employed x Gender: Personal Wellbeing Index (combined data)](image)

From this figure it can be seen that, relative to gender norms, full-time employment favours the wellbeing of males, taking them to within 0.8 points of the top of the male normative range. Females, on the other hand, are relatively disadvantaged by fulltime employment. Their wellbeing lies 1.7 points below the top of the female normative range.

This is interesting in its own right, but also indicates that this one-third of females in the surveys are diminishing the overall gender difference. Clearly, therefore, some other force is at work making the overall wellbeing of females higher than males.

It is also notable that the relatively higher wellbeing for males also applies to the full-time employed for Survey 21, where male wellbeing is significantly higher than for females (Table A4.12). Given that the full-time employed people constitute about one half of the total sample of males and one quarter for females, this difference would have contributed to the overall pattern for the Personal Wellbeing Index.

Other matters of interest are as follows:

(a) The gender breakdown of full-time volunteers (N=130) shows the presence of far more females (73\% vs. 27\%).

(b) Males (N=200) who are engaged in full-time home or family care are in the minority of all home carers (11\% male : 89\% female). They have a level of wellbeing that lies just below the normal range (71.6) and it is 3.9 points below the level for those who are employed (75.5). In contrast, females in fulltime home care have a level of wellbeing (75.0) that is well within the female normal range and only -0.5 points lower than females in fulltime employment.
Summary

(a) Males gain more wellbeing by being fulltime employed than both similarly employed females and males engaged in fulltime home care.

(b) Females who are fulltime employed have no reliable wellbeing advantage over females engaged in fulltime home or family care.

(c) The gender difference in the Personal Wellbeing Index between the various fulltime groups is reported below.

It is evident that the gender difference between fulltime work-status positions varies considerably. Assuming that a 1.8 point difference is the level at which statistical significance can be achieved with sufficient numbers of respondents, there is no gender difference in people who are employed, semi-retired, retired, volunteers, or studying. The other groups show a female advantage of at least 3.0 points (home care and unemployed).

In summary, the general finding in our surveys that the Personal Wellbeing Index of females is higher than that of males can be limited to those people who are full-time home care or unemployed. Together, these people constitute 13.4% of the total sample; but 6.0% of the total males and 22.0% of the females. Thus, the overall gender advantage to females rests largely on their higher proportional representation within these two groups.
4.9.1. Gender x Fulltime Work Status x Survey

These results come from Table A4.12.1.

These results show a reverse trend for each gender over the surveys. Whereas the wellbeing of male full-time workers has increased over this time \((p = .001)\), female wellbeing has remained stable \((p = .086)\) or even trended down.

These trends may go some way to explain the pattern of convergence between the genders in Figure 4.1.
4.10. Gender x Age x Work Status

4.10.1. Gender x Age x Employed (Full-time)

These results come from Table A4.13.

![Diagram showing gender x age x work status](image)

Figure 4.38: Gender x Age x Work Status (Full-time)

Only the gender difference at 56-65y achieves significance (Table A4.13) and indicates an advantage to males.
4.10.2. Gender x Age x Unemployed

These results come from Table A4.14. They show the more devastating effect of middle-age unemployment on males than on females.
NORMATIVE DATA

4.11. Normative Data Based on Individual Scores

These results come from Table A4.14.

4.11.1. Personal Wellbeing Index

The normative data for individuals on the Personal Wellbeing Index are presented below derived from the individual values of 17,509 males and 18,909 females.

![Bar chart showing normative data for Personal Wellbeing Index (PWI) for males and females.]

Figure 4.40: Gender Normative Data for Individuals: Personal Wellbeing Index

The vertical bars represent two standard deviations around the mean. The two groups have approximately the same degree of difference at the top of their distributions (1.2 points) as at the bottom (0.8 points). This is also reflected in the mean score difference (1.0 points) indicating a symmetrical advantage to females throughout the distributions.
4.11.2. **Age Norms (individual scores)**

These normative data are taken from Table A4.4.

### 4.11.2.1. Male Norms x Age

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<th>Age</th>
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</tr>
</thead>
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<tr>
<td>66-75</td>
<td>100.3</td>
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<tr>
<td>76+</td>
<td>102.3</td>
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</table>

### 4.11.2.2. Female Norms x Age

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<th>Strength of Satisfaction (PWI)</th>
</tr>
</thead>
<tbody>
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<td>18-25</td>
<td>97.4</td>
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<td>26-35</td>
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<td>36-45</td>
<td>99.7</td>
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<td>46-55</td>
<td>100.6</td>
</tr>
<tr>
<td>56-65</td>
<td>101.3</td>
</tr>
<tr>
<td>66-75</td>
<td>102.0</td>
</tr>
<tr>
<td>76+</td>
<td>101.9</td>
</tr>
</tbody>
</table>

**Figure 4.41:** Gender x Age: Normative Data for Individuals: Personal Wellbeing Index

It is apparent that there is greater gender variation at the bottom of these normative ranges than at the top. The following two figures show this in more detail.

**Figure 4.42:** Gender x Age: Highest Margins of the Normal Range Calculated from Individuals
Section 4 Gender continued

Figure 4.43: Gender x Age: **Lowest Extent of the Normative Range Calculated from Individuals**

In relation to these two figures the following observations can be made:

1. The top and bottom of the distributions change with age in quite different ways. The top of the ranges gradually increases with age (Figure 4.42). The bottom of the ranges shows a bi-phasic pattern, where the range extends downward to 46-55 years, after which it rises (Figure 4.43.)

2. The decrease in the bottom of the distribution starts at (36-45y). Two age cohorts of males (36-45, 46-55y) lie below the threshold (50%) that signals increased risk of depression, compared with just one age cohort (46-55y) for females.

3. These patterns are consistent with the mean age-related gender differences shown in Figure 4.18. In general, the top of the female range is higher (Figure 4.42) and the bottom of the female range is higher (Figure 4.43). This reflects the overall higher Personal Wellbeing Index score for females over the intermediate age ranges.

4. These distributions also inform the lack of a gender difference in the Personal Wellbeing Index of the youngest group. As can be seen, at the lower range margin there is a consistent slight advantage to females (Figure 4.43). However, at the top of the ranges, the youngest group shows a marginally higher level for males than for females (Figure 4.42).

5. The lack of a consistent gender difference across the age groups makes it unlikely that the overall gender differences in the Personal Wellbeing Index represent a more positive female response bias. It also indicates that the drop in the lower range margin of the distribution between 26-55 years is likely to be experientially introduced. It is notable that this range coincides with the child-care years. A future analysis should split this analysis into people living with or without children.
4.12. Normative Data based on Survey Mean Scores

These results are taken from Table A4.16.

4.12.1. Personal Wellbeing Index and Domains

Survey mean scores (N=21).

![Diagram of Personal Wellbeing Index and Domains: Normative Personal Wellbeing]

The interesting feature of Figure 4.44 is the magnitude of the 2SD range. This indicates the extent of variation over the course of the 18 surveys and, so, shows the relative volatility of the gendered domains to world events. These ranges are presented in Table 4.2 below.

<table>
<thead>
<tr>
<th>PWI</th>
<th>Standard of Living</th>
<th>Achieving</th>
<th>Relationships</th>
<th>Safety</th>
<th>Community</th>
<th>Future Security</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>3.6</td>
<td>5.0</td>
<td>3.2</td>
<td>3.7</td>
<td>4.8</td>
<td>6.3</td>
</tr>
<tr>
<td>Female</td>
<td>3.3</td>
<td>4.2</td>
<td>3.2</td>
<td>4.8</td>
<td>5.9</td>
<td>7.1</td>
</tr>
</tbody>
</table>

In relation to these values and Figure 4.44 the following observations can be made:

1. The pattern of domain volatility across surveys is similar for males and females.
2. For both genders, the most volatile domain is safety, with a 2SD range of 6.3 points (males) and 7.1 points (females).
3. For both genders, most stable domain is ‘health’ (3.2 points).
4.12.2. **Normative: Gender x Age (survey mean scores)**

These results are drawn from Table A4.19 (males) and Table A4.20 (females) (N=21)

This figure confirms that the gender difference in wellbeing only develops after 18-25 years.

The magnitude of each normative range shows the extent of Personal Wellbeing Index volatility between surveys. This is shown below.

It is evident that there is much higher volatility between survey mean scores among the youngest and oldest groups. There is also higher volatility among males.
1. Females generally have higher levels of personal wellbeing than males. However, this is survey-dependent. There is no gender difference over the 2.5 year period Survey 14 to Survey 18.1 and in Survey 19 males > females.

2. The only personal domain to be consistently lower for females is safety. This dropped lower following September 11 for females but not for males. These differences were maintained for about 18 months. Since then the gender differences have been unpredictable.

3. Relationships shows a significant interaction between gender and survey. It seems possible that the sense of threat over surveys 2-12 increased the level of relationship satisfaction for both genders, but more so for females than males. Since May 2005 the satisfaction level of both genders has returned to their baseline Survey 1 values.

4. The National Wellbeing Index remains at a high level for both genders. Males score higher than females showing that the Personal Wellbeing Index difference is not due to gender response bias.
5. Gender differences in personal wellbeing only emerge at 26-35 years of age. They then progressively decrease with increasing age. The reason for this is not understood.

6. The gender difference in satisfaction with relationships is most pronounced in the youngest groups. Males are lower than females.

7. Males who live alone have lower personal wellbeing than females.
8. Female wellbeing does not significantly differ between full-time employed and full-time home care (0.8 points). Male wellbeing is higher for full-time employment than full-time home care (+3.2 points).

9. In terms of the lowest margin of the normal distribution, the risk of depression (scores <50) is highest in males aged 36-55 years and females aged 46-55 years.
10. Since Survey 9, the wellbeing of male fulltime workers has increased while the wellbeing of females has remained steady or even decreased.

11. Unemployment has a more devastating effect on the wellbeing of males than on females.
5. **Age**

5.1. **Distribution Overall**

The sample for Survey 21 is well represented in all age groups (Table A5.1). The minimum number of respondents is in the 18-25y group (N=134) and the maximum in the 56-65y group (N=420).

5.2. **Age and Wellbeing**

The results for Survey 21 come from Table A5.1 and the normative data for groups from Table A5.10.1.

5.2.1. **Personal Wellbeing Index**

All age groups lie within their normal range. However, the following points are notable:

(a) The 18-25 group lie close to the top of their range and this pattern has been fairly consistent since Survey 17 (Figure 5.2).

(b) The lowest group relative to their norm is the 76+y group who lie 1.2 points below their normative mean score.
5.2.2. Age x Surveys

Figure 5.2 shows the changes in Personal Wellbeing Index that have occurred for the youngest and the oldest group (Table A5.2). These are the most volatile age groups over time.

The notable features of Figure 5.2 are as follows:

1. The pattern of differences between these two groups has shown three phases as:
   (a) Survey 1: No difference
   (b) Surveys 2-16: 76+y > 18-25y
   (c) Surveys 17-21: No difference

   For the sixth and consecutive survey, the oldest and the youngest groups are not significantly different from one another, being separated by just 0.1 points. The two groups have been rising and falling in unison over this period.

2. Neither group is significantly higher than it was at Survey 1 (Table A5.2).

3. The oldest group has shown remarkable stability since Survey 2, varying by just 4.4 points (Survey 18.1 = 76.1 points; Survey 10 = 80.5 points).

4. The youngest group is again at one of its highest levels yet recorded. It, also, has shown remarkable stability, varying by just 4.3 points over the whole seven-year record (Survey 18 = 77.1 points; Survey 16 – 72.8 points).

5. These are the only two groups to have shown reliable change over the course of these surveys.

In historical terms, the data from Survey 1, immediately prior to September 11, showed no age-related differences in personal wellbeing between the youngest and oldest groups (Figure 5.2). In subsequent surveys the three oldest groups showed a progressive increase in personal wellbeing (Table A5.2). In contrast, the youngest group remained remarkably steady prior to Survey 12, with a maximum variation of only 1.9 points. Olympic success at Survey 12 then apparently caused the Personal

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Section 5 Age continued

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Wellbeing Index to rise, but this was a very transitory effect which had dissipated by the time of the following Survey 13 (Table A5.2) and the overall ANOVA across the 15 surveys for this youngest group was non-significant at that time. This has now changed and the differences across surveys are significant (Table A5.1).

In contrast, the oldest group (Table A5.2) has changed over a range of 7.4 points (Survey 1: 73.1, Survey 10: 80.5). This rise became significantly different from Survey 1 six months after September 11 (Survey 3: +5.9 points) and rose significantly again to reach its peak value (80.4 points) in the period immediately prior to the Iraq war. This elevation above the first survey has continued. In summary, the 76+ year group has shown a six year elevation in their subjective wellbeing that seems to have been triggered by September 11, perhaps maintained by a sense of external threat through the Iraq war and terrorist threats.

The scores for the middle-range age groups have shown sporadic changes but, as shown in Table A5.2, only marginally significant changes over time.

The most remarkable change occurred in the oldest group following September 11. The wellbeing of this group rose 3.2 points immediately following the attacks and a further 2.5 points over the next six months. Possible reasons for this rise are as follows:

(a) The first involves reminiscence regarding the Second World War, the fact of survival, and the mateship of that time.

(b) The second involves heightened arousal. Both interest and anxiety are stimulated by terrorist atrocities and Australia at war. If the anxiety can be dampened, then positive arousal dominates. Anxiety may be quelled if the Government message, that ‘our side’ is winning the ‘war on terror’, is seen as credible. Moreover, elderly people are generally more receptive to such propaganda. They have a stronger positive regard for Government than younger people (Table A5.1), and fewer elderly people consider the terrorist risk in Australia to be high (Table A5.1). As one consequence, the continued media presentation of overseas terrorist activities may have caused the heightened sense of wellbeing in elderly Australians.

(c) There is evidence from other research that older people are better at accentuating the positives and ignoring the negatives. However, this explanation does not account for the finding of no age-group differences prior to September 11.

(d) It is possible that older people, having more established personal and community relationships, can draw on these more effectively during times of threat to buffer the negative impact of world events. It may also be that the sense of threat caused these people, many of whom live alone, to bond and connect more strongly with their peers, and that these enhanced relationships have persisted, maintaining the elevated sense of wellbeing.

While any of these explanations are possible, they do not account for the fact that the wellbeing of this oldest group has remained elevated over the seven years following September 11.

Of course, none of these explanations can be used to account for the rise in the wellbeing of the youngest group since Survey 11.

What the oldest and youngest groups do have in common is that a lower proportion than the other age groups regard a terrorist attack as likely (Table A5.4) and, of the believers in an attack, the strength of their belief is lower (Table A5.5.3). However, how this could be used as an explanation for change in wellbeing is not clear.
Section 5 Age continued

5.2.2.1. The Oldest Group

Change over surveys in the two domains of Health and Relationships for the 76+ year group are illustrated in Figure 5.3.

![Figure 5.3: Age x Survey: 76y+, Health and Relationships](image)

Both of these domains have shown substantial change, with a range of 9.5 points for health and 9.7 for relationships.

The significant rises in health satisfaction at Survey 6 and Survey 9 are remarkable because, for the population as a whole, this domain has been the most consistent showing no significant change between surveys (Chapter 2). However, over the past 5.0 years it has remained at a level not statistically different from Survey 1.

The rise in relationship satisfaction has been more persistent and has remained fairly consistently above Survey 1. Its value in the current survey is no different from Survey 1.

It is not at all clear why only the most elderly group is affected in this way. This is further discussed in Report 15.0.

5.2.3. Personal Wellbeing Domains

The figures below show the results from Survey 21 for each Personal Wellbeing Index domain in relation to their age-normative values (Tables A5.10.1 to A5.10.8).
Section 5 Age continued

5.2.3.1. Standard of Living

With the exception of the 76+ group who are 1.5 points below their normative mean, all other age groups are not evidencing signs of financial distress in having normal, or even very high (18-25) levels of satisfaction with their Standard of Living.

5.2.3.2. Health

In terms of normative data, the cell size is N=23. The following can be noted:

(a) Health satisfaction for all groups is close to the normative mean.
(b) Health satisfaction of the youngest groups is above their normative mean (+1.0 points).
(c) The health satisfaction of the 26-35 group is below its normal range by 0.7 points.
5.2.3.3. Achieving in Life

The following observations can be made:

(a) All groups lie within their normal ranges.

(b) The groups with the lowest satisfaction are the 26-35 and 46-55 groups who lie somewhat below their normal range.
5.2.3.4. Relationships

The results in relation to normative Relationships (Table A5.10.5) are as follows:

The following observations can be made:

(a) All groups have a level of relationship satisfaction within their normal range.

(b) The 46-55 group lie 1.6 points below their normal range and the 76+ group 1.9 points below their normal range.

5.2.3.5. Safety

The following observations can be made:

(a) All groups have a level of safety satisfaction within their normal range.

(b) The 46-55 group lie 1.6 points below their normal range and the 76+ group 1.9 points below their normal range.
The following observations can be made:

(a) All values are within their normal ranges.

(b) Only 76+ is below its normative mean score by 1.5 points.

5.2.3.6. Community

The results in relation to Community Connection (Table A5.10.7) are shown below:

![Figure 5.9: Age: Satisfaction with Community Connection (Survey 21)](image)

All groups lie within their normative range. However, the 18-25 group lies at the top of its range and has sustained this over the past few surveys.

5.2.3.7. Future Security

![Figure 5.10: Age: Satisfaction with Future Security (Survey 21)](image)
The following observations can be made:
(a) All groups lie within their normative ranges.
(b) Only the 36-45 group lies above its normative mean, while all other groups lie below.

**Summary:**

The two groups that seem to be evidencing signs of distress are 36-45y and 66-75y groups. On several domains as Health, Achieving, and Future Security, they are at levels that are either very low, or even below, their age-normative ranges. This pattern may be tied to emerging economic stress and uncertainty for people raising families and for self-funded retirees.

5.2.4. **Life as a Whole**

The following observations can be made:
(a) All current survey values lie close to their normative mean scores.
5.2.5. National Wellbeing Index

The following observations can be made:

(a) All age groups lie in their normal ranges.

(b) Three groups (26-35y, 36-45y, 46-55y) lie above their normative means, while all other groups lie below.

5.2.6. National Wellbeing Domains

5.2.6.1. Economic Situation

Figure 5.12: National Wellbeing Index (Survey 21 vs. Normative Data)

Figure 5.13: Age: Satisfaction with Economic Situation
The following observations can be made:

(a) All groups have a level of satisfaction in the lower-half of the normal range.

(b) The lowest satisfaction is experienced by the groups 56-65y and 66-75y, both of which are close to the bottom of their normal range.

5.2.6.2. Government

The following observations can be made:

(a) In the previous Survey 19 (April 2008) all age groups expressed a level of satisfaction at the top or higher than their normal range. This has now changed.

(b) While the satisfaction levels of all groups has fallen, it remains high for the groups younger than 66 years.

(c) Both the 66-75y and 75+y groups have a level of satisfaction in the lower portion of their normal range. Their level of satisfaction has fallen since Survey 19 by 4.5 and 8.7 points respectively.
These are drawn from Table A5.3 and the following observations pertain:

1. Following Survey 2, the Government satisfaction for the oldest group rose significantly, and remained higher up to Survey 15. It then suddenly dropped in Survey 16. The reason for this is not known. The national environment was quite uneventful at that time. Then, satisfaction started to climb once again, culminating at Survey 19, in their highest score yet recorded (66.6 points). Now, at the current Survey 20, satisfaction has sharply dropped once more, to a level that is the same as Survey 2. They were also substantially and significantly more satisfied with Government than the youngest group for almost all of these surveys. This is consistent with age-enhanced conservatism.

2. The degree of variation for the old group (range 12.4 points) is much the same as for the youngest group (range 15.7 points), but they tended to move in opposite directions until Surveys 17-19, when they rose together. Now, for the first time in this survey series, the satisfaction of the oldest group has fallen so far that it is numerically lower than the youngest group.
5.2.6.3. Environment

As indicated in Chapter 2, this domain has remained generally stable over the years but fell dramatically over surveys 16-17, presumably in response to the strong media messages concerning global warming. However, as the figure below shows (Table A5.1) this fall is now well and truly over for all age groups.

![Figure 5.16: Satisfaction with the Environment x Age (Survey 21)](image)

The following observations can be made:

(a) With the exception of the youngest group, all other groups lies in the lower half of their normative range.

(b) The 18-25 group is exceptional in having above normal satisfaction with the natural environment.
5.2.6.4. Social Conditions

The following observations can be made:
(a) With the exception of the youngest group, all other groups lie close to their normative mean.
(b) The 18-25 group approximate the top of their normal range.

5.2.6.5. Business

The following observations can be made:
(a) With the exception of the 66-75y group, all other groups retain a level of satisfaction in the top half of the normal range.

(b) The 66-75y group have a level of satisfaction that approximates the bottom of their normal range.

(c) There is clearly a level of disconnection between satisfaction with Business and the Economic Situation (Figure 5.13), with the latter showing uniformly very low ratings.

5.2.6.6. National Security

The following observations can be made:

(a) All groups lie in the top portion of their normative range.

Summary:

(a) The most surprising result is that satisfaction with the economic situation and business in Australia are rated so differently from one another. While satisfaction with the Economic Situation is rated uniformly at the bottom of each age-specific normal range, satisfaction with Business continues to be generally rated above average.

(b) It is also clear that the Government is not being blamed for the economic down-turn. Satisfaction ratings for all groups up to 56-65y continue to rate their level of satisfaction as very high.

(c) Satisfaction with National Security continues to be very high across all age groups. This has been a persistent finding for some time now and possibly reflects an earlier terrorist threat that has not eventuated.
5.2.6.7. Life in Australia

![Diagram showing Age-specific normative range for group mean scores and Age-specific normative mean, labeled as T and X, respectively.](image)

Figure 5.20: Satisfaction with Life in Australia x Age (Survey 21)

The following observations can be made:

(a) All groups lie within their normative range.

(b) All groups lie in the upper portion of their normative range.

5.2.7. Terrorist Attack Likelihood and Strength of Conviction

5.2.7.1. Percent Who Consider an Attack Likely

Table A5.4 shows the percentage of each survey, from 9-21, who considered a terrorist attack likely. Over the six surveys Survey 9 to Survey 14 there was no reliable age-related difference in the perceived likelihood of a terrorist attack. In Survey 15 a difference emerged for the first time (Table A5.4) and this has been sustained.

![Diagram showing the percentage of people who say "Yes" that an attack is likely.](image)

Figure 5.21: The percentage of people who consider that a terrorist attack in the near future is likely (Surveys 20 and 21).
The following observations can be made:

(a) The percentage of people who consider an attack likely appears to be stabilizing in all age groups.

(b) The percentage is lowest in the youngest and oldest groups.

5.2.7.2. Strength of Conviction

The strength of conviction that an attack will take place is shown in Tables A5.5 to A5.5.3. The first of these shows the age-related distributions from Survey 21 and Table A5.5.1 shows the distribution for the combined data.

Table A5.5.2 shows the means and standard deviations calculated for individual surveys x age, and also summary statistics within each age group.

Table A5.5.3 shows the normal range for the strength of conviction by age. This is the normal range for group scores calculated from the mean scores from past surveys. These results are shown in Figure 5.22.

Most groups show a strength of conviction that is close to their normative mean value.

This is not true of the older groups. Here, the belief strength seems to be increasing. This may be due to the fact that the proportion of people with low-level conviction is decreasing across surveys, then the rise in belief strength may be attributable to the residue of high- conviction people. This interpretation is supported by the 76+ group having the lowest proportion of believers (Figure 5.21).
5.3. **Age and Household Composition**

The cumulative data from Surveys 9-20 are presented in Table A5.6. The trends in personal wellbeing are shown below in the context of the age-specific normative range (Table A5.10.1).

What is most striking from this Figure is the very small number of data-points that lie within the normative range. This indicates a broad dichotomy within the population as people who live with a partner and people who do not. While this dichotomy is less clear cut in the youngest group (18-25y) and people older than 66 years, it applies very strongly to the middle age groups. It appears that having a partner to live with, between the ages of 26-65 years, is a crucial ingredient for personal wellbeing.

Other observations in relation to Figure 5.23 are as follows:

(a) People living with their partner alone, or living with their partner and children, are statistically indistinguishable up to age 56-65. However, at 66-75y (N=75) the addition of children reduces wellbeing to the bottom of the normal range. People aged 66-75y living with their partner and children constitute 4.3% of this age group. This is a curious result because the oldest group living with children show a significant rise in wellbeing. It is possible that for the oldest group the burden of care has shifted to the children whereas at 66-75y the older adults are still responsible for providing the care, commonly in a low-income household since both older adults will likely have retired from work.
(b) Living alone is a poor option for people younger than 66 years. It is likely that people with low wellbeing live alone either because they have recently broken from a relationship or because they cannot find a partner to live with them. The former reason could account for the very low levels of wellbeing in people aged 36-65 years who live alone.

(c) Living with parents is a good option for people aged 18-25, but not generally thereafter. In our society it is relatively unusual for people older than 26 years to be living with their parents. This group will include people who are unable to find a cohabiting partner, who lack the financial or other resources to move elsewhere, or who have returned to their parents following a broken relationship. However, the situation changes quite dramatically at 56-65y at which age the wellbeing of this group actually exceeds the normal range. It could, possibly, coincide with the parents moving to live with their adult children.

(d) People who live with other adults who are neither their partner nor their parent, have consistently low personal wellbeing at ages <65 years. These people may have low income and would prefer a different form of accommodation.

(e) Sole parents have very low wellbeing until 66-75y when their wellbeing enters the normative range.

Overall, it is extraordinary to observe the dramatic change that takes place after 66 years. The differences between groups become far less and they all approximate the normal range. Whether this increasing homogeneity is due to selective death or the common post-retirement experience is uncertain at this stage.
5.4. Age and Relationship Status

The cumulative data from Surveys 9-15 are presented in Table A5.7 and Figure 5.24. Key observations are as follows:

(a) Once again, this Figure exemplifies the importance of living with a partner for middle-age people. This does not apply to people aged 18-25 or older than 66 years, whose wellbeing appears much less dependent on the presence of a partner.

(b) The consistency of wellbeing across age for people who live with their partner is extraordinary. The variation across the full age range for people who are married is just 2.5 percentage points.

(c) The decrease in the normal range of wellbeing in middle age (see Figure 5.24) is not due to the people with partners, but to the people with no partners.

(d) Whether subjective wellbeing ‘naturally’ rises with age seems uncertain from these data. The most stable group are those who are married, and the rise from 18-25 years to 76+ years is a modest 2.2 points. What seems more clear is that not having a partner in middle-age is generally quite catastrophic for personal wellbeing.
(e) Defacto couples have a consistently lower level of wellbeing than couples who are married up to 66-75y at which age they are statistically equivalent. Perhaps this is due to greater uncertainty and lower commitment in defacto relationships.

(f) The wellbeing of people who have become divorced or separated is low as expected.

(g) The wellbeing of widows is interesting since this rises with age to reach very high levels (79.2) at age 76+ years. This possibly supports the proposition that happy people live longer.

(h) The majority of people aged 18-25 years who have never married (81.3%), have normal levels of wellbeing (74.2). However, in later age-groups the relative size of this group relative to each age cohort falls markedly (Table A5.6) and, as it does so, group wellbeing systematically falls up to the 46-55 year group (Figure 5.24). Following this, however, wellbeing progressively rises, to enter the normal range at 66-75y.

One way this pattern of data could come about is through the selective death of the most unhappy people after 56 years of age. If this is correct it would support the hypothesis that the fall in the wellbeing of the never-married group up to 46-55y is caused by the most unhappy people failing to find a partner.
5.5. **Age and Work Status**

![Diagram showing age and work status with values for each age group and work status]

While most groups lie within the age-normative range (Table A5.8), the following are exceptions:

(a) People who are unemployed lie only marginally below the normative range at 18-25y. Beyond that age their personal wellbeing shows a marked deterioration and remains well below normal up to 56-65y. Beyond this age, people without paid employment would usually describe themselves as retired rather than unemployed.

(b) The wellbeing of full-time students is normative provided they are young (18-25y). Thereafter their wellbeing lies towards the bottom of the normal range, and is markedly below at 46-55y.

(c) Early retirees (36-45y) have below normal wellbeing.
5.6. **Normative Data Generated from Individual Scores**

Table A5.9.1 has been constructed by averaging the Personal Wellbeing Index values of all individuals who fall within each age-range across all surveys. The minimum N=2,306 (76+ year group). These results are shown in Figure 5.26.

![Figure 5.26: Normative Range for Each Age Group Derived from the Scores of Individuals (Personal Wellbeing Index)](image)

There are three interesting features of these data as follows:

(a) They are very regular in two respects. First the range of two standard deviations for the entire database (N=36,418) conforms almost precisely with the theoretical normal range of 50-100 points. The top of the empirical range (Table A5.9.1) averages 99.8 points and the bottom averages 50.3 points. Second, the differences between the ranges of the seven age groupings is just 5.7 points (from 46.3 : 18-25y to 51.9 : 46-55y). The correlation between the mean and standard deviation across the seven age groups is .198 (NS).

(b) The base of the ranges show a dip in the 36-55y age groups. This indicates a downward extension of the Personal Wellbeing Index and indicates a higher than usual (compared with the other age groups) proportion of the sample experiencing homeostatic failure (individual values <50). This is due to the people without partners within this age range. Following 55 years this dip disappears, and of particular interest is the lack of any downward range extension within the oldest group (76y+). This indicates that homeostatic failure, producing lower Personal Wellbeing Index scores, is no more common among the most elderly sample than among the younger age groups. This attests to rugged maintenance of homeostatic control within the most elderly group and is consistent with the decoupling hypothesis presented earlier.

(c) The top of the range shows a gradual but persistent rise. This is quite different from the rise in the Personal Wellbeing Index calculated using survey mean scores, which shows the sudden emergence of higher scores at 56+ years (Figure 5.29). Here, the data from individuals show a gradual rise across all age groups. Beginning with the 18-25y group, the increment between adjacent age ranges is 0.4%, 1.4%, 0.8%, 0.7%, 0.4%, 1.0%. One explanation for this rise is homeosis (Renner, 2003). It is possible that, as people get older, they learn to adapt more effectively to potentially stressful situations. As one consequence, an increasing proportion of people within the older groups maintain their set-point and the gradual rise in the top of the wellbeing range reflects this process. It is also consistent with progressive decoupling of wellbeing from illbeing.
5.7. **Normative Domain Scores (raw data)**

Tables A5.9.2 to A5.9.8 show the accumulated data for the Personal Wellbeing Index domains.

It is evident that most of the variation with age occurs mainly at the lower margin of each normative range. The upper range of health varies by just 2.4 percentage points (113.0 to 115.4) across the seven age ranges, which is evidence of remarkable stability. The upper range for relationships varies by 6.0 percentage points (117.0 to 123.0). In contrast, the variation across age in the lower range for health is 14.4 points (28.0 to 42.4) and relationships are 14.5 points (32.5 to 47.0). These are remarkably similar degrees of change. The correlation between these lower margins for health and relationships is -0.79. This is consistent with the idea of domain compensation, where a decrease in one domain is compensated by a rise in another in order to maintain a steady state of SWB.
5.8. **Normative Data from Survey Mean Scores (N=20)**

![Normative Range for each age group derived from the survey mean scores (Personal Wellbeing Index: N=20)](image)

Figure 5.29 has been constructed by using the survey mean scores (N=23) for each age-group as data (Table A5.10.1). The vertical bars denote the range created by two standard deviations on either side of the age-group mean.

The range for the oldest (76+y) group (6.4 points) is far larger than for the middle-age groups (3.2 points for 46-55y group). The rise in this range is evident on either side of this group.

It is also evident that this increased variance is occurring mainly from the top of the range. From Figure 5.29 it can be seen that the top of the 76+y range (81.4 points) is around 6 points higher than it is for the four youngest groups, while the bottom of the range (74.8 points) is about 2 points higher. Thus, variance is being added to the older groups through the addition of higher survey mean scores, and this has caused the top of their range to expand, taking the group mean with them.

In summary, there are no differences across the surveys for groups within the age range 18-55 years. However, there is a tendency for older groups to show significant variation across surveys, with such expansion occurring from the top of each range.

A detailed discussion of these differences is available in Cummins et al (2004).
5.9. **Normative Domain Scores (Survey Mean Scores : N=20)**

Tables A5.10.2 and A5.10.8 show the accumulative data for the Personal Wellbeing Index domains.

Satisfaction with health shows a falling-contracting pattern up to 55 years, such that both the top and the bottom of the ranges decrease, but with the top decreasing faster. At older ages, the top of the range remains at about 76 points while the bottom of the range continues to fall as the samples contain increasing proportions of people with serious health concerns.

Satisfaction with relationships shows a rising pattern with age for both the top and the bottom of the normal range. The top of the range rises to a greater extent. There is a major shift from 18-25 years to 26-35 years.
Dot Summary Points for Age

1. The youngest group is above their normative level for Survey 19. They also have the lowest proportion who believe a terrorist attack is imminent.

Three groups as 36-45, 46-55 and 66-75 have low wellbeing relative to their normative range.

2. After being significantly different from one another over Surveys 2-16, the youngest group has sustained its rise to be statistically no different from the oldest group. The reason for this change is not known.

3. The two groups that seem to be evidencing signs of distress are 36-45y and 66-75y groups. On several domains as Health, Achieving and Future Security, they are at levels that are either very low, or even below, their age-normative ranges. This pattern may be tied to emerging economic stress and uncertainty for people raising families and for self-funded retirees.
Section 5 Age continued

**ACHIEVING IN LIFE**

- Age-specific normative range for group mean scores
- Value for Survey 20
- Age-specific normative mean

**FUTURE SECURITY**

- Age-specific normative range for group mean scores
- Value for Survey 20
- Age-specific normative mean
4. (a) The most surprising result is that satisfaction with the economic situation and business in Australia are rated so differently from one another. While satisfaction with the Economic Situation is rated uniformly at the bottom of each age-specific normal range, satisfaction with Business continues to be generally rated above average.

(b) It is also clear that the Government is not being blamed for the economic down-turn. Satisfaction ratings for all groups up to 56-65y continue to rate their level of satisfaction as very high.

(c) Satisfaction with National Security continues to be very high across all age groups. This has been a persistent finding for some time now and possibly reflects an earlier terrorist threat that has not eventuated.
5. In the middle age, people who do not live with a partner are at risk of low wellbeing.
6. Living with your children as a sole parent from 66 years and older is good for your wellbeing.

7. The average wellbeing of married people varies by 2.4 points across the age-range. The wellbeing of people who are divorced varies by 6.2 points, is lowest at 46-55, and never enters the normal range.

8. Unemployment has a devastating effect on personal wellbeing beyond 25 years of age. The relationship between unemployment and wellbeing is age-dependent.
6. Household Composition

6.1. Distribution Overall

The data for this chapter were derived from the following question:

“I am going to ask who lives in your household. Please indicate from the list I will read who lives with you.

<table>
<thead>
<tr>
<th>Household Composition</th>
<th>N (Survey 21)</th>
<th>% (Survey 21)</th>
<th>% combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>No one, you live by yourself</td>
<td>308</td>
<td>16.2</td>
<td>16.8</td>
</tr>
<tr>
<td>You live with your partner (only)</td>
<td>628</td>
<td>33.1</td>
<td>31.2</td>
</tr>
<tr>
<td>With partner and child</td>
<td>529</td>
<td>27.8</td>
<td>30.8</td>
</tr>
<tr>
<td>With one or both of your parents (only)</td>
<td>115</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>With adults who are neither your partner nor parent (only)</td>
<td>59</td>
<td>3.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Sole parent</td>
<td>193</td>
<td>10.2</td>
<td>7.1</td>
</tr>
</tbody>
</table>

The proportions above for Survey 21 are similar to the combined survey data (Table A6.1). However, there are 3.2% fewer people living with their partner and children than in the combined sample and 3.3% more sole parents. These differences would be expected to raise and lower the overall sample Personal Wellbeing Index mean, respectively.

In terms of the combined data, it is notable that the highest proportion of respondents (62.0%) live with their partner either as a couple alone (31.2%) or with one or more children (30.8%). The third most common form of household composition is people living alone (16.8%).

6.1.1. Stability of Household Composition over Surveys

These results come from Tables A6.1.1 to A6.1.15. Data are only available from Survey 9 at which time our demographic items became constant. These tables show considerable stability in terms of sample composition between surveys.

6.2. Household Composition and Wellbeing

6.2.1. Personal Wellbeing Index

The figure below relates the Personal Wellbeing Index calculated from combined data (Table A6.1).

Several aspects of this figure can be noted as follows:
(a) The normative range has been calculated from the survey mean scores (Chapter 2). It represents the range within which we have 95% confidence of finding the mean of any future general population survey.

(b) The ‘Threshold for depression risk’ is set at a value of 70. This is an approximate value derived from other research which shows that groups that fall below this level have a higher proportion of people who are depressed than groups that lie within the normative band. It can be seen that sole-parents (7.1% of the sample) have a mean score which lies at this threshold.

(c) There is an 6.9 percentage point difference between the highest and the lowest groups. This is a substantial range.

(d) The groups with the highest wellbeing are those people living with both their partner in any combination with other people. Heading this list is Partner Only (77.4 points) and Partner and Parents (77.3 points). In respect of the latter group, it is interesting that only 0.4% of the total sample live in these circumstances, indicating the extraordinary dominance of the nuclear family.

(e) The presence of children has a variable effect on adult wellbeing, depending on the other people present in the household and household income (see also Chapter 3).

(f) Of the six ‘partner’ groups, three lie above the normative range (76.4). Living with other adults in addition to partner reduces wellbeing by 2.4 percentage points over living with partner alone. Whether this is due to reduced relationship resources or financial resources cannot yet be reliably determined.
(g) Living with parents allows normative range wellbeing except when other adults also live in the household. This reduces wellbeing by 1.0 percentage points from living with parents alone.

(h) Living with other adults who are neither a partner nor parent is generally bad for wellbeing. Of the six relevant groups three lie well below the normative range. The presence of a partner counteracts this tendency.

(i) People who live alone have a level of wellbeing that lies 1.9 points below the normative range. However, this is gender-dependent with females having higher wellbeing than males (see Chapter 4).

6.2.1.1. Survey 21 vs. Normative Data for Household Composition

Figure 6.2.1 shows the wellbeing of the major household groups in Survey 20 (Table A6.1) compared with their normative ranges (Tables A6.30, A6.32, A6.34, A6.36, A6.38, A6.40).

All values for Survey 21 lie within their respective normal ranges except for Other Adults which lies below.

It can be seen that 3/6 of these groups show a level of wellbeing for Survey 21 that is consistent with the combined data to <1 percentage point. However, the three others are discrepant as Parents Only (+1.6 points; 6.1% of the sample); Other Adults (-3.3 points; 3.1%); Sole Parents (+2.7%; 10.2%). These average to 16.2% of the sample being higher than the combined data and 3.1% lower. Thus, the data from Parents Only and Sole Parents will tend to raise the overall wellbeing of the sample.

6.2.2. Personal Domains

The results in this section are drawn from Table A6.2 (Survey 20), Table A6.3 (combined data), and Tables A6.29 to A6.40 for normative data.

Table A6.2 shows the domain data from Survey 21. Table A6.3 shows, from the combined survey data, that all of the domain differences follow much the same pattern as Figure 6.1. However, within the groups who do not generally do as well as the ‘partnered’ groups there is considerable domain variation. This is shown for people (N = 4,143) who live alone below.
6.2.2.1. Live Alone vs. Combined Surveys Normative Data

Figure 6.3: **Live Alone** vs. Domains Normative Data

It can be seen that the domains values for the people who live alone are generally below the normative ranges for the population. Overall, the Personal Wellbeing Index lies 1.9 points below the normative range. The major deficits among the domains are with relationships (-8.4 points) and health (-2.8 points). Satisfaction with relationships is so severely deficient for the people in this group it is probably pulling satisfaction with the other domains down. In particular, this may be causing minor health issues to seem important through the lack of close friend or partner with whom such matters can be discussed.

However, three of the domains do not differ from population norms (safety, community and future security).

6.2.2.2. Other Adults vs. Combined Survey Mean Scores

Figure 6.4: **Live with Other Adults**: Domains Normative Data
6.2.2.3. Partner Alone vs. Partner and Children

The other interesting comparison is in relation to the people living with their partner in the presence or absence of children. This is shown below.

Figure 6.5: Live with Partner in the Absence/Presence of Children

The overall pattern shows that living with a partner is generally advantageous to wellbeing, but that the addition of children diminishes that advantage. While this is fairly trivial in terms of the Personal Wellbeing Index (-0.7 points), it is significant in the case of two domains as Living Standard (-2.7 points) and Relationships (-2.6 points). However, this is different for the domain of health satisfaction. Here, the partner alone causes no change from the population average, whereas partner and children causes a significant rise in satisfaction (+2.3 points). It may be the case that the responsibility of child care causes parents to be more positive about their own health. In any event, it is this domain that prevents the overall Personal Wellbeing Index from being significantly different between the two groups. It also appears to be an example of Domain Compensation involving the domain of Health.

This overall pattern indicates that, while the partner plus children have normal-range wellbeing, this is more fragile than the partners alone. This latter group have higher levels of satisfaction in the two key domains that reinforce homeostasis (money and relationships). Moreover, the domain showing an advantage for the parents plus children is health. So if this domain fails it would be expected that it may have serious consequences for the overall wellbeing of these people.
6.2.2.4. Partner Only v.s Children Only

The next comparison of interest involves sole parents.

The contrast between someone living only with their partner or only with children is very stark and shown in Figure 6.6. This is based on 1,757 Sole Parents (Table A6.33) and 7,679 Live with Partner Only (Table A6.31).

The advantage of living only with a partner is most obvious in the domain of relationships. Here the two groups are separated by 19.4 points. Couples also have much higher satisfaction with their Standard of Living and Future Security.

It is notable that the most affected domain for sole parents is relationships rather than Standard of Living, even though most are on very low incomes (see Chapter 3). This is consistent with the view that the most important factor missing from these people’s lives is an intimate relationship with another adult.

6.2.3. Life as a Whole

This shows much the same pattern as the Personal Wellbeing Index (Table A6.3). People who live only with their partner have a significant 2.4 point advantage over partner plus children.
6.2.4. **National Wellbeing Index**

These results come from Table A6.3

![Figure 6.7: Household Composition: National Wellbeing Index](image)

It is notable that only the sole parents fall just below the normal range. However, the three groups living with a partner or parents have a higher National Wellbeing Index than all of the other three groups (Table A6.3).

6.2.5. **National Wellbeing Domains**

These generally follow the same pattern as shown by the National Index (Table A6.3). Satisfaction with Government is shown below:

![Figure 6.8: Household Composition: Satisfaction with Government](image)

Satisfaction with Government is higher than average for each of the household composition groups. However, this high rating is probably inflated by the economic stimulus device used by the Government in the period prior to the Survey, of sending cash cheques to all citizens. Those with children received the most cash.
6.2.6. Life in Australia

The pattern of inter-group differences in Table A6.3 is similar to that of the National Index. However, the substantially higher scores recorded for Life in Australia than for Life as a Whole (around 4.5 points higher Table A2.22) seems to have attenuated the extent of the household differences. While the highest and lowest groups differed by 4.5 percentage points on the National Index, this is reduced to 3.1 points for Life in Australia. It may be that ‘Life in Australia’ evokes some common abstract patriotism that becomes weakened when the item refers to some more specific aspect of national functioning, as in the national domains. Maybe this abstract dimension could be better tapped by asking ‘How satisfied are you with Australia as a whole?’

The figure below shows the values for Survey 20 (Table A6.2) in relation to the normative range for each household group (Tables A6.30, A6.32, A6.34, A6.36, A6.38, A6.40).

![Figure 6.9: Household Composition: Life in Australia](image)

With the exception of ‘Live with Parents’, all other groups have very high satisfaction with Life in Australia at the time of Survey 21. In fact, ‘Live with Partner’ has a level above their normative range. Clearly, most people are currently feeling very good about Life in Australia. The lack of response from the Live with Parents group is likely due to their younger age.
6.2.7. National Survey-Specific Aspects: Terrorist Attack

Table 6.2 shows that around 30-40% of the sample maintain the sense of an imminent terrorist attack during Survey 21. Figure 6.10 below shows this in relation to the normal range for attack probability for each household composition group using the group mean scores over the past surveys as data (Table A6.42).

It can be seen that the current percentage of people who think an attack likely is substantially lower than average for all groups. This is as expected since the means are progressively decreasing as the temporal distance from the last terrorist attack of direct relevance to Australia increases. However, the groups are showing very different rates of adaptation as judged by the degree of separation between Survey 21 and the household-group mean score across surveys.

There are two ways of looking at these data. The first is the simple proportion of each group who are continuing to regard a terrorist attack as likely. Here, the highest are people who live alone (42.5%) or who are sole parents (42.0%). It is interesting to note that neither of these two groups has particularly low satisfaction with safety (Figures 6.3 and 6.6 respectively), so the reason they imagine a terrorist attack to be more likely than other groups is not clear.

The second view of these results is gained by measuring the difference between the group mean score and the value for Survey 21. This yields the following: Alone (-12.5%), Partner Only (-15.0%), Sole Parent (-16.7%), Partner and Children (-19.8%), Parents (-11.4%), Other Adults (-17.6%). The following conclusions may be drawn:

1. The live alone groups are the slowest to adapt. Their overall mean level is high (55.0%) and their current decrease from this level is very low (-12.5%).
2. Parents with children have the most rapid adaptation, from a high average mean (58.2%) their current decrease is -19.8%.
3. The least affected group are people living with their parents. They have the lowest average mean score (48.5%) and while their current decrease is low (-11.4%) they are probably reaching a steady base-level which will stabilize across all groups.

The strength of belief (Table A6.42) of those who believe an attack is likely is shown below.
Figure 6.11: Household Composition: Terrorist Attack Probability Strength

The normative range has been calculated from mean scores for each of the groups over the past 12 surveys (Table A6.42). The following observations pertain:

1. The ‘Other adult’ group has varied between these surveys more than the other groups (normal range of survey mean scores is 18.5 points). The least variation is within people living only with their partner (9.2 points).

2. There is little evidence of adaptation. The current strength of the feeling that an attack is likely remains within 2.0 points of the mean value and some lie slightly higher. Thus, even though over time, fewer people regard an attack as likely, those that do have a strength of belief little different from previous surveys. Clearly, therefore, there is no simple relationship between the proportion of people with this belief and the strength of this belief among the ‘believers’. It is as though the threshold belief strength to answer ‘Yes’ to this question remains constant over time, but the number of people whose strength of belief meets that threshold decreases over time.
6.3. **Household Composition and Relationship Status**

Table A6.4 provides the comparative data (combined surveys).

Figure 6.12: Household Composition x **Relationship Status**: Personal Wellbeing Index

(a) People who are married have higher wellbeing than people in defacto relationships. In the absence of children the advantage is +2.2 points and in the presence of children +2.3 points. In the absence of children, the married group has the highest SWB (77.9 points) of any of these groupings. Thus, the addition of children, as a drain on household resources, has more potential to reduce this exceptionally high wellbeing towards the normal range (-0.9 points). However, this is income dependent (see Chapter 3).

(b) Widows living either alone or with other adults have high wellbeing. These people tend to be elderly with a low but secure income through either a pension or superannuation. However, widowed sole parents lose 3.1 points over widows who live alone, to lie just below the normative range.

(c) People who have never married and who have moved away from their parents without a partner, have low wellbeing. It does not make much difference whether they live alone (69.3) or with other adults (71.5).
(d) As expected, people who are separated or divorced have low wellbeing. However, it is interesting that, compared with living alone, the wellbeing of both groups marginally decreases still further in the presence of children (separated -2.2 points; divorced -0.9 points).

6.3.1. **Relationship Status x Income**

These Household Composition x marital status groups are separated by income in Tables A6.5-A6.12.

6.3.1.1. **Live Alone**

![Figure 6.13: Live Alone x Relationship Status x Income: Personal Wellbeing Index](image_url)

While the Never married, Divorced, and Separated show much the same trajectory with increasing income, widows are very different. Even at the lowest income their wellbeing falls within the normal range. This is mainly due to their older age.

The lack of any substantial difference between the three other groups is interesting. It goes some way to answering the question of whether the low wellbeing of Never Married is due to some personality difference. These data indicate otherwise. The fact that the Never Married and the other two groups who were previously married do not differ, indicates the dominating influence of income. In other words, the commonly reported finding that people who have never married have low wellbeing is primarily a function of their low household income. Their wellbeing enters the normal range at an income of $101-150K. The divorced group, on the other hand, remain well below the normal range even at $101-150K.
6.3.1.2. Sole Parent x Relationship Status x Income

The sole parents who are married do much better than the other groups. This may be due to respite arrangements with their spouse.

Conclusion

Being a sole parent is generally harmful to adult wellbeing. However, there are two caveats as:

1. A major factor is low household income. Married enter the normal range at $31-60K, Widowed enter at $15-30K. Projecting the trend lines above, it is expected that at a gross household income in excess of $100,000, sole parents who are never married or divorced would also enter the normative range.

2. Widows do better than the other three non-partnered groups, probably because they are older and are living with adult children.

3. Sole parents who remain married tend to have higher household incomes than other sole parents. These people may retain the emotional security of marriage, and even perhaps some instrumental support, even though they regard themselves as sole parents. Clearly this group of sole parents do very well and they constitute 22.3% of all sole parents (Table A6.4).

6.3.1.3. Live with Partner plus Children x Relationship Status x Income
It is notable that the de facto lag by a couple of percentage points at each level of income. In terms of the Partner plus Children group it is notable that:

(a) The ceiling of about 80 points is evident, with no reliable increase in wellbeing from $151-250K to $250-500K.

(b) There is a reliable 2.2 point difference in wellbeing from $101-150K to $251-500K. This increase is not evident in the total population sample and probably reflects the additional resources consumed by children.

### 6.4. Household Composition x Work Status

#### 6.4.1. Household Composition x Unemployment

The data on people who are unemployed (Table A6.13) are shown below:

![Graph showing Personal Wellbeing Index (PWI) for different household compositions of unemployed individuals.]

The protective element of having a partner is very evident here. Both of the partner groups are within 2 points of the normal range. This is in sharp contrast to people who live alone. Indeed, this group of unemployed people living alone have one of our lowest levels of wellbeing on record (59.5 points) and 22.1% of the unemployed people in our samples live in this circumstance.
6.4.2. Living Alone x Work Status

The data for full-time work status are given in Table A6.13 and for part-time in Table A6.14.

The best circumstances for someone living alone, if they are not retired, is to be engaged in part-time volunteer work. However, it does not resolve the issue of causation. Do people with normal levels of wellbeing seek voluntary work whereas people who have low levels do not? It is notable that full-time voluntary work is less effectively linked to higher wellbeing than part-time voluntary work.

It is also interesting to note that the activities of paid work and study are unable, of themselves, to raise wellbeing to normal levels.

The normal-range wellbeing of people who are Full-time retired is consistent with their older-age.
6.4.3. **Sole Parents x Work Status**

Data are from Tables A6.13 and A6.14.

The strongest protective factor for Sole Parents seems to be retirement. These people are one of the very few sub-groups of sole parents whose wellbeing lies in the normal range. It is likely that they are elderly, on secure but modest incomes, and perhaps caring for grandchildren.

The second sub-group who are doing relatively well, lying just below the bottom of the normal range, are parents in full-time work, or who are mixing Part-time work with Part-time volunteering. They are likely to have a higher household income than the other groups.

In terms of part-time activity, there is no difference in the wellbeing of sole parents who are employed or engaged in volunteer work. Both groups lie 3-4 points below the normative range.
6.4.4.  **Sole Parents x Part-time Work Status x Income**

These results are found in Tables A6.16-A6.23.

![SOLE PARENTS](image)

It appears that part-time work and Part-time volunteering are similarly related to levels of wellbeing. At $61-100K both groups enter the normal range. Income is a strong determinant of wellbeing for both groups.

6.4.5.  **Live Alone x Part-time Work Status x Income**

For people who live alone, the part-time activity that is most consistently associated with normal levels of wellbeing is volunteering. Curiously, rising income has no systematic effect to raise the wellbeing of this group.

Part-time study is associated with consistently low levels of wellbeing for people who live alone, and again this is not much influenced by income.

Part-time work, on the other hand, shows a clear relationship between wellbeing and income, such that wellbeing approximates the bottom of the normal range at $61-100K.
In summary, people who live alone and with part-time activities show a weak relationship between income and wellbeing. The missing ingredient in their lives is probably a personal relationship.

### 6.5. Regressions

Tables A6.24-A6.28 show the regressions of the seven domains against ‘Life as a Whole’ for people who live alone and have never married. These tables depict the results from different income ranges.

#### Table 6.1: Regressions: Live alone and never married (combined data)

<table>
<thead>
<tr>
<th>Domain</th>
<th>All combined data (n=1276)</th>
<th>Live alone – never married</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sr² (n=1276)</td>
<td>$&lt;15,000 (N = 224)</td>
</tr>
<tr>
<td>1. Standard</td>
<td>4.3</td>
<td>4.1</td>
</tr>
<tr>
<td>2. Health</td>
<td>1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>3. Achieving</td>
<td>8.4</td>
<td>9.1</td>
</tr>
<tr>
<td>4. Relationships</td>
<td>0.4</td>
<td>0.0</td>
</tr>
<tr>
<td>5. Safety</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>6. Community</td>
<td>0.7</td>
<td>0.3</td>
</tr>
<tr>
<td>7. Future Security</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Unique</td>
<td>15.3</td>
<td>14.5</td>
</tr>
<tr>
<td>Shared</td>
<td>40.7</td>
<td>49.9</td>
</tr>
<tr>
<td>R² (adjusted)</td>
<td>56.0</td>
<td>64.4</td>
</tr>
</tbody>
</table>

Shade = significant contribution

The sr² statistic represents the proportion of unique variance contributed by each domain. It is calculated as the square of the ‘Part’ statistic that can be requested from SPSS in association with a multiple regression. When this value is multiplied by 100 it gives the percentage of unique variance contributed by the item. Thus, for the <$15K group, satisfaction with standard of living contributes 4.1% of unique variance within the total 64.4% explained variance for this sample.

Observations of this table are as follows:

1. There appears to be some tendency for the amount of explained unique variance to increase above $30K.
2. The proportion of explained shared variance shows no systematic change with rising income and large fluctuations between income groups.
3. The strongest contributory domain is most commonly Achieving in Life rather than Standard of Living.
4. Relationships tend to make a weak contribution.
6.6. **Normative Ranges for Household Composition Groups**

6.6.1. **Norms using Data from Individuals**

![Graph](image)

Figure 6.21: Live alone normative data (N = 4,109)

The above results come from Table A6.30. The outstanding domain for the Live Alone group is Relationships, which has a low mean (68.7 points) and a very large normative range (110.6 points). This clearly points to the high heterogeneity within this group. The highest domain is Safety (77.9 points) which also shows the smallest range.

![Graph](image)

Figure 6.22: Live with partner normative data (N = 7,683)

The above results come from Table A6.31. The experience of living with a partner has a homogenizing effect on people’s reported domain satisfaction. The normative ranges are all lower than the lowest range for the live alone group. They range from 77.6 points (Health) to 60.6 points (Relationships).
SOLE PARENTS

110.4 109.2 109.8 115.8

122.8

110.8 113.4 110.0

99.0

34.2

23.0 27.9 32.1 32.7 28.8

37.1 69.8 67.9 72.8 113.4

109.2 110.8 109.2 110.4

72.3

Figure 6.23: Sole parent normative data (N = 1,770)

The above results come from Table A6.33. This profile is similar to Live Alone. The largest normative range is Relationships (109.7 points) and the smallest are Standard of Living (77.2 points) and Safety (78.7 points). Again, all of these ranges are higher than the Live with Partner only group.

PARTNER AND CHILDREN

98.6 108.5 112.0 107.7 107.7 115.9 112.3

108.2 107.5 108.9

76.7 77.8 76.9 74.2 51.5 48.5 35.9

80.6 72.0 71.7 78.5

Figure 6.24: Live with partner and children normative data (N = 7,630)

The above results come from Table A6.35. The experience of Living with a Partner and Children homogenises the domain satisfactions even more than it does for people Living with their Partner Only. The largest range is 72.3 points (Community) and the smallest is Standard of Living (61.4 points).
6.6.2 Normative Range for Household Composition Groups from Survey Mean Scores

The following normative ranges have been calculated by treating survey mean scores as data. The ranges indicate the extent to which each variable varies between surveys.
The above results come from Table A6.30. The most variable domain is Relationships (range 11.6 points), just as it was for the normative range calculated from the individual scores. Similarly, Safety (range 2.96 points) is the least variable domain. The rank-order of the domain ranges is shown below:

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rank order of domain ranges (high = 1)</th>
<th>Survey mean scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Health</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Achieving</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Relationships</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Safety</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Community</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Future</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

It can be seen that the rankings are very similar, which is interesting. It implies that the same forces that cause within-sample variation in the domains also causes between-sample variation between surveys. While this is intuitive in that the scores from individuals comprise each survey mean score, it also implies some commonly-felt influence on the individuals making up each sample, rather than fluctuations due to random changes between individuals.

It also implies that, while this common influence affects all domains, it affects them equally in that their natural ranking with respect to one another is maintained as they move to higher or lower values.
The above results come from Table A6.32.

Figure 6.29: Sole parent normative data (N = 11)

The above results come from Table A6.34.

Figure 6.30: Live with partner and children normative data (N = 11)

The above results come from Table A6.36.

Figure 6.31: Live with parents normative data (N = 11)

The above results come from Table A6.38.
Figure 6.32: Live with other adults normative data (N = 11)
Dot Point Summary for Household Composition

1. The highest levels of personal wellbeing are achieved by people living with their partner. The lowest personal wellbeing is found among sole parents. Their low wellbeing puts many of them at risk of depression.

2. People who live alone have a major loss of wellbeing in terms of relationships and health. The relative lack of buffering caused by poor relationship availability makes the person more vulnerable to life stressors. Thus, minor health issues may seem important due to the lack of a close friend with whom such matters can be discussed.

3. For a couple living together, the presence of children reduces two domains (Standard of Living, Relationships) and enhances one domain (Health). This may be an example of domain compensation involving perceived health. The net result is little difference between these groups in the overall Personal Wellbeing Index. However, since money and relationships are the most important domains for overall wellbeing, the relative deficit in these for partners with children may make them less resilient to additional stress, particularly if this is caused by poor health.
4. The domain that is most deficient for sole parents is Relationships. It is particularly notable that this disparity in satisfaction is far higher than it is for Standard of Living even though the Sole Parents are a very low income group. It seems evident that the major factor missing from the lives of Sole Parents is an intimate relationship with another adult.

5. For people who live alone, those who are married, and widows have above normal range Personal Wellbeing Index.

6. With the exception of widows, the Personal Wellbeing people who live alone is highly income-dependent. The wellbeing of Never Married and Separated enters the normal range at an income of about $101-150K. However, the wellbeing of people who are divorced remains below the normal range at this level of income.
7. Sole parents who are widowed or married have normal-range wellbeing at $61-100K. Those who have never married or who are separated or divorced require $101-150K to achieve normative range wellbeing.

![SOLE PARENTS X RELATIONSHIP STATUS x INCOME](image)

8. One key to wellbeing for people who are unemployed is to live with a partner. The presence of children diminishes wellbeing to some extent, but only among low income couples.

![UNEMPLOYED](image)

The wellbeing of people who are unemployed is highly dependent on having a partner.

9. For Sole Parents, part-time work is associated with only marginally higher wellbeing than part-time volunteering. Both groups enter the normal range at $61-100K.
7. Marital Status

‘I am going to ask you about your marital status. Please indicate any of the following categories that apply to you at the present time.

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Survey 21 N</th>
<th>%</th>
<th>Combined Surveys 9-21 N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>1,140</td>
<td>60.0</td>
<td>14,209</td>
<td>57.8</td>
</tr>
<tr>
<td>Defacto or living together</td>
<td>139</td>
<td>7.3</td>
<td>1,869</td>
<td>7.6</td>
</tr>
<tr>
<td>Never married</td>
<td>275</td>
<td>14.5</td>
<td>4,106</td>
<td>16.7</td>
</tr>
<tr>
<td>Separated but not divorced</td>
<td>55</td>
<td>2.9</td>
<td>788</td>
<td>3.2</td>
</tr>
<tr>
<td>Divorced</td>
<td>153</td>
<td>8.1</td>
<td>1,879</td>
<td>7.6</td>
</tr>
<tr>
<td>Widowed</td>
<td>137</td>
<td>7.2</td>
<td>1,736</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,899</td>
<td>100.0</td>
<td>24,587</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The proportion of respondents in each category for Survey 19 (Table A7.1) closely reflect the proportions from the combined surveys (Table A7.2) with the exception of Married which is 2.2% higher and Never Married which is 2.2% lower. In terms of their influence on the wellbeing of the whole sample, they should balance one another out (married higher, never married lower).

7.1. Marital Status and Wellbeing

7.1.1. Current Sample vs. Normative Data

Most groups lie close to their normative range with the exception of Separated (-1.3 points), Divorced (+1.9 points). For the sample as a whole these would balance one another.
7.1.2. **Personal Wellbeing Index (combined surveys)**

![Figure 7.2: Marital Status: Personal Wellbeing Index](image)

They have a 2.2 point advantage over people living in a defacto relationship. This may be due to any of the following factors:

(a) Increased satisfaction with all of the personal domains with the exception of Health and Safety.

(b) Married are older.

(c) Married are wealthier.

(d) Unhappy married people have separated from one another.

People who are married or widowed have a higher personal wellbeing than all other groups (Table A7.2).

Defacto are higher than all three lower groups, and never married are higher than divorced and separated.

It is interesting that the people who have never married lie below the normal range. This is, however, age dependent, with people in the youngest group and those over 65y having normal-range personal wellbeing (Section 5.4). Marriage is a gamble. People who do not take a chance on this union do not typically experience the wellbeing extremes that marriage and separation can bring.

The high Personal Wellbeing Index of widows is certainly influenced by the fact that many are elderly and the effect of widowhood is also age dependant (Section 5.4). People widowed younger than 56 years have lower than age-normative wellbeing Figure 5.24. As a total group (Figure 7.2) their wellbeing lies at the top of the normal range.

7.1.3. **Personal Wellbeing Domains [combined data]**

7.1.3.1. Domain Comparisons Between Marital Groups.

The domains generally follow much the same pattern as shown in Figure 7.2 (Table A7.2). The most dramatic differences, as expected, are shown in the domain of Relationships. Here the married group have higher satisfaction than both the defacto and the widow group. The separated and divorced groups differ only on the domain of relationships, where the divorced group have higher satisfaction (Figure 7.3). This may be the result of a longer period of time since separation for the divorced group.
It is interesting to observe that, with the exception of the widows, all other groups lie outside the ‘normal’ range for relationship satisfaction. Moreover, given that 65.2% of the sample comprises people in a relationship, the overall normal range is dominated by such people. This raises the need to create normative ranges for each marital group, and this has been done (Tables A7.19 to A7.30).

It is notable that people who have never married have higher relationship satisfaction than both separated and divorced. The consequences of marriage breakdown are severe indeed.

The relatively lower health satisfaction for widows is most likely due to their age and the burden of accumulated medical conditions, most particularly conditions that yield pain, such as arthritis (see Chapter 9). However, the Widows compensate by having higher satisfaction with both Community Connection and Future Security than the Married group (Figure 7.11).
In the domains of Community Connection and Future Security, Widows have higher levels of satisfaction than Married.

Figure 7.6: Married: Personal Wellbeing Index Domains

The group with the highest overall wellbeing and the most consistently high domains are the people who are married.

Figure 7.7: Defacto: Personal Wellbeing Index Domains

The Defacto group have a 2.2 point deficit in wellbeing compared with the married group. This shortfall is evident mainly in Relationships (-2.8 points) and Community (-6.1 points).
The Never Married group hold an intermediate position. Only three of their domains lie in the normal range.

The Separated group have the lowest overall wellbeing.

The Divorced group have a similar profile to the separated group.
One of the most surprising groups are Widows, shown for the Personal Wellbeing Index and domains below.

![Widows: Personal Wellbeing Index Domains](image)

Despite having a Personal Wellbeing Index at the top of the normal range, the level of satisfaction with health for widows is below normal. This exemplifies the relative unimportance of health as a determinant of SWB provided that other domains can compensate. Here, the most strongly compensating domains are Standard, Community and Future Security. Of these, Community Connection shows the highest level above the normal range for this domain (3.2 points). The comparison with the other groups on this domain of community is shown below.

### 7.1.4. Life as a Whole

This shows a similar pattern to Figure 7.2.

### 7.1.5. National Wellbeing Index

Figure 7.12 shows the combined data from Table A7.2.

![Marital Status: National Wellbeing Index](image)

It is notable that only the married, widowed and never married groups lie within the normative range on this, more distal, variable. This general pattern is similar to that shown in relation to the Personal Wellbeing Index except for people in a de facto relationship have a lower level. Their level of national wellbeing does not differ from people who are separated or divorced. The reason for this is not known.
7.1.6. National Wellbeing Domains

The national domains (Table A7.2) show a significant pattern of difference that resembles Figure 7.12 with the exception of National Security and Government.

For the domain of National Security, the Never Married group are relatively higher, such that they do not differ from the Married and Widowed (Table A7.2). The reason for this differential domain sensitivity is not known.

The comparisons for Government are shown below:

It is evident that the champions of Government are married and widowed. Older age, conservatism, and security may contribute to this.
7.1.7. Life in Australia

Married and widowed have higher satisfaction with Life in Australia than the other groups, and Widows have higher satisfaction than married (Table A7.2). There is a remarkable lack of variation between these groups (5.8 points) compared with the Personal Wellbeing Index (9.0 points).

7.1.8. Likelihood of Terrorist Attack

The perceived likelihood of a terrorist attack has fallen markedly for all groups since Survey 20. The groups with the slowest adaptation are Divorced and Widows.

For those people who consider an attack likely, the strength of their belief in an attack is shown below.
While none of these groups have significantly changed the strength of their belief since the previous survey, the groups do differ in the cumulative data of belief strength. The strongest belief that an attack is likely is held by Divorced (> Married, Never Married, Widowed) (Table A7.2).
7.2. **Full-Time Work Status**

The pattern of wellbeing for people in full-time employment is shown in Table A7.3 for the combined samples and in the figure below.

![Figure 7.18: Marital Status x Full-time Employment (combined surveys)](image)

The following observations can be made as:

1. The fact of full-time employment is not of itself sufficient to bring the wellbeing of people who are separated, divorced or never married into the normal range.

2. Widows engaged in full-time work have a level of wellbeing well below the widows as a total group. This is probably because they tend to be younger than the average widow, with less time elapsed since the death of their partner, and may also be employed due to necessity rather than choice. It is notable that only 10.1% of the widowed group are full-time employed compared with 52.5% of the married group (Table A7.3).

The data presented in Table A7.3, also show how the negative effects of unemployment are somewhat buffered through marriage (Figure 7.19). The combination of divorce or separation and unemployment is devastating for personal wellbeing.

![Figure 7.19: Marital Status vs. Employed/Unemployed: Personal Wellbeing Index](image)

From the above figure it can be seen that the effects of unemployment (vs. Full-time employed) impact negatively both on people who are married (-5.3 points), never married (-6.6 points), separated (-11.5 points), or divorced (-11.3 points). Clearly, however, the effects of unemployment are far less
severe for people who are married, whose wellbeing lies close to the lower margin of the normative range. This is due to the buffering influence of marriage as both an emotional and a financial resource.

Subjective wellbeing in relation to full-time home or family care (Table A7.3) is shown below.

This Figure shows the largest range of personal wellbeing (15.9 points) of any marital status comparison. The two groups with partners and widows lie within the normal range. All other non-partner groups are very low indeed, with values that indicate a high probability of depression.
### 7.3. Part-time Work Status

#### 7.3.1. Volunteering

The figure below compares the whole combined samples of each marital status group (Table A7.2) with the marital groups that contain a part-time volunteer (Table A7.4).

![Figure 7.21: Marital Status x Part-time Volunteering (Personal Wellbeing Index)](image)

Across all groups, part-time volunteers have marginally higher wellbeing than the total comparison group. The largest effect (+3.8 points) is for people who have separated, which is almost sufficient to take them into the normal range. This may represent a novelty effect if more people in this group have recently adopted volunteering due to a recent separation. It is notable that the relative advantage is much reduced for people who have divorced (+1.8 points).

This difference, between the separated and divorced groups is very interesting. The 1.8 point advantage for the divorced group is consistent with the 1-2 point advantage for the other groups. But the 4.0 point advantage for the separated group is very much more substantial.

An explanation may be as follows:

(a) People with high SWB set-points tend to volunteer. Thus, the general 1-2 point advantage across the marital groups reflects this difference.

(b) The impact of volunteering on wellbeing is greatest in the early stages. At this time new relationships are forming and positive feedback is likely to be highest. Thus, the additional 3.8 points displayed by the separated group shows the novelty effect of volunteering.

If this interpretation is correct, the implication is that, in order to maximise their wellbeing, people engaged in part-time voluntary work should change the group to whom they are offering their services on a regular basis.

The proportion of each marital group (Table A7.4 vs. A7.2) who engage in part-time voluntary work is as follows:

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>% of part-time volunteers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>14.8</td>
</tr>
<tr>
<td>Defacto</td>
<td>8.0</td>
</tr>
<tr>
<td>Never married</td>
<td>8.5</td>
</tr>
<tr>
<td>Separated</td>
<td>11.2</td>
</tr>
<tr>
<td>Divorced</td>
<td>14.2</td>
</tr>
<tr>
<td>Widowed</td>
<td>22.5</td>
</tr>
</tbody>
</table>
The following conclusions may be drawn:

1. The Separated group, who gain most from volunteering, have a relatively low proportion of part-time volunteers.

2. There is no simple association between the probability of volunteering and having or not-having a partner.

3. People in a married relationship are about twice as likely to be part-time volunteers as people in de facto relationships. This may be because the married group is older.

4. Widows have the highest proportion of part-time volunteers. Again this is likely due to their older age.

7.3.2. Part-time Study

These data are found in Table A7.4.

![Figure 7.22: Marital Status x Part-time Study (PWI)](image)

Of all the groups, the positive effects of part-time study are most evident for people who are widowed (+3.0 points). However, these people are a small minority of the total widowed group (3.3%) and so are likely differing from the majority of the group in other respects as well, such as being wealthier or more out-going.
7.4. **Marital Status x Full Time Work Status x Income**

These data have been drawn from Tables A7.5 to A7.12.

7.4.1. **Divorced**

![Figure 7.23: Divorced x Work Status x Income](image)

For people who are divorced, income has little impact if they have a fulltime job. Even with an income of $101-150K (N=66) their Personal Wellbeing Index lies below the normal range. This is interesting since it indicates that above-average household income does not necessarily ensure high wellbeing. However, if these people also have dependents and are single parents, then maybe they need even more income to meet their resource needs.

Divorced people engaged in fulltime home care and people who are unemployed are seriously below the normal range with an income of $15-30K, while divorced people who have retired enter the normal range $31-60K. Presumably the resource needs of the latter group are much less and they are likely to be older.

7.4.2. **Never Married**

![Figure 7.24: Never Married x Work Status x Income](image)
These results are limited by cell-size, with only those cells containing at least 20 cases being included. For the most part, however, it appears that work status is a more powerful influence on SWB than is income. Two groups do show a substantial rise with income. For people who are unemployed, SWB rises by 11.1 points from <$15K to $61-100K. Full-time students show a 3.8 point gain over this income range.

7.5. **Regressions of Personal Wellbeing Index Domains Against Life as a Whole**

These regressions are presented in Tables A7.13 to A7.18 (combined surveys)

Table 7.1: Regressions: Marital Status

<table>
<thead>
<tr>
<th>Domain</th>
<th>Normative (S21) sr²</th>
<th>Married sr²</th>
<th>Defacto sr²</th>
<th>Never married sr²</th>
<th>Separated sr²</th>
<th>Divorced sr²</th>
<th>Widowed sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Standard</td>
<td>8.0</td>
<td>7.0</td>
<td>8.2</td>
<td>4.5</td>
<td>4.6</td>
<td>5.7</td>
<td>6.0</td>
</tr>
<tr>
<td>2. Health</td>
<td>0.4</td>
<td>0.6</td>
<td>0.8</td>
<td>1.0</td>
<td>0.0</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>3. Achieving</td>
<td>2.6</td>
<td>4.0</td>
<td>5.1</td>
<td>7.5</td>
<td>4.9</td>
<td>4.8</td>
<td>2.6</td>
</tr>
<tr>
<td>4. Relationships</td>
<td>2.2</td>
<td>3.3</td>
<td>3.2</td>
<td>1.5</td>
<td>3.7</td>
<td>2.2</td>
<td>2.5</td>
</tr>
<tr>
<td>5. Safety</td>
<td>0.2</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.1</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>6. Community</td>
<td>1.1</td>
<td>0.3</td>
<td>0.3</td>
<td>0.3</td>
<td>0.0</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>7. Future Security</td>
<td>0.2</td>
<td>0.3</td>
<td>0.5</td>
<td>0.4</td>
<td>0.9</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Unique</td>
<td>15.0</td>
<td>15.5</td>
<td>18.1</td>
<td>15.2</td>
<td>14.1</td>
<td>14.1</td>
<td>12.6</td>
</tr>
<tr>
<td>Shared</td>
<td>34.2</td>
<td>32.7</td>
<td>30.6</td>
<td>36.0</td>
<td>29.8</td>
<td>38.0</td>
<td>29.4</td>
</tr>
<tr>
<td>R² (adjusted)</td>
<td>49.2</td>
<td>48.2</td>
<td>48.7</td>
<td>51.2</td>
<td>43.9</td>
<td>51.5</td>
<td>42.0</td>
</tr>
<tr>
<td>N</td>
<td>1,981</td>
<td>16,456</td>
<td>2,120</td>
<td>4,712</td>
<td>885</td>
<td>2,135</td>
<td>1,978</td>
</tr>
</tbody>
</table>

The sr² statistic represents the proportion of unique variance contributed by each domain. It is calculated as the square of the ‘Part’ statistic that can be requested from SPSS in association with a multiple regression. When this value is multiplied by 100 it gives the percentage of unique variance contributed by the item. Thus, for the normative sample, satisfaction with standard of living contributes 3.9% of unique variance within the total 55.4% explained variance for this sample.

Survey 20 results are drawn from Table A2.18.

Points to note are as follows:

1. In a most unusual result for Australian data, the Widowed group demonstrate a significant unique contribution for all seven domains. It is notable that both the total unique variance explained and the total explained variance are low.

2. The most deviant group are Separated. Only four domains make a significant contribution.
7.6. **Normative Scores**

7.6.1. **Normative Ranges from Individual Values**

These combined survey data are provided in Tables A7.19 to A7.24.

![Figure 7.25: Marital Status Normative Ranges for Personal Wellbeing Index (individual data)](image)

These ranges are consistent with homeostatic theory. In conditions of no systematic threat to wellbeing (Married, Defacto, Widow) the distribution approximates the positive range from 50 to 100. However, in the presence of systematic threat (Never Married, Separated, Divorced) the top of the range remains intact at about 100, while the bottom of the range falls substantially below 50. This indicates the presence, within each of these distributions, of people who are resilient and who continue to hold their wellbeing within their set-point range, thereby keeping the top of each range normatively close to 100. Also within these distributions, however, are people whose SWB homeostasis has failed and who have low wellbeing as a consequence. These people extend the tail of the distributions down to lie below 50.

7.6.2. **Normative Ranges from Survey Mean Scores**

These data, comprising the mean values from 13 surveys, are found in Tables A7.25 to A7.30. The results for the Personal Wellbeing Index are shown below.

![Figure 7.26: Marital Status Normative Ranges for Personal Wellbeing Index (survey mean scores)](image)

The extent of variation in these ranges indicates the relative stability of each group mean between surveys. This stability is a function of two forces. One is the sample size, with larger sample sizes
giving greater stability. The other is the degree to which each group is affected by general factors such as world or national events.

The two groups that are not different from one another are married (range 2.24 points) and separated (range 8.92 points). The top of these two ranges differ by 5.6 points while the bottom of the ranges differ by 12.2 points. In other words, there appears to be a systematic propensity for the separated group mean score to vary between surveys more than the married. Here, the differences between the top and the bottom of both ranges is a statistical artefact caused by the expansion of the separated range on either side of its mean score. This may indicate a differential group response to public events.
Dot Summary Points for Marital Status

1. People who are married have a significantly (2.2 point) higher wellbeing than people in a defacto relationship. In part this may be due to lower household income for the defacto group.

Widows have an average level of wellbeing that lies at the top of the normal range. This is despite low income for this group.

People who have never married have a level of personal wellbeing that lies between people who remain married and those who have separated or divorced. However, this is age dependent and is only evidenced by people aged between 26-65 years. Younger and older people who have never married have normal levels of wellbeing. See Chapter 5 for a full discussion.

2. Widows have relatively low health satisfaction. This is probably due to the burden of accumulated medical condition, that yield pain, such as arthritis.

Despite this, their overall wellbeing lies at the top of the normal range. This is due to compensating high levels in other domains.

3. The fact of full-time employment is not, of itself, able to bring all marital status groups into the normal range. Thus, the idea that work, of itself, has some intrinsic value to enhance personal wellbeing is not supported.
4. The negative effect of unemployment on wellbeing is partially buffered through marriage. However, the combination of separation/divorce and unemployment is devastating, yielding one of our lowest group mean scores for personal wellbeing (58.8).

![Graph showing the impact of unemployment on wellbeing by marital status]

Marriage buffers the effects of unemployment

5. Part-time volunteers have higher wellbeing than non-volunteers. The group to benefit most are people who are separated. This, may imply that the positive effect of volunteering is most evident in the early stages and dissipates as the activity become routine.

![Graph showing the wellbeing of part-time volunteers and non-volunteers by marital status]

Part-time voluntary work is associated with higher wellbeing.

6. Even though people who are divorced and have a full-time well-paid job, their average level of wellbeing remains below the normal range.

![Graph showing wellbeing by household income and marital status for divorced individuals]

High income divorcees in full-time employment remain below the normal range.
7. For people who have never married, those who have retired require only $15-30K to enter the normal range. This does not occur for Fulltime students until their household income reaches $61-100K, while those in Fulltime employment require $101-150K. These differences are strongly influenced by effects due to age.
8. Work Status

“I am going to ask about your work status. Please tell me which of the following categories best applies to you at the present time. Are you in ---

<table>
<thead>
<tr>
<th>Survey 21</th>
<th>Combined Surveys 9-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Full time paid employment</td>
<td>796</td>
</tr>
<tr>
<td>Full time retired</td>
<td>537</td>
</tr>
<tr>
<td>Semi retired</td>
<td>37</td>
</tr>
<tr>
<td>Full time volunteer</td>
<td>13</td>
</tr>
<tr>
<td>Full time family duties</td>
<td>138</td>
</tr>
<tr>
<td>Full time study</td>
<td>80</td>
</tr>
<tr>
<td>Unemployed</td>
<td>69</td>
</tr>
<tr>
<td>Total Part-time</td>
<td>1670</td>
</tr>
</tbody>
</table>

Please tell me whether either of the following part-time categories applies to you at the present time. Are you ---

<table>
<thead>
<tr>
<th>Survey 21</th>
<th>Combined Surveys 9-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Part time paid work</td>
<td>262</td>
</tr>
<tr>
<td>Part time voluntary work</td>
<td>264</td>
</tr>
<tr>
<td>Part time paid &amp; voluntary work</td>
<td>45</td>
</tr>
<tr>
<td>Part time study</td>
<td>105</td>
</tr>
<tr>
<td>Total Full-time</td>
<td>676</td>
</tr>
</tbody>
</table>

Looking for Work?

<table>
<thead>
<tr>
<th>Survey 21</th>
<th>Combined Surveys 9-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>214</td>
</tr>
<tr>
<td>No</td>
<td>1764</td>
</tr>
<tr>
<td>“2”</td>
<td>11</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>1983</td>
</tr>
</tbody>
</table>

The above data, taken from Tables A8.1, A8.2 and A8.4 indicate a high degree of congruence between the proportion of people in each work status category in Survey 21 and the combined data from Surveys 9-21. The largest discrepancy is a 3.9% higher number of people who are full-time retired in Survey 21 than the running average.

8.1. Full-Time Work Status

Results are taken from Table A8.4 for Survey 21 and Table A8.5 for combined surveys.

8.1.1. Full-time Work Status: Personal Wellbeing Index

![Figure 8.1: Full-time Work Status: Personal Wellbeing Index (combined data)](image-url)
On average, most groups approximate the normal range (Table A8.5). The exceptions are people who are fulltime retired, who have a very high wellbeing, and people who are unemployed who have very low wellbeing, as expected.

The figure below shows these same groups at Survey 20 (Table A8.4) in relation to their group-specific normal range for group data (Table A8.17.1).

![Figure 8.2: Full-time Work Status: Survey 20 vs Sub-group Norms](image)

While most groups in Survey 20 are comfortably within their own normal range, there are two exceptions. The people in Full-time Paid Employment (N = 740) are right at the bottom of their normal range, while Full-time Students (N = 80) are right at the top of theirs.

### 8.1.2. Personal Domains

The personal domains (Table A8.5) generally show the same pattern as Figure 8.1 with the exception of Health.

![Figure 8.3: Work Status: Satisfaction with Health (Combined Data)](image)

These results indicate the lack of congruence between overall feelings of wellbeing and satisfaction with health. People who are full-time retired have a level of personal wellbeing that lies above the normal range (Figure 8.1) even though their health satisfaction lies below the normal range (Figure 8.3). The reverse is true of full-time students, who have the highest levels of health satisfaction but a Personal Wellbeing Index that lies towards the bottom of the normal range. This shows the invalidity of using measures of health, such Health Related Quality of Life indexes, as measures of overall wellbeing.
8.1.3. **Domain profile of Full-time work-status groups**

The domain profile for Full-time Employed (N = 9,552) is as follows (Table A8.5):

![Image of domain profile for Full-time Employed](image)

Figure 8.4: Work Status: Full-time Employed x Personal Domains (Combined Data)

This domain profile is remarkable in so far as all domain values fall within the normal range except Health which lies +0.9 points higher.

The domain profile for Full-time Retired (N = 5,118) is as follows (Table A8.5):

![Image of domain profile for Full-time Retired](image)

Figure 8.5: Work Status: Full-time Retired x Personal Domains (Combined Data)

Most notable in this group is health satisfaction that lies 2.7 points below the normative range. Yet this group has a level of subjective wellbeing that lies slightly (0.1 points) above the normal range. This attests to the invalidity of the domain of health as a measure of perceived life quality within this group. Thus, measures of Health Related Quality of Life will seriously underestimate the perceived life quality of people who have retired from work.

The elevation of SWB, to lie above the normal range, is the result of ‘Domain Compensation’ where, when one domain is under threat (here Health) other domain satisfactions rise in compensation to...
maintain homeostasis. Here the compensatory domains are Standard of Living, Relationships, Community Connection, and Future Security.

The domain profile for Semi-retired (N = 564) is as follows (Table A8.5):

While Health lies -1.8 points below the normal range, this is compensated by Living Standard, Community and Future Security such that the Personal Wellbeing Index lies at the top of the normal range.

The domain profile for the Full-time Volunteers (N=117) is as follows (Table A8.5):

It is notable that despite the spectacular performance of Community (+4.5 points above the normal range) the other domains lie only within the normal range. It is particularly interesting that 'what you are currently achieving in life' is at the lower-margin of the normal range. Thus, the fact of being a full-time volunteer is not, of itself, able to take satisfaction with personal achievement above the
normal range. In fact, the mean value for this domain (72.6) is well below that of people who are full-time employed (74.3: Figure 8.4).

The domain profile for Full-time Home or Family Care (N = 1,729) is as follows (Table A8.5):

![Figure 8.8: Work Status Full-time Home or Family Care (Combined Data)](image)

The domain most in deficit is ‘Achieving in Life’ which is 0.2 points below the normative range. This, however, is compensated by ‘Relationships’ which lies at the top of the normal range.

The domain profile for Full-time Students (N = 986) is as follows (Table A8.5):

![Figure 8.9: Work Status Full-time Students x Personal Domains (Combined Data)](image)

The Personal Wellbeing Index of students lies towards the bottom of the normal range. It is notable that the two domains that involve interaction with other people are below normal (Relationships -2.3 points; Community -2.4 points). These deficits are marginally compensated by higher than normal health satisfaction (+2.7 points). This profile may mean that the Personal Wellbeing Index of full-time students is particularly vulnerable to poor health.

The domain profile for People who are Unemployed (N = 807) is as follows:
The domains are quite uniformly below normal with the exception of Safety. The reason this domain is protected is not known, but it is notable that all of the Work-Status groups have normative safety satisfaction. This normal-range value of safety shows that people are responding reliably to the index and not simply engaging a negative response-set.

8.1.3.1. Unemployed x Household Income

The values for Survey 20 are presented in Table A8.6.

The following figures track the wellbeing of people who are unemployed at various levels of household income. They use combined data from Table A8.7.

The domain profile for people who are unemployed with a household income <$15K (N=197) is as follows.

Despite the fact that the domain scores are much lower than the combined unemployed sample (Figure 8.10), as expected, the domain of Safety remains almost within the normal range.
The domain profile for people who are unemployed with a household income of $15-50K (N=156) is as follows:

While the Personal Wellbeing Index has risen by 3.5 points and the domains have contributed very unevenly as:

- The most spectacular rise is Relationships (+10.3 points) followed by Achieving (+6.1), Health (+4.8) and Living Standard (+3.2).
- The other three domains changed by <2 points.

The domain profile for people who are unemployed with a household income of $31-60K (N=136) is as follows:

The Personal Wellbeing Index has risen by a further 4.5 points and the same four domains have shown the largest rises as Relationships (+8.0 points), Achieving (+4.9), Health (+5.6) and Living Standard (+7.1).

The other three domains changed by about 3 points or less.
The domain profile for people who are unemployed with a household income of $61-100K (N=76) is as follows:

![Diagram showing domain profiles for unemployed individuals with income $61,000-$100,000](image)

**Figure 8.14: Unemployed x $61,000-$100,000**

The Personal Wellbeing Index has risen by a further 3.1 points and the profile of domain rises has changed as:

- The only one of the earlier fast-rising domains to continue a strong improvement is Health (+5.9 points), which puts it into the normal range.

- Safety also shows a strong rise (+7.6 points) to actually lie above the normal range, while Community has risen by +4.2 points and Future Security by +3.3 points.

- All other domains have changed by 3.0 points or less.

- The most notable deficit is in Achieving which remains 10.2 points below its normal range. This attests to the feelings of worthlessness that are such a negative feature of unemployment. This also points to the kinds of interventions likely to assist people who are unemployed to regain their wellbeing.
The domain profile for people who are unemployed with a household income of $101-150K (N=32) is as follows:

![Diagram showing domain profile for unemployed with $101-150K income]

Figure 8.15: Unemployed x $101-150K

The Personal Wellbeing Index now lies within the normal range, as do most of the domains. The domains that remain below the normal range are as follows: Achieving, Relationships and Community.

Summary

1. Household income has a strong influence on the Personal Wellbeing Index of people who are unemployed, as it does on all groups.

2. While the negative influence of unemployment is diminished by high household income, unemployment continues to exert a strong negative influence on key domains. Chief among these are Achieving in Life and Relationships, which remain below the normal range even with a household income of $101-150K. Clearly, these two domains are a particular source of vulnerability for people who are unemployed.

3. For people with low household income, the other domains that show the greatest increase with higher household income are Living Standard and Health. The first of these is intuitive, the second one is not. The strong rise in health satisfaction may be due to increased access to health care, although with Medicare this should not be a major factor. It may also be linked with the easing of psychosomatic symptoms as daily life becomes financially easier.

8.1.4. Life as a Whole

These results are shown in Table A8.4 for Survey 20 and A8.5 for the combined data. They show much the same pattern as Figure 8.1.

8.1.5. National Wellbeing Index

These data are drawn from the combined data in Table A8.5. The comparative normal range is derived from the combined total survey means (Table A2.22).
All groups, with the exception of people who are unemployed, lie within the normative range.

8.1.6. National Domains

The general pattern of the national domains (Table A8.5) is similar to the National Wellbeing Index (Figure 8.16). The domain of Satisfaction with Government is shown below.

The work-status group most satisfied with Government are the people who are full-time retired. Their level of satisfaction (58.8 points) lies 0.9 points below the top of the normal range.

It is interesting that all of these groups lies within the normal range, including people who are unemployed.
8.2. **Looking for Work**

8.2.1. **Personal Wellbeing Index**

Tables A8.7 and A8.8 show the Personal Wellbeing Index and distribution of people looking/not looking for work. Tables A8.9 and A8.10 show these data for people either in full-time work or unemployed.

It is evident that the 9.1% of people who are employed full time and looking for work have a level of personal wellbeing that is 2.4 points below the normative range and 4.7 points below those not looking at work.

It is also notable that whether people who are unemployed are actually looking for work or not makes no reliable difference to their subjective wellbeing.

Figure 8.20 shows the domain performance of fulltime employed who are looking for work. The people employed full-time who are not looking for work have normal-range domains. For people who are looking for work, only the domain of Safety remains within the normal range.

By far the largest disparity is for the domain ‘Achieving in life’ which differs by 8.7 points between those looking, and not looking, for work. No doubt this is one of the main reasons these people are...
seeking to change their employment. It also signals that the low value for this domain may be central in driving the other domains, and therefore the PWI, down below normal. Many employed people gain a great sense of ‘purpose in life’ from their employment, and having a sense of purpose is central to wellbeing.

This domain profile may be diagnostic of employees who are likely to take an alternative job if the opportunity arises.

The figure below compares people who are unemployed and either are looking (50.5%) or not looking (49.5%) for work (Table A8.9 and A8.10).

The most curious feature of this comparison is that, while the two groups do not differ in their Personal Wellbeing Index, they do significantly differ in future security and achieving, where people not looking for work do better. These are likely the very domains where low satisfaction provides the motivation to seek work.
8.3. Full-time Work Status With and Without Part-time Voluntary Work

These data come from Tables A8.6 and A8.12.

It can be seen that the only groups to show a reliable increase in their Personal Wellbeing Index associated with volunteering are fulltime employed (+2.1 points) full-time retired (+2.0) and unemployed (+1.7 points). The association with volunteer work has no reliable effect for people in semi-time retirement or fulltime students. It may be that the semi-retired people would prefer not to be retired and find volunteer work, which they have adopted as a less rewarding substitute activity. Full-time students, on the other hand, may be so engaged in their studies and social life that volunteer work makes no additional contribution to their wellbeing.

8.4. Employment Status x Gender

These results come from Table A8.12.

There are three situations in which the SWB of females significantly exceeds males. These are in full-time retirement (+1.1 points), full-time home (+3.1 points) and unemployment (+3.8 points). The most important of these is unemployment since, while both genders lie well below the normal range, males are very severely affected.
8.5. **Normative Data**

8.5.1. **Normative Data Based on Individual Scores**

These values have been taken from Table A8.16 and represent the accumulated data from Surveys 9-20. The number of people per cell range from 9,552 (Full-time, Paid employed) to 117 (Full-time volunteer). These ranges are very similar to those of the general population (Table A2.19) with two exceptions. The first are the Full-time volunteers whose distribution extends down to <50. This is somewhat surprising since their mean score is normal (75.9 points) but indicates that this group does contain some people who are at high risk of depression.

The other abnormal distribution, as expected, comprises people who are unemployed.

![Figure 8.24: Normative Employment Status Data for Individuals](image)

It is notable that all of the normative ranges approximately span the 50-100 range except Volunteers, Home, and Unemployed. The mean for the volunteers is quite normal and the increased range may be attributable to the small N. The fact that Full-time Home extends 1.9 points below 50 is not attributable to a small sample size (N = 1,729) and indicates that this group does contain a higher than normal proportion of people at risk of depression. The Unemployed mean is far below normal and the normal range extends well into the levels <50 with heightened probability of depression.
8.5.2. **Normative Data Based on Survey Mean Scores**

These results are taken from Table A8.17.

These ranges (Table A8.17) are generally larger than the normative ranges using all surveys since some of these means are based on small numbers of respondents. This most particularly applies to Full-time volunteers who average only about 10 people per survey.

8.6. **Regressions**

Tables A8.18 to A8.24 present multiple regression analyses for each of the work-status groups. These analyses reveal considerable differences between the groups. The total explained variance, unique variance and shared variance is shown in Figure 8.26.

There is considerable variation between these groups in the extent to which the Personal Wellbeing Index domains explain variance in Life as a Whole. The $R^2$ range is 13.1 percent, from 42.8% (Retired, Volunteer) to 55.9 percent (Semi-retired).
The variation is mainly due to differences in shared variance with a range of 14.1 percent, from 27.2 (Volunteer) to 41.3 (Unemployed). The variation in the unique variance is only 4.7 percent, from 13.0 (Unemployed) to 17.7 (Study).

What this means is that the domains are very constant, across these groups, in the extent to which they are collectively able to capture unique variance in Life as a Whole. This is probably the predominantly cognitive component.

The shared variance is the effective component provided predominantly by Core Affect. However, in difficult living circumstances, affective variance is also supplied by the negative emotions attached to the homeostatic fail of some group members.

If this explanation is correct, there should be a simple relationship between the extent of shared variance and the downward extension of the group specific normal range for individual scores. This is shown in Table 8.1.

Table 8.1: The relationship between shared variance and the negativity of the downward extension group-specific normal range

<table>
<thead>
<tr>
<th>Group</th>
<th>Rank order</th>
<th>Bottom of the range</th>
<th>Shared variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unemployed</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Home</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Semi-retired</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Retired</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Study</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Paid</td>
<td>6</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

The Fulltime Volunteers have not been included because the sample size is so small. There is not a good fit with the prediction.
Dot Point Summary for Work Status

1. The personal wellbeing of most work-status groups falls in the normal range. People full-time retired lie above the normal range while people who are unemployed fall below.

2. Even though full-time retired have lower than normal health satisfaction, their personal wellbeing is above normal (see above). This emphasises that measures of subjective health are invalid as measures of overall wellbeing.

3. Even though full-time volunteers have low health satisfaction, they have higher than normal satisfaction with Community.

4. Full-time students have below-normal satisfaction in both domains that indicate connection to other people (relationships and community). This likely makes students more vulnerable to the effects of misfortune. On such occasions, inter-personal relationships constitute a major buffer.
5. People who are unemployed have lower than normal wellbeing for all domains except safety.

6. Of those people full-time employed, the 10.0% who are looking for work have lower than normal wellbeing. This is most particularly evident in the domain of Achieving. This domain pattern may be diagnostic of employees who are functioning poorly in their current employment.

7. Whether people who are unemployed are looking for work or not makes no significant difference to their low personal wellbeing. On a domain basis, people not looking for work have higher satisfaction with Achieving and Future Security.
8. Engaging in part-time volunteer work has a marginal relationship with higher wellbeing for people who are unemployed. It does not bring their wellbeing into the normal range.

9. Relative to gender-specific norms, fulltime employment favors the wellbeing of males slightly more than females.

10. Males who are engaged in fulltime home or family care are positioned below their normative range. Their wellbeing is -3.5 points below males who are fulltime employed. The wellbeing of full-time home care females is -0.6 points below employed females. Thus, compared to Fulltime employment, males in full-time home care have a relatively greater wellbeing loss than females.
9. Life Events

9.1. Occurrence of Personal Life Events

9.1.1. Frequency of Life Events

Prior to any mention of terrorist attacks or war, people are asked “Has anything happened to you recently causing you to feel happier or sadder than normal?” If they answer ‘Yes’, they are then asked whether this was a happy or a sad event, and to ‘rate its influence on a 0 to 10 scale, from very weak to very strong’.

If people were to be severely interrogated along these lines virtually everybody would recall an event of some kind that made them happier or sadder than normal. The time frame is loose (‘recently’) and the point of reference (‘normal’) is open to interpretation. But respondents are not interrogated, and if they answer that they have experienced no such event, the interviewer proceeds to the next item.

Because of this, the item is either measuring people’s sensitivity to the positive and negative events in their lives, or the extent to which people are willing to identify such events. In either case it is measuring the direction of people’s attention to the positive or negative side of their life.

On average across the surveys, about half of the people sampled state they have experienced such an event (Table A9.2). The proportion of people reporting a personal life event has previously peaked twice (Figure 9.1). The proportion at S6 (pre-Iraq war) (54.6%) is almost the same as that immediately following September 11 (55.0%). However, the proportion of 61.7% for Survey 18 (Pre-election of Labor government) eclipses by far all previous and subsequent estimates.

There seems to be two possible reasons for the population to score high on this measure. One is the presence of an event that is personally meaningful but external to their immediate personal experience. The above-named events of September 11, the pre-Iraq war and a change of Government, may be considered as examples of this. Such events may act to increase the arousal-level of the population, thereby making them more sensitive to the events in their lives.

The other reason for the population to score high on this measure is that a higher-than-normal proportion of people have, in fact, experienced an event of unusual magnitude in their lives.

One possible way to test between these two possibilities would be to see whether the people reporting an event have a change in their Personal Wellbeing Index. Presumably, if the change in reporting is due to elevated arousal then the Personal Wellbeing Index should remain stable. If, however, it is due to a personal event of unusual strength, then the Personal Wellbeing Index would be vulnerable to change. This will be tested later.
Prior to Survey 18 there had been a 12.6% range between the surveys in the percentage of people reporting a personal life event. One percentage had stood-out as being significantly below the normative mean (then 43.0 points), and this was Survey 4. However, no obvious national event occurred at that time and, given the increased variance between surveys caused by Survey 18, it is only marginally significantly different from the overall mean. Moreover, none of the high values are significant either. So, at this time, only Survey 18 exceeds the x2SD normative range and Survey 21 is well within the normal range.

The cause of this rise in the proportion of people experiencing a significant life event at Survey 18 is, as always, uncertain, but it is probably linked to the intense political speculation concerning the Federal Election in the following month, which resulted in a change of government.

9.1.2. Happy vs. Sad Events

Due to the rapidity of adaptation to positive events or happenings, it is unlikely that the population as a whole would experience an unusual level of positive events. Granted this could happen, through such occasions as the end of a war, nothing like this happened prior to October 2007 (S18). The only obvious event at this time was the forthcoming election. However, two previous elections had no influence on life events and, anyway, the electorate would be about evenly divided as to the probability of the electoral outcome. It is also notable that even events such as the Athens Olympics failed to substantially change the proportion of people experiencing a major life event.

This is not true of negative events. A strongly-felt negative event will have a more persistent influence on the individual than a positive event. Therefore, it might be expected that the most likely scenario is for the increased proportion of people reporting a life event to be dominated by people reporting a negative event. The results are shown below.
The breakdown into happy and sad events (Table A9.3) is presented below:

![Graph showing percentage reporting happy or sad events]

**Figure 9.2: The Percentage of People Reporting a Happy or a Sad Event in Their Life**

The construction of Figure 9.2 follows the same procedure as Figure 9.1. The mean happy event percentages from each survey, and the mean sad event percentages from each survey (Table A9.3), produce a mean, SD and 2 x SD range (Table A9.4).

As can be seen, the patterns for happy and sad events are very different from one-another. Moreover, they are clearly not reciprocal. While an approximately equal proportion of people reported happy or sad events at most times, the increase in the incidence of people reporting happy events at S6, and sad events at S2, did not result in an unusually low proportion of people reporting sad or happy events respectively. The correlation between the happy and sad percentages across surveys in Table A9.3 is -.06 (Table A9.4), which is non-significant.

**9.1.2.1. Happy Events**

The most unusual occasion of people reporting a happy event coincided with the period immediately prior to the commencement of the Iraq war (S6: 28.4%). While this is marginally significant since it exceeds the upper margin of the normal range of values. It is notable that the significant rise in population wellbeing at Survey 12 (Athens Olympics) did not cause a concomitant change in the reported incidence of happy personal events.

One explanation of the pre-Iraq rise in happy events is that the looming war induced a state of activated positive affect as a defense against anxiety. The war differs from the terrorist attacks in that it had not yet taken place, and so was an anticipated event. Thus, to think of reasons why the war is unlikely to take place, or that it is morally justifiable, is one way people could stave-off the personal impact of dark thoughts of war. In doing this, they may shift their threshold for the recognition of
positive events in their lives and, as a consequence, more people report the occurrence of recent happy events.

Another possibility is that the prospect of war and the threat and danger it involves sharpens people’s appreciation of life. But this does not explain why a comparable rise failed to occur following the terrorist attacks.

9.1.2.2. Sad Events

In terms of negative events, as predicted from theory, abnormally high levels have been recorded on two occasions. One of these occurred immediately following September 11 (S2: 35.4%) and the other at Survey 18 (37.0%).

There are at least two potential causes for the jump in the experience of sad events at Survey 18. One was the new IR (Industrial Relations) legislation, which had been in operation for about a year at the time of the survey. This legislation caused many employees to negotiate an individual contract with their employer, rather than through collective union bargaining, as had previously been the case. The result was that many workers suffered reduced conditions of employment and remuneration.

Against this explanation is the fact that some six months later, at Survey 19, the percentage of people reporting a negative event had returned to normal and the work-place conditions had not changed. However, a few months after Survey 18 the new government did repeal the IR laws and union-power was on the way to being restored. So perhaps the anticipation of restorative change was responsible for the return to normality in this measure.

Perhaps a significant proportion of people had been adversely affected and they recorded this as their negative event. The other possibility is general dissatisfaction with the incumbent government, which resulted in a land-slide victory for the opposition one month later. Notably, however, this dissatisfaction did not translate into a fall for either the Personal Wellbeing Index or National Wellbeing Index, and neither did it cause dissatisfaction with ‘Government in Australia’.

Summary interpretation

The proportion of people reporting a recent happy event in their lives has been remarkably stable over the 18 surveys. The maximum degree of variation has been 9.2% (from 19.2% at S4 to 28.4% at S6). This is probably just random variation-since none of the values exceed the boundaries of the normal range.

The proportion of people reporting a recent sad event has been much less stable. The maximum degree of variation is 13.7% (from 23.3% at S4 to 37.0% at S18). While variations below the overall mean (27.6%) are likely to be random, two of the values above the mean are significant. While one of these (S2) may be attributed to September 11, the cause of the rise at Survey 18 is unclear but could have been due to the impact of the IR legislation or the impending change of Government in the following November election.
9.1.3. Gender and Life Event Frequency

Females show a stronger tendency than men to report that something has happened to them recently causing them to feel either happier or sadder than normal (see total % events: Table A9.5: Figure 9.3). Using the gender percentages from each survey as data, the overall gender difference is significant (Total: $t(20) = 2.405, p = .018$. (Table A9.6).

- At Survey 18, values were maximal for both genders. The female value of 65.6% was 6.9 higher than any previous female score, while the male value of 57.8% was 3.3% higher than any previous male score. The percentages have subsequently fallen dramatically.

- The generally greater volatility of female scores is shown by the standard deviations of the gender-specific total scores across surveys (Table A9.6: Males = 2.9, Females = 4.2).

- The two surveys showing the maximum degrees of gender separation are Survey 16 (11.6%) and Survey 9 (10.7%). There is no obvious reason for this. While the Survey 9 data were collected following the initiation of the Iraq war, the Survey 16 data were collected during an uneventful period for Australia.

- On only one occasion (S6: Pre-Iraq war) has the incidence of events within males (54.6%) slightly exceeded that within females (54.3%). This was caused by a far more substantial rise in the proportion of males experiencing a personal event (7.4% above average for males) than for females (1.7% above average for females).

- Both genders experienced their lowest incidence of life events at Survey 4 (12 months following September 11). The timing of their highest incidence of life events occurred at Survey 18.

- It is notable that the percentages of happy and sad events across surveys do not correlate for either males (.02) or females (.03) (Table A9.6).

In Summary, there is a tendency for about the same proportion of males and females to report an event, and about the same proportion to report a happy event (Table A9.6). Females, however, are more likely to report a sad event in their lives ($t(20) = 2.916; p=.006$).
Figure 9.4 shows the cumulative data (Table A9.6) of the percentage of people reporting happy or sad events x gender.

![Figure 9.4: Gender Differences: Proportion Reporting Happy or Sad Events (combined data)](image)

In order to further investigate these gender differences across surveys, Figure 9.5 has been prepared from data in Table A9.5.

![Figure 9.5: Event x Gender x Survey (% of a total of gender in each survey)](image)

In Survey 21, while the % of both happy and sad events has remained quite stable since the previous survey.

It is apparent that there is considerable normal variation in the percentages shown in Figure 9.5. This may reflect the relative small numbers in some cells (minimum N=158). However, from the figure it can be seen that these within-group normative ranges (Table A9.6) have been significantly breached on five occasions and all these have occurred at the top of their respective ranges. They are as follows:

1. Immediately following September 11 (S2) and prior to the October 07 election (S18), a higher than normal proportion of both males and females reported the recent experience of a recent negative personal event.
2. During the period immediately prior to the Iraq war (S6) a higher than normal proportion of males, but not of females, reported the experience of a recent positive personal event.

**Summary**

This can be diagrammatically represented as follows:

![Diagram of changes in the incidence of personal events & gender](image)

Figure 9.6: Diagrammatic Representation of Changes in the Incidence of Personal Events & Gender

The following points can be noted:

(a) Five percentages, or $5/76 = 6.6\%$ lie outside the gender-affect-specific normal range represented by two standard deviations. This is quite close to the $5\%$ that would be expected to occur by chance.

(b) Against these being chance events is the following:

(i) On 4 of these 5 occasions, males and females have responded in the same way.

(ii) The breaches are not evenly split between the two types of affective experience. Four of the five have involved negative events.

(iii) None of the breaches have occurred below the normal range.

It is concluded that these breaches most likely represent a systematic influence on the population at the time of the surveys. The nature of this influence is as yet uncertain.

The other feature of Table 9.5 that is interesting is the range covered by the four mean scores as a group (gender x valence) at each survey. These ranges are shown below.
It might be presumed that the disparity between these four mean scores within each survey (reporting a happy or sad event) would be lowest in times of perceived stability by the population. That is, in times of great stability people are as likely to report happy as sad events and males are as likely to report events as females. These data are consistent with this view. A very low range was recorded prior to September 11 (Survey 1), the maximum range was reported immediately following September 11 (Survey 2). However, the next highest value is Survey 8, with no major event attached.

### 9.1.4. Life Event Frequency x Age

Table A9.7 reports the effects of age on life events both for Survey 20 and the combined samples. As can be seen, the probability of reporting a personal event that made the person feel happier or sadder than normal decreases steadily after 55 years of age. However, the relative experience of happy and sad events changes dramatically between 26-35 years and 36-45 years. Whereas the proportion of people reporting a happy event dominates in the two youngest-groups, beyond 36 years the majority of people who report an event in their lives report a negative event.

These data patterns are highly consistent between surveys (Table A9.7). It is difficult to reconcile these data with the finding that the PWI scores increase with age (Chapter 5), but there are two previous findings that may make this possible. First is the progressive dissociation between pain (representing negative experience) and SWB. Second is the ability of homeostasis to negate negative events. Thus, SWB may be more strongly related to the strength of positive events than the frequency of either happy or sad events.

It is also notable that the reported intensity of happy events shows a major change between 26-35y and 36-45y. The explanation for these patterns is not clear.
9.1.5. Income and Life Event Frequency

The data for Figure 9.9 are drawn from Table A9.8. It can be seen that the income trends for the two life events are opposite. As income increases, the frequency of people reporting sad events decreases, and the frequency for happy events increases up to an income of about $101-150K.

This is consistent with a published review of the function of money in relation to wellbeing (Cummins, 2000). It is proposed that money is a flexible resource which allows people to avoid many aspects of life which have a negative effect on wellbeing. This permits rich people to maximise their potential for personal wellbeing to a greater extent than people who are poor. It also implies that rich people are less exposed to negative life events and more exposed to positive events, as indicated by these present data.

The incidence of sad events shows no systematic change with increased income beyond $101-150K. This consistent with the view of money as a protective resource, as stated above, and that this represents a threshold. People at this level of income can use their money to reduce the impact of normal negative events, such as their car needing to be repaired. Because their financial resources are sufficient to pay for such repairs without experiencing personal hardship, they are less likely to recall this as a major negative event.

However, there are some negative events that cannot easily be ameliorated through the use of money, such as the death of a close relative or difficult interpersonal circumstances. So it is that the incidence of these unavoidable negative events continues at about the same level at incomes above $101-150K, with about 22% of the sample reporting such an event.

The frequency of happy events also shows a steady increase as household income increases up to $101-150K. This makes sense in that wealthy people can reward themselves with nice experiences which they purchase, such as a holiday or a new car.

Because the essential causes of relative frequency of happy and sad events is so different, it would be expected that there should be no dependent relationship between the frequency of each type of event. This is confirmed by Table A9.4 which reports a correlation of -.06 (non significant).

9.2. Perceived Intensity of Life Events

People who have experienced a life event are asked, “how strong would you rate this influence?” Table A9.9 shows the distribution of happiness/sadness intensity from 0-10 for Survey 21. The differences in the distributions of sad and happy events are informative. Far more people are likely to report that they have experienced a life event that made them slightly more sad then normal, than they are to report a low-level positive event. From this table, 11.2% of people report a 0-4 strength sad
event, compared with 1.9% of people reporting a 0-4 strength happy event. This is consistent with a large literature showing that people attend to and remember negative events more strongly than positive events.

Table A9.10 shows the intensity of happy and sad events across surveys.

![Figure 9.10: Intensity of Recent Personal Events](image)

Most obviously from these data, the perceived strength of a happy event exceeds that of a sad event. For example, using the data from Survey 6, $t(1072)= 10.19$, $p<.001$. This is an example of the positive bias that pervades our thinking, and which is part of the homeostatic device that maintains subjective wellbeing as positive (Section 1.2).

More remarkable, however, is the stability of the experienced strength of happy, positive life events. Across the surveys it has varied between 79.3 and 85.4, a range of just 6.1%. It is also evident that following September 11, it was trending upwards. This trend peaked at Survey 8 (3 months following the Iraq war) and Survey 10 (nine months following the Iraq war). Since Survey 11 it has remained no different from the intensity at Survey 1.

The intensity of sad events also showed an upward trend up to Survey 9. This intensity has remained consistently higher than the level at Survey 1 since Survey 7. The current intensity is 6.8 points higher than it was in Survey 1. The reason for this trend is not clear.

The correlation between the perceived intensity of happy events with the Personal Wellbeing Index is significant and positive for individual scores within surveys (Table A9.10). The correlation for the intensity of sad events with the Personal Wellbeing Index is generally not significant. When the survey mean scores for event intensity are correlated with the survey mean scores for the Personal Wellbeing Index, males show a strong negative correlation for the intensity of sad events (Table A9.11; $r = -.76$, $p = .001$) but less correlation with the intensity of recalled happy events. For females (Table A9.12) neither of the correlations are significant.

9.2.1. Household Income and Life Event Intensity

Table A9.13 reports the influence of income on life event intensity.

There is a significant decrease in the experienced intensity of happy events at the highest level of income. This is consistent with expectation from Adaptation Level Theory. So, rich people are buying more positive events but experience less relative happiness from each experience.

There is no effect of income on the intensity of sad events.

Table A9.14 reports the correlations between life event intensity and the Personal Wellbeing Index (domains) for Survey 21, while Table A9.15 reports these correlations for the whole sample.
No systematic income group differences in intensity have been found. This is interesting because income has such a marked effect on the proportion of people reporting positive and negative events (Figure 9.9). This may imply that the experienced intensity of events is under high levels of genetic control.

It can be seen from the combined data that consistently, through each income group (<$15K to $101-150K), the strength of happy, but not sad events, correlates positively with the Personal Wellbeing Index with coefficients ranging from .17 to .23 ($p < .01$). This is interesting as follows:

(a) The reported strength of positive events is some 10-15 points higher for happy than for sad events (Table A9.13; Figure 9.10).

(b) The reported strength is based on the estimated current impact on a past event. It is, thus, as likely to be a reflection of current mood state as it is a reflection of the event to influence that mood state. Indeed, if the perception of the event’s impact is coloured by the rosy glow of homeostasis, then positive events may be experienced as more positive than they actually were when the event first happened. In this case, current (positive) mood is driving the perception of the event’s impact. Moreover, due to different set-points, the strength of the rosy glow will be an individual difference which will account for the positive correlation.

(c) The reason that the strength of sad events fails to correlate with the Personal Wellbeing Index is due to the role of homeostasis in altering such perceptions from initially negative to neutral or even positive. Thus, over time, the strength of negative events, within the bounds of normal experience, has no impact on Personal Wellbeing because such perceptions have been negated.

(d) There is no systematic change in the strength of association (Table A9.15) between positive events and Personal Wellbeing Index with increasing income as shown below:

![Figure 9.11: Relationship Between Strength of Positive Event and Personal Wellbeing Index Between Income Groups (combined data)](image)

This is consistent with no systematic change in happy event intensity being present between the income groups (Table A9.13).

(e) The relative frequency of particular domains being significantly associated with the strength of happy events is shown below (Table A9.15):
Table 9.1: The number of significant domain associations between the strength of happy events and the Personal Wellbeing Index across the seven income groups

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number of significant associations (maximum = 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>5</td>
</tr>
<tr>
<td>Health</td>
<td>4</td>
</tr>
<tr>
<td>Achieving</td>
<td>5</td>
</tr>
<tr>
<td>Relationships</td>
<td>5</td>
</tr>
<tr>
<td>Safety</td>
<td>4</td>
</tr>
<tr>
<td>Community</td>
<td>5</td>
</tr>
<tr>
<td>Future Security</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

It is interesting that safety shows such a weak association. This is also the domain that fails (in Australia) to contribute unique variance to ‘Life as a Whole’ when the domains are collectively regressed against this variable. This is further evidence that ‘Satisfaction with Safety’ has a generally weak association with subjective wellbeing in the Australian population.

9.2.2. Gender and Life Event Intensity

The gender difference for the intensity of both happy and sad events is significant (Female > Male) (Table A9.16) with no interaction. This is a consistent finding across surveys.

![Figure 9.12: Intensity of Happiness/Sadness to a Personal Life Event (combined data)](image)

This familiar pattern of increased emotional responsiveness in females occurs for both happy and sad events (Table A9.16). It is also notable that the strength of felt sadness for both genders approximately the same value of 70% as is found for people’s levels of sadness when recalling terrorist attacks (see Reports 2-8).

It is also interesting that these two mean values of life event intensity (happy = around 80, sad = around 70) approximate the calculated normative range of 70-80 points for personal wellbeing (see Chapter 1). It seems possible that these are related and that people perceive happiness and sadness as being represented by the margins of the normative range.

9.2.3. Age and Life Event Intensity

In order to examine closely the relationship between age and the experience of life event intensity, Table A9.17 shows the results for individual surveys and combined data. This analysis shows a significant influence of age for the intensity of happy but not sad events, and no interaction between age and surveys. The result for happy events (Table A9.16) is shown below.
This is a curious pattern, with maximum intensity experienced at 26-35 and 76+ years. The reason for this pattern is not clear.

### 9.3. Days of the Week

Table A9.18 shows these results for Survey 20 and Table A9.19 for the combined data.

It is evident, that across the whole sample, there is no systematic change in wellbeing between the days of the week.

Table A9.20 splits these data according to work status. Again, there is no systematic change in wellbeing for any of the work-status groups.


Dot Point Summary for Life Events

1. About half of the sample consider that a recent life event, that has happened to them, has made them feel happier or sadder than normal.

2. Both males and females were more likely to report a personal sad event in the period immediately following September 11 and just prior to the electoral defeat of 2007. More males than normal, but not females, reported a personal happy event immediately prior to the Iraq war.

3. Females are more likely to recall the experience of a sad than a happy event in their lives.

4. Young adults are more likely to report the experience of happy than sad events in their lives. This changes at 36-45 years. At this age and older, people are more likely to report the occurrence of a sad event.

The recall of happy or sad events is age-sensitive.
5. The recalled frequency of sad events is income sensitive up to an income of $61-100K. The recalled frequency of happy events continues to rise with income at least up to $151-250K.

6. Females experience the intensity of both happy and sad events more strongly than males. This represents a pattern of enhanced emotional responsiveness for females.

7. An investigation into changes in Personal Wellbeing Index across the days of the week detected no systematic effects. This is true irrespective of work-status.
10. Swine Flu

We asked: ‘How worried are you about Swine Flu?’

10.1. Overview

At the time of this survey the average person was not much concerned about Swine Flu. On a scale of worry from 0-100 the mean score is 34.0, showing a very mild level of concern.

Data were collected over the period 6-20th May. At the start of this period no confirmed case had been found. However, the inevitability of the disease reaching Australia was widely acknowledged and the anti-viral drug Tamiflu was in high demand.

9th May: Australia’s first confirmed case was detected at the airport in NSW. However, the woman had become infected in the USA and was considered no longer contagious.

11th May: WHO confirms 3,500 cases world-wide and 50 deaths.

15th May: WHO report 7,500 cases in 33 countries with 61 deaths.

17th May: Scientific reports indicate a fatality rate from Swine Flu similar, or lower, than the normal HIZI virus.

19th May: Japan is on the brink of declaring an official flu pandemic with 129 known cases. It is becoming widely acknowledged that the number of reported cases is just the ‘tip of the iceberg’.

20th May: End of data collection.

21st May: Two school-children in Melbourne confirmed as Australia’s first infectious cases.

10.2. Worry About Swine Flu x Personal Wellbeing Domains

![Swine Flu Worry x Personal Wellbeing Domains](image)

Figure 10.1: Swine Flu Worry x Personal Wellbeing Domains
As can be seen, the ‘worry’ that people express is not personalized to the point where even high levels are associated with low wellbeing. Only the 2.6% of respondents who rated their worry as 10/10 have wellbeing below the normal range. These are probably highly anxious people whose low wellbeing is caused by their other life concerns.

### 10.3. Gender

While an equivalent percentage of males and females (Table A10.3) responded to the Swine Flu question, females expressed significantly stronger levels of worry than males as shown below.

![Figure 10.2: Level of Worry x Gender](image)

Despite this difference, which reflects a normal gender trend for females to be more concerned about most life matters than males, there is no gender difference in wellbeing and no gender x level of worry interaction (Table A10.4; A5.4.1).

### 10.4. Age

Table A10.5 shows no age differences in the level of worry and Table A10.6 shows no age x level of worry interaction in terms of wellbeing.

Tables A10.6 and A10.7 show no interaction between age and level of worry in terms of Personal Wellbeing Index.
### 10.5. Household Composition

Both Tables A10.8 and A10.9 show a significant interaction between Household Composition and level of worry for the Personal Wellbeing Index. This is mainly shown by the comparison between couples with and without children.

![Graph showing level of worry by household composition](image)

Under conditions of zero worry, people living only with their partner experience significantly higher wellbeing than people living with their partner and children. However, with a level of worry from 1-6, the wellbeing of the partner-only group falls to be no different from the partners plus children. Then, at worry levels of 7-10, the couples with children experience low-wellbeing. This may be due to their concern regarding the provision of child care if they themselves become ill or at the possible consequences for their children if they become ill.

### 10.6. Full-Time Work Status

Both Tables A10.10 and A10.11 show a significant interaction. This can most clearly be seen in the contrast between full-time employed and full-time home/family care.

![Graph showing level of worry by full-time work status](image)

It is evident that even the high levels of worry about swine-flu does not affect the wellbeing of full-time paid employees. This may be because most of them would be entitled to sick-leave in the event
of them catching the virus. Full-time carers, on the other hand, have no such safety-net, and high levels of worry are associated with low levels of wellbeing.

10.7. **Income**

Four tables (A10.12 to A10.13.1) show these results with various forms of cell combinations within the tables to achieve reliable cell sizes. The final table shows no interaction.

**10.8. Relationship Status**

Tables A10.14 and A10.15 show no interaction with level of worry and Personal Wellbeing Index.
Dot Point Summary for Swine Flu

1. During the period of the survey, swine flu did not reach Australia. Perhaps because of this, only the people reporting the highest level of worry (2.6% of the whole sample) have lower than normal wellbeing.

2. Females report higher levels of worry than males. This is consistent with gender trends showing females to be more concerned with many other aspects of life than males.

3. People living with their partner and children show a fall in wellbeing at high levels of worry. This may be due to the perceived consequences of catching the disease for either their children or for themselves in their caring role.

4. People engaged in full-time home/family care show a fall in wellbeing at high levels of worry. This may be due to the perceived consequences of catching the disease in their carer role.
11. Chocolate

We asked: ‘Do you ever eat chocolate?’ Of the 1,983 respondents (Table A11.1), 91.2% replied ‘Yes’.

An examination of the wellbeing of those who answered either ‘Yes’ or ‘No’ revealed no difference between them (Table A11.4).

11.1. Actual Frequency of Eating Chocolate

We asked: ‘How often do you eat chocolate?’ The proportions are shown below as a percentage of the whole sample.

<table>
<thead>
<tr>
<th>Percentage of whole sample</th>
<th>Never</th>
<th>Just occasionally</th>
<th>Once a month</th>
<th>Once a week</th>
<th>Few times each week</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWI</td>
<td>74.6</td>
<td>75.2</td>
<td>76.2</td>
<td>76.4</td>
<td>75.1</td>
<td>75.9</td>
</tr>
<tr>
<td>Normal range</td>
<td>73.6</td>
<td>75.1</td>
<td>75.9</td>
<td>76.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There are no significant differences in the wellbeing of these frequency groups (Table A11.4; A11.5).

11.1.1. Actual Frequency x Gender

Table A11.8 shows no gender effect on the frequency of eating chocolate and wellbeing.

11.1.2. Actual Frequency x Age

Table A11.10 shows the usual age effect, of lower wellbeing in the middle age ranges, but no interaction with frequency of chocolate consumption.

11.1.3. Actual Frequency x Income

Table A11.12 shows a significant interaction between the frequency of chocolate consumption and income. However, when the high-income cells are collapsed to create cells with N>20, the interaction becomes non-significant (Table A11.12.1).

11.1.4. Actual Frequency x Household Composition

Table A11.14 shows a non-significant interaction for personal wellbeing.

11.1.5. Actual Frequency x Full-time Work Status

Table A11.16 shows a non-significant interaction for personal wellbeing.
11.2. Preferred Frequency of Eating Chocolate

We asked: ‘Would you like to change how often you eat chocolate? Would you like to eat it -----.’

![Graph showing preferred frequency of eating chocolate](image)

The results in Table A11.7 show that people who eat chocolate less frequently than everyday have normal-range wellbeing. However, the people who eat chocolate every day (Figure 11.2) are divided into two clear groups. The people who are not content with the fact that they eat chocolate every day constitute almost half (43.7%) of the daily eaters, and these people have below-normal wellbeing. It does not matter whether they would like to eat more (10.1%) or less (33.6%) chocolate, their wellbeing is low.

On the other hand, people who are quite content with the fact that they eat chocolate every day have higher than normal wellbeing, and these people constitute 56.3% of the daily eaters.

**Conclusion:**

Eating chocolate daily and feeling contented with this behaviour is good for wellbeing.

Eating chocolate daily and wishing to change this behaviour is bad for wellbeing.

11.2.1. Preferred Frequency x Gender

Table A11.9 shows no gender effect on the preferred frequency of eating chocolate and wellbeing.

11.2.2. Preferred Frequency x Age

Table A11.11 shows no age effect on the preferred frequency of eating chocolate and wellbeing.

11.2.3. Preferred Frequency x Income

Table A11.13 shows an interaction that is almost significant. However, when the high-income cells are collapsed to create cells with N>20, the interaction becomes non-significant (Table A11.13.1).

11.2.4. Preferred Frequency x Household Composition

Table A11.15 shows a non-significant interaction for personal wellbeing.
11.2.5. Preferred Frequency x Full-time Work Status

Table A11.17 shows a significant interaction between preferred frequency and full-time work-status. However, when only the cells with reliable cell Ns are retained (Table A11.17.1) the interaction becomes non-significant.

11.3. The Wellbeing of People who eat Chocolate Everyday

A total of 279 people, or 14.1% of the people, eat chocolate ‘almost every day’ (Table A11.2). It is these people who are at risk of low wellbeing when they regard their behaviour as not being under their control. That is, they wish they could eat chocolate either more or less often than they do (Table A11.7). This section examines this group more closely.

11.3.1. Personal Wellbeing Index Domains

Table A11.18 shows the preferred frequency of chocolate eating for the ‘everyday’ group matched against the Personal Wellbeing Domains. This shows:

1. Not all of the domains are affected. This is interesting since it shows that the link with loss of control is not simply a blanketing influence to lower wellbeing, as would be the case if the causal agent was depression. In fact, the loss of control is quite selectively linked to particular domains.

2. The two domains that are unaffected are Health and Safety. It is particularly interesting to find ‘Satisfaction with Health’ unrelated to the perceived loss of control over eating. It might be reasonably expected that such loss of control would be linked with issues of health satisfaction, perhaps through concerns about body weight. But apparently this is not so.

3. The most strongly affect domains are those concerning interacting with other people. Both Relationships and Community satisfaction are much reduced in people with low control. Presumably this reflects dissatisfaction with the source of control that prevents them eating chocolate as often as they like.

The influence of the control on the domains is shown below.

![Figure 11.3: Domain satisfaction for people who eat chocolate every day and wish they could eat it more often](image-url)
**11.3.2. Demographic Characteristics of the Preferred Data for those who eat Chocolate Every Day (whole sample)**

Table 11.1: Demographics of those who eat chocolate every day

<table>
<thead>
<tr>
<th>Demographic (% of row)</th>
<th>More often</th>
<th>Less often</th>
<th>No change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender: Male (%)</td>
<td>13.3</td>
<td>21.7</td>
<td>65.0</td>
</tr>
<tr>
<td>Female (%)</td>
<td>7.6</td>
<td>42.7</td>
<td>49.7</td>
</tr>
</tbody>
</table>

**11.3.3. Gender x Everyday Chocolate**

It is evident from the results above that females are at much higher risk of feeling out of control with chocolate eating than males, most particularly in relation to wishing that they ate less chocolate.

Approximately twice as many males as females wish they could eat chocolate more often (even though they eat it almost every day) and the reverse is true for those wishing to eat less. Twice as many females as males, who eat chocolate every day, wish they did not do so.

This threat to wellbeing affects twice as many females as males. The total number of each gender who feel their eating chocolate to be out of control is 79 females and 42 males. Thus, low wellbeing linked to this particular form of dieting restraint is more commonly an issue for females than for males.
Section 11: Chocolate continued

These results come from Table A11.19 and the following observations can be made.

1. There is no preferred frequency x gender interaction, showing that both genders are responding in much the same way. However, in relation to each gender’s normative range.

2. For the people who wish they could eat chocolate even more often than they do, even though they eat it every day, females have much higher wellbeing (+4.4 points) than males. Female wellbeing lies almost within their normative range, whereas male wellbeing lies 3.1 points below their normative range. It seems that having an unfulfilled need for more chocolate among the everyday eaters is more damaging to the wellbeing of males.

3. Both genders are similarly affected when the everyday eaters wish they ate less often. Both lie about one point below their normal range.

4. Both gender groups of everyday eaters who wish no change have wellbeing well above their normal range (+2.8 points for males and +1.1 points for females).

5. Males who never eat chocolate have lower wellbeing than similar females. Males are only 0.6 points above the base of their normal range, whereas females and 2.6 points above theirs.

Summary

1. Both males and females who eat chocolate every day and who feel comfortable with this daily indulgence have high wellbeing. These people comprise 56.3% of the daily chocolate eaters (65% of males; 49.7% of female daily eaters), and the daily eaters overall (N=277) comprise 14.0% of the whole sample in Survey 21.

2. While both female and male daily eaters who wish they ate chocolate less often have low wellbeing, there are far more females who feel this way (males 21.7%; females 42.7%). So females are more likely to be adversely affected.

3. Males who never each chocolate are more common than females (males 58.4%, females 41.6% of never eat group) and they also have lower wellbeing (-3.1 points). Thus, never eating chocolate is more likely to be associated with lower male wellbeing.

From all of this the following principles can be proposed:

(a) Males are advised to eat chocolate. This is because not eating chocolate at all is associated with low wellbeing for males.

(b) Eating chocolate everyday is a risk to wellbeing, especially for females. Rather like marriage, if it goes well and people feel comfortable with this behaviour, then it is associated with high

Figure 11.6: Preferred Frequency of Everyday Chocolate (+ never eat) x Personal Wellbeing Domains
wellbeing. However, if people are not comfortable with this behaviour and want to change it, then this dissatisfaction is associated with low wellbeing. Females are more vulnerable to feelings of guilt at daily chocolate consumption.

### 11.3.4. Age x Everyday Chocolate

These results are taken from Table A11.20. The 18-25 and 26-35 groups have been combined to increase the cell size to a minimum N=19.

![Figure 11.7: No Preferred Change in Daily Consumption x Age (Personal Wellbeing Domains)](image)

At the youngest age, both groups have normal-high wellbeing. At all ages above 35 years, however, the guilt-free daily consumption group have high wellbeing while the Never Eat group have generally low wellbeing.

### 11.3.5. Income x Everyday Chocolate

These results are shown in Table A11.21 and in combined form in Table A11.22. There is no interaction between preferred frequency and income.

### 11.3.6. Household Composition x Everyday Chocolate

These results are shown in Table A11.23. Few of the cells are of sufficient magnitude to be reliable. Those that do show the same trends as has been described.

An interesting group here are the people who live alone. They normally have low wellbeing and their results are shown below:
Section 11: Chocolate continued

It is evident that, for people who live alone, eating chocolate everyday with no guilt is associated with high wellbeing.

11.3.7. Work Status x Everyday Chocolate

These results are shown in Table A11.24. The cell sizes are generally too low to be reliable and the others show the trends already described.

11.3.8. Marital Status x Everyday Chocolate

These results are shown in Table A11.25. Again, few of the cells contain enough observations to be reliable.

11.3.9. Actual Frequency of Chocolate Eating x Frequency of Gambling

These results are shown in Table A11.26.

11.4. Actual Frequency of Chocolate Eating x Swine Flu Worry

These results are shown in Table A11.30. There is no systematic link between the actual frequency of chocolate eating and the level of swine flu worry.

11.5. Preferred Frequency of Chocolate Eating and Swine Flu Worry

These results are shown in Table A11.31 and excluding the ‘Never Eat’ group in Table A11.31.1. The results are shown below.
Section 11: Chocolate continued

The difference between these groups is significant (Table A11.31.1) and shows both of the ‘change’ groups to have higher levels of worry about swine flu.

This is an important result. Since there is no logical link between these two measures, it seems likely that some common factor is causing this association. That is, some third factor is responsible for making people feel anxious. This could be due to their personality or that some major aspect of their lives is not in their control. This anxiety that they feel then affects their perceptions in general, but particularly in relation to aspects of their lives that may be considered to constitute a risk. So, having responded that they eat chocolate, their attention is drawn to this as a risk factor (and they respond that they would like to eat it less often. Alternatively, if their chocolate-eating behaviour is being controlled by the agent responsible for their general sense of anxiety (health issues or a controlling partner) then their attention is drawn to this source of deprivation and they respond that they would like to eat it more often.

These same people see swine flu as a higher risk due to their overall heightened state of anxiety. Hence these two disparate measures are correlated.

What this means is that the fact that people who wish to eat more or less chocolate have low wellbeing is not due to their chocolate consumption. Rather, their response reveals them as anxious people and it is their overall anxiety that is reducing their wellbeing.

The result that survives this analysis is from Figure 11.6 showing that both males and females who eat chocolate everyday and are content with this behaviour have very high wellbeing. It is higher than the normal range and higher than for people who never eat chocolate.

It is interesting (Table A11.31) that the people who never eat chocolate have an equivalent level of swine-flu worry to the no-change chocolate eaters. Thus, in terms of the logic that has been described, these two groups should evidence an equivalent level of general anxiety in their lives. Thus, on these grounds it seems a reasonable proposition that the people who allow themselves daily indulgences, like chocolate consumption, have higher wellbeing.

Perhaps a daily indulgence (in moderation) gives people something to look forward to and, so, enhances their wellbeing.

11.5.1. Correlations

Table A11.32 shows the correlations between swine-flu worry and group based on actual/preferred frequency of eating chocolate and gambling. As expected, the correlations are generally non-significant. However, 15/18 are negative; which is significant. This indicates that worry has a
tendency to correlate negatively with wellbeing across multiple sample sub-groups. This is as expected.

11.5.2. Multiple Regression

Tables A11.33 to A11.36 study the pattern of results when the Personal Wellbeing Domains are regressed against Life as a Whole, within each of the chocolate preference groups. These show that the ‘Never eat chocolate’ group has a much lower level of accounted for variance (44.6%) than all of the chocolate preference groups (48.1% to 52.6%).

The break down shows lower levels of shared variance, as expected. Unexpectedly, it also shows higher levels of unique variance and only three domains (Standard, Relationships, and Community) making a significant contribution. Notably, Achieve in Life is non-significant, even though it makes a significant contribution in each of the other three groups.
Section 11: Chocolate continued

**Dot Point Summary for Chocolate**

1. People who would prefer to eat chocolate either more or less often than they do have low levels of wellbeing. These people comprise 43.7% of chocolate eaters.

2. Females are at higher risk than males of wishing they ate less chocolate.

3. The people who wish they could eat chocolate more often than they do have low satisfaction in the domains that concern other people (Relationships and Community). This may reflect dissatisfaction with the source of control.

4. People who live alone have, on average, low wellbeing. This does not apply, however, to people who are contented with the chocolate they eat. It is only the people who would like to change the amount they eat who have low wellbeing. This is probably a reflection of a general feeling to low control in their lives that results in low wellbeing.
5. People who experience low control over their lives are likely to experience generally enhanced levels of anxiety and worry. This is reflected in the enhanced levels of worry about swine flu among people who wish they could change the amount of chocolate they eat.
12. Gambling

12.1. Gamble for Money

We asked: ‘Do you ever gamble for money, such as scratches, the pokies, or the races?’

As can be seen from Table A12.1 and Figure 12.1, about half (46.1%) of the sample gamble for money and their wellbeing is significantly lower than for the people who do not gamble.

Tables A12.2-A12.9 present this comparison for each of the eight Personal Wellbeing Domains. Only the following domains are significant with the same pattern as Figure 12.1: Health, Safety, Community and Future Security. There is no difference for Life Satisfaction.

These results are interesting as follows:

(a) The fact that only four of the domains are significant attests to the validity and specificity of the Personal Wellbeing Domains.

(b) Two of the most important domains as Standard of Living and Relationships are not significantly different between the two groups.

(c) The significant domains characterise gamblers as having poor health, low community connection and low safety/security. The differential response to safety is particularly noteworthy since this domain is generally quite insensitive to change, yet here displays a 2.4 point difference between the two groups. The largest difference is in Community, with a 3.3 point difference.

(d) It is evident that the Personal Wellbeing Index and the Domains are a more sensitive measure than the single item of life satisfaction, since only the former differentiate between the two groups.

12.1.1. Spiritual Wellbeing

The 8th domain asks about satisfaction with spirituality or religion. Because some people do not have this dimension in their life, people can respond that this is so and skip the item. This creates two groups as people who do (91.8%) or do not (8.2%) have this dimension to their life. The results combining these groups with gambling are shown in Table A12.9.1 and below.
The people who have Spirituality/Religion and also gamble have significantly lower wellbeing and constitute a substantial proportion of the total sample (41.8%). So it is certainly interesting that their wellbeing is below the population mean even though it lies within the normal range.

One possible reason for this could be the association of Spirituality/Religion with mystical, even magical, thinking. The vast majority of gamblers are destined to lose money through their gambling. A purely rational person might consider this to be a fact and yet gamble for enjoyment (eg: how long will my $20.00 last on the pokies) or the thrill of watching the horses race. Such people balance their enjoyment in the activity against the almost inevitable disappointment they know they will experience when they lose their money.

For people with Spirituality/Religion beliefs, on the other hand, a new kind of disappointment presents itself. This is the failure of a mystical belief to provide them with a win. Such beliefs can take many forms such as the Spirit/God influencing their probability of winning or rituals conducted in association with the gambling that are expected to bring good luck.

If such beliefs are in place, then gambling cannot simply be rationalised as the payment for entertainment. Rather, the belief engenders a sense that if the right incantations, rituals or sacrifices are made to appease the source of the Spirituality/Religion belief, then winning at gambling is indeed possible. So a loss also signals a challenge to such beliefs and the disappointment at the loss doubly felt.

**12.1.2. Strength of Spiritual/Religious Satisfaction**

In order to examine the relationship between gambling and Spiritual/Religious, Table A12.9.2 has been prepared which shows the frequency distribution of the Personal Wellbeing Domains for each level of Spiritual/Religious satisfaction for both gamblers and non-gamblers. The trend in these data can be seen by combining the cells comprising the strongest levels of Spiritual/Religious satisfaction (10, 9, 8) with the weakest cells (3, 2, 1). The result is shown below:
What this figure appears to indicate is that gambling has no effect on the Personal Wellbeing Domains of people who have strong Spiritual/Religious satisfaction. This does not apply, however for people with weak beliefs. These people have lower levels of wellbeing, as they would for low levels of satisfaction with any of the other domains. However, the gamblers among this group have particularly low wellbeing.

These results support the proposition that Spiritual/Religious beliefs are a risk-factor for gamblers. If their beliefs are strong their gambling will have little impact. If, however, their beliefs are weak, the fact of their gambling may act to significantly reduce their wellbeing.

12.1.3. Gamble for Money x Gender

Table A12.11 shows no interaction between gender and gambling for wellbeing.

12.1.4. Gamble for Money x Age

Table A12.12 shows no interaction between age and gambling.

12.1.5. Gamble for Money x Household Composition

Table A12.13 shows no interaction between household composition and gambling.

12.1.6. Gamble for Money x Marital Status

Table A12.14 shows no interaction between marital status and gambling.

12.1.7. Gamble for Money x Work Status (Full-time)

Tables A12.15 and A12.15.1 shows no interaction between full-time work status and gambling.

12.1.8. Gamble for Money x Work Status (Part-time)

Table A12.16 shows no interaction between part-time work status and gambling.

12.1.9. Gamble for Money x Looking for Work

Table A12.17 shows no interaction between looking/not looking for work and gambling for wellbeing.
12.1.10. Gamble for Money x Income

Tables A12.18 and A12.18.1 show no interaction between income and gambling for wellbeing.

12.2. Frequency of Gambling

We asked: ‘On average, how often do you gamble?’

These results come from Tables A12.19 and A112.19.1.

![Frequency of Gambling](image_url)

The people with low wellbeing are those who gamble once a week or more often. They comprise 15.4% of the sample and, presumably, they are quite frequently being confronted by the disappointment of their gambling losses.

12.2.1. Frequency of Gambling x Gender

These results come from Table A12.20.

![Frequency of Gambling x % of Gender](image_url)

It can be seen that not only is gambling more common among males (56.3% of males; 51.5% of females) but also males are more likely to gamble at least once each week (19.3% of males; 11.5% of females).

There is no interaction between gender and gambling frequency on the Personal Wellbeing Domains.
12.2.2. *Frequency of Gambling x Standard of Living*

Table A12.21 shows the relationship between the frequency of gambling and satisfaction with Standard of Living. This shows slightly lower satisfaction in the high-frequency groups that follow the same trend as for the Personal Wellbeing Domains.

12.2.3. *Frequency of Gambling x Gender (Standard of Living)*

Table A12.22 shows no interaction.

12.2.4. *Frequency of Gambling x Health Satisfaction*

Table A12.23 shows the same pattern as the Personal Wellbeing Domains.

12.2.5. *Frequency of Gambling x Gender (Health Satisfaction)*

Table A12.24 shows no interaction.

12.2.6. *Frequency of Gambling x Achieving in Life*

Table A12.25 shows the same pattern as the Personal Wellbeing Domains.

12.2.7. *Frequency of Gambling x Personal Relationships*

Table A12.26 shows the same pattern as the Personal Wellbeing Domains.

12.2.8. *Frequency of Gambling x Safety*

Table A12.27 shows the same pattern as the Personal Wellbeing Domains.

12.2.9. *Frequency of Gambling x Community*

Table A12.28 shows the same pattern as the Personal Wellbeing Domains.

12.2.10. *Frequency of Gambling x Future*

Table A12.29 shows the same pattern as the Personal Wellbeing Domains.

12.2.11. *Frequency of Gambling x Spirituality/Religion*

Table A12.30 shows these results.

![Graph showing frequency of gambling vs. spirituality/religious satisfaction](Figure 12.6: Frequency of Gambling x Spirituality/Religious Satisfaction)
This shows Spirituality/Religion satisfaction to be very low in people who gamble frequently. A possible reason for this has been provided in section 12.1.1.

### 12.2.12. Frequency of Gambling x Life Satisfaction

Table A12.31 shows no differences between the gambling frequency groups. This is interesting since the Personal Wellbeing Domains (Tables A12.19 and A12.19.1) show significant differences. This clearly indicates the greater sensitivity of the Personal Wellbeing Domains than the single question on satisfaction with life as a whole.

### 12.2.13. Frequency of Gambling x Alone/Others

These results are shown in Table A12.32 and in truncated form in Table A12.32.1. The interaction with wellbeing is significant and shown below:

![Figure 12.7: Frequency of Gambling x Alone/Others (Personal Wellbeing Domains)](image)

What is evident is that people who gamble alone once each week or more often have low wellbeing. If they gamble alone only once a month or less often their wellbeing lies in the normal range.

The reason for this association may be linked to loneliness. That people who frequently gamble alone do so, in part, to be among their gamblers, but being among other people does not mean they connect with them in ways that alleviate their chronic loneliness.

### 12.2.14. Frequency of Gambling x Change Gambling

These results are shown in Table A12.33 and in truncated form in Table A12.33.1. The cell sizes are too small to support this analysis even in the truncated table.
12.3. Gambling Alone or With Others

We asked: ‘Do you usually gamble alone or with friends and family?’

![Figure 12.8: Gambling Alone or With Others](image)

Table A12.34 shows that people who gamble alone are less common among the gamblers (40.0%) than people who gamble in the company of family and friends (60%). They also have significantly lower wellbeing and their average actually lies below the normal range.

12.3.1. Personal Wellbeing Index Domains

These results are listed in Tables A12.35 to A12.42, with Life Satisfaction in Table A12.46. It is evident that only some domains are sensitive to whether people gamble alone or with others. The domains that show a difference are: Achieving in Life and Relationships. These both show the same pattern of response as Figure 12.8.

It is also again notable that the single life satisfaction item (Table A12.43) is not sensitive to gambling alone or with others, in contrast to the Personal Wellbeing Domains which is sensitive to this difference.

12.3.2. Alone/Others x Gender

Table A12.44 shows no interaction.

A higher proportion of people who gamble alone are male (55.0%) than female (45.0%). This trend is also apparent in people who gamble with others (51.2% males). A slightly higher proportion of people who never gamble are female (52.2%).

12.3.3. Alone/Others x Age

Table A12.45 shows no interaction.

12.3.4. Alone/Others x Income

Tables A12.51 and A12.51.1.

12.3.5. Alone/Others x Household Composition

Table A12.46 shows some interesting differences between the groups with a reliable (N > 20) number of respondents in each cell. Two groups (Partner and Sole Parent) show higher wellbeing for people
who gamble with others), and two groups (Alone, Partner plus Children) show no effect. This is shown below:

![Figure 12.9: Alone/Others x Household Composition](image)

The association of higher wellbeing with gambling with others does not apply to people who live alone. It is, however, very evident in Sole Parents, with a 6.3 point advantage to people who gamble with others rather than alone.

This may reflect a greater need for adult company by Sole Parents. Many of the people who live alone have chosen this circumstance, whereas single parents may be more likely to prefer living with another adult.

12.3.6. Alone/Others x Marital Status

Table A12.47 shows no interaction between gambling alone or with others and marital status. The proportion of gamblers who do so alone is shown below.

![Figure 12.10: The percentage of gamblers who gamble alone x marital status](image)

There is a clear indication that people who gamble, and who have lost their partner through separation, divorce or widowhood, are more likely to gamble alone. Interestingly, this is not true of the Never Married group. It seems as though it is the loss of a partner, rather than having no partner, that has changed people’s likelihood of combining gambling with social interaction.
Section 12: Gambling continued

12.3.7. Alone/Others x Full-time Work Status

Table A12.48 shows no significant interaction. However, the numbers in many cells are too low to be reliable.

12.3.8. Alone/Others x Part-time Work Status

Table A12.49 has insufficient Ns to be reliable.

12.3.9. Alone/Others x Looking for Work

Table A12.50 shows no interaction.

12.3.10. Alone/Others x Income

Table A12.51 shows a significant interaction and this persists even when the high income groups are combined in Table A12.51.1.

12.3.11. The People Most Likely to Gamble Alone

Tables A12.44 to A12.51 show that, among the people who gamble, the groups most likely to gamble alone (>50% of gamblers) are as follows: aged 76+ years (51.4%), people who live alone (63.5%), separated (53.8%), divorced (59.2%), widowed (53.4%), and income <$15K (52.6%). All of these people are likely to be socially disadvantaged and to have low levels of wellbeing. Thus, it is likely that the low overall wellbeing of people who gamble alone has more to do with their inadequate social connection than with their gambling.

This interpretation is reinforced by those groups which show a lower Personal Wellbeing Domains for the people who gamble-alone. Each of these (Partner, Sole Parent, Married, Never Married) shows the same pattern. There is no statistical difference between the never gamble and gamble with other groups. That is, from these results, gambling of itself does not harm wellbeing. However, when people who gamble lack a companion, they tend to gamble alone and to have low wellbeing.

12.4. Desired Frequency of Gambling

We asked: ‘Would you like to change how often you gamble?’

![Desired Frequency of Gambling](image-url)
These differences are significant (Table A12.52) and indicate lower wellbeing for those people who feel that their frequency of gambling is not under their control. It is interesting that this lower wellbeing applies equally for people who wish they could gamble either more or less frequently and that these people only comprise 7.5% of gamblers. Moreover, the wellbeing of the 92.5% of gamblers who have no desire to change the frequency of their gambling is no different from the people who never gamble.

Table A12.53 shows that these differences are the same for both genders.

12.4.1. Desired Frequency x Personal Wellbeing Domains

These results are shown in Tables A12.54 to A12.61. The differences due to desired frequency are only significance for safety. However, the same pattern of difference is common across the domains and significant is inhibited by both high standard deviations and low Ns.

12.5. Does Gambling Affect your Life

We asked: ‘How does gambling affect your life? Zero means it makes your life much worse. 10 means it makes your life much better. From 0 to 10, does gambling make your life worse or better?’

Table A12.63 shows the full results and Table A12.63.1 shows the truncated version in order to achieve a reasonable number of values per cell. These are shown below:

![Figure 12.12: Gambling Making Life Worse or Better](image)

The only difference is the below-range wellbeing of the 63 people (3.3% of the whole sample and 7.4% gamblers) who consider that their gambling makes their life worse.

12.5.1. Gambling Effects x Gender

Tables A12.64 and A12.64.1 show no interaction and gender.

12.5.2. Gambling Effects x Domains

These results are shown in Tables A12.65 to A12.75.1 and demonstrate the same pattern for all domains, following that for the Personal Wellbeing Domains.

12.5.3. Gambling Effects x Gender

These results are shown in Tables A12.64.1 to A12.73.1 and show no interaction effects with gender.
Dot Point Summary for Gambling

1. About half of the sample (46.1%) gamble for money and their wellbeing is significantly lower than for the people who do not gamble.

2. People who have Spiritual/Religious beliefs and who also gamble have significantly lower wellbeing. Their losses may be doubly disappointing if they expect their belief to protect them against loss.

3. The low wellbeing associated with Spiritual/Religious beliefs and gambling is only evident in people who have low Spiritual/Religious satisfaction.

4. The gamblers with low wellbeing are those who gamble each week or more frequently.
Section 12: Gambling continued

5. Gambling is more common among males (56.3% vs 51.5% for females)

6. People with Spiritual/Religious beliefs who gamble once each week or more often have low wellbeing.

7. People who gamble alone once or more each week have low wellbeing.

8. The people most likely to gamble alone have lost their partner through separation, divorce or widowhood.
9. People who wish they could gamble either more or less frequently than they do have low wellbeing. Their gambling behavior is not under their control.

10. Only 3.3% of the whole sample, and 7.4% of gamblers feel that their gambling makes their life worse.
13. Insights into Homeostasis

13.1. Health Satisfaction

Figure 13.1: Satisfaction with Health (Frequency: combined sample)

Figure 13.1 is based on Table A12.1 and is a very good indication of the ability of respondents to use the full range of the 0-10 scale. It is based on 39,209 respondents and, with the exception of the 5-6-7 progression, it is a smooth and skewed distribution with a mode of 8. This is also the shape that would be predicted by homeostasis. That is, a basically normal distribution which becomes negatively skewed by homeostatic failure experienced by a small proportion of the sample. In this sample 7.5% score <5. Thus, assuming a normal distribution for health satisfaction of 50-100 (50.2 points marks the bottom of the normal range, as defined by two standard deviations around the mean, see Table A12.1), 7.5% are experiencing homeostatic failure for the domain of health.

In order to determine the relationship between the Personal Wellbeing Index domain of health (‘How satisfied are you with your health?’) and the Personal Wellbeing Index at each interval of health satisfaction, Figure 13.2 has been prepared. The Personal Wellbeing Index range (shaded bars) at each level of health satisfaction has been empirically determined as two standard deviations around the Personal Wellbeing Index mean score corresponding to that level of health satisfaction (Table A12.1).

Figure 13.2: Satisfaction with Health x Personal Wellbeing Index

In this figure, the shaded horizontal bar indicates the normative range for the Personal Wellbeing Index based on individual scores (Table A2.6). The horizontal line represents the Personal Wellbeing Index range (shaded bars) at each level of health satisfaction has been empirically determined as two standard deviations around the Personal Wellbeing Index mean score corresponding to that level of health satisfaction (Table A12.1).
Index mean at each level of health satisfaction (the abscissa) and the shaded vertical bars indicate ±2 standard deviations of the Personal Wellbeing Index at each level of health satisfaction.

There is an almost perfectly linear relationship ($r = .995$) between satisfaction with health and personal wellbeing over the 11 scale points. This illustrates a massive level of dependence between these two variables which is not surprising since the variable of health forms part of the Personal Wellbeing Index and the values for both are dominantly determined by the set-point of core affect. Despite this, however, the detail of Figure 13.2 reveals some important asymmetries as follows:

(a) Over the four lowest ratings of health satisfaction (0-3) the mean Personal Wellbeing Index approximates the bottom of the normal range and increases from 49.4 to 56.4, an increment of 7.0 points. In contrast, over the next four ratings (3-6) the Personal Wellbeing Index increments by 13.2 points, and over the four ratings 6-9 it increments by 10.8 points. Thus, the incremental rise in the Personal Wellbeing Index over the lowest four ratings was about half that shown by the rest of the scale. This indicates some fundamental change in the Health vs. Personal Wellbeing Index relationship when health satisfaction falls below 4.

(b) It is evident that the magnitude of the standard deviations is changing over the scale (Table A12.1). These are shown in Figure 13.3.

![Figure 13.3: Health Satisfaction x Personal Wellbeing Index Standard Deviations](chart)

These changes in variance are consistent with the following:

Over the range of health satisfaction from 6 to 10, the level of health satisfaction over these five response levels is linearly related to the Personal Wellbeing Index mean score at each level ($r = .999$; Figure 13.2) but is independent of the Personal Wellbeing Index variance at each level ($r = -.310$; Figure 13.3).

(c) The most obvious confounding factor is cell size: that the higher levels of health satisfaction have lower SDs due to their larger cell sizes. While this is certainly a confounding influence, it is not a dominating influence due to the following considerations.

(i) The values for the smallest cell (N=166) are sufficient to achieve considerable variance stability.

(ii) A comparison between the low levels of health satisfaction in the combined data table and high levels of satisfaction in the Survey 20 data table reveals comparable N values. Yet the SDs for the low levels of health satisfaction are far larger.
(d) This pattern of changing variance across the levels of health satisfaction is consistent with both health satisfaction and all other Personal Wellbeing Index domains being driven by some common factor, which we propose is core affect.

(e) In these terms, core affect represents an individual difference that is influencing equally all of the domains within this normal range. Thus, at a health satisfaction of 10, the rating for this domain, and all other domains, are being determined by those people in the sample with the highest set-points.

A corollary from this is that essentially the same group of people should be responsible for producing the highest scores for all of the domains. That is, the within-person variation between the domains should be very low. The could be calculated by:

\[ \text{Personal domain variation} = \sum \left( \frac{\text{health satisfaction} - \text{other domain satisfaction}}{6} \right) \]

It is predicted that this value will be quite constant over the range of health satisfaction 6-10. The same situation occurs at a health satisfaction of 9, 8, 7, and 6. Thus, the Personal Wellbeing Index variance at each level of health satisfaction reflects the systematic influence of the core affect set-point at each level.

(f) So, what creates the Personal Wellbeing Index variance at each level of health satisfaction and why is it so constant?

(g) The cause of the Personal Wellbeing Index variance at each level of health satisfaction is likely the result of two influences as:

(i) Random mood fluctuations caused by acute conditions.

(ii) Varying levels of concordance between the level of health satisfaction and the average level of the other six domains. This variance will be created by specific challenges to other domains (e.g. feeling unsafe) and the effects of homeostatic compensation to raise the levels of the rest of the domain set.

(h) The reason for the consistency in this variance is homeostasis. It is striving to keep SWB positive and it is relevant to note that the Personal Wellbeing Index range around the lowest normative health satisfaction rating of 6 is 49.5 to 89.6 points (Table A12.1). That is, at a health satisfaction rating of 6/10, around 95% of the Personal Wellbeing Index scores are positive lying above 50 points.

(i) The mean of these five levels of health satisfaction (6-10), calculated as the simple average of the five means, is 76.70 points. This calculation has not been weighted by the number of respondents in each cell because the proportion of respondents who score <6, who are in homeostatic failure, cannot be knowingly distributed between the cells. This may be the most accurate estimate yet of the natural mean set-point value for Personal Wellbeing Index because it is based to a 95% level of probability on respondents who are not in homeostatic failure.

(j) The standard deviation within these five cells varies from 8.5 to 10.0 and averages 9.34. If this is used as the basis of a calculation of normal range around the average of these top-five mean scores (76.70 points), the ±2SD range become based on normative health satisfaction. It is 58.02 to 95.38 for the Personal Wellbeing Index. This is the most accurate estimate yet of the normal range of set-points.

(k) It is most notable that the standard deviation for the Personal Wellbeing Index does not systematically change over the range of health satisfaction from 6-10. That is, the variance of the Personal Wellbeing Index does not change even though the level of health satisfaction is
changing. So at levels of health satisfaction from 6-10 the Personal Wellbeing Index range is constant.

This is consistent with both the health satisfaction and the Personal Wellbeing Index being driven by a common source, core affect. At levels of health satisfaction that lie within the normal range of 6-10, the differences in level of satisfaction represent differences in set-point. Below the value of 6/10, additional variance is introduced by some respondents lying below the normal range.

(i) This logic allows a more precise definition of the normal range for the health of individuals as 6-10 points on the 0-10 scale. But any such determination is necessarily going to be a probability statement. These considerations are as follows:

(i) Keeping in mind that the proposed range for Personal Wellbeing Index set-points is 58.02 to 95.38 (see (j)), the ±2SD range for Personal Wellbeing Index values that lie within that range (95% probability) corresponds to the health satisfaction categories of 8, 9 and 10 Figure 13.2. In other words, at a health satisfaction rating of 8-10, there is a 95% probability that the corresponding Personal Wellbeing Index will fall within the normal set-point range.

(ii) At a health satisfaction rating of 7 and 6, the bottom of the ±2SD range lies below the set point range of 58 points, but remains in positive territory. Using the premise that depression is a loss of positive mood, people in this grey area between 50 to 58 points may be under homeostatic stress but just holding the line above overt negative feelings. Their homeostatic system is fighting hard to maintain control and mean SWB sits at about 70. This changes quite dramatically at a health satisfaction rating of 5.

(m) People who score five for health satisfaction may or may not have their Personal Wellbeing Index under normative control. The majority of them will still experience normal-range Personal Wellbeing Index even though their health satisfaction is less than it should be. A minority of the people who score five for health will also be experiencing overall homeostatic failure, and this proportion increases as health satisfaction falls to progressively lower values.

(n) If this analysis is correct, the above values should hold for all groups. That is, even though medically compromised groups will have a lower proportion of their members in the 6-10 range, the Personal Wellbeing Index variance corresponding with each level of health satisfaction between 6-10 should remain constant. This remains to be tested.

(o) Also consistent with the homeostatic model, the variance changes shown in Figure 13.3 are caused by larger incremental increases in the bottom than in the top of the x 2SD ranges (Figure 13.2). Whereas the top of the range increases by 17.4 points between the health ratings from 0 to 10, the bottom increases three times as much, by 52.1 points. This is consistent with lower levels of health satisfaction being associated with a greater proportion of people experiencing homeostatic failure, and for their lower wellbeing causing the lower margin of the Personal Wellbeing Index range for decrease.

(p) These changes in the magnitude of the variance for the Personal Wellbeing Index are also not equally distributed throughout the response scale for satisfaction for health. In order to demonstrate this, it is necessary to average adjacent increments in Table 12.1, shown in Table 12.2 (e.g. variance increment in the ±SD values from 0-1 plus increment from 1-2). If the increments are used individually their error of measurement obscures the pattern. Figure 13.4 shows the result.
An explanation for all of these patterns of change is as follows:

(a) The capacity of low health satisfaction to influence overall SWB is limited by two factors as:

(i) The level of health satisfaction. Assuming that a normal Personal Wellbeing Index always lies in the positive sector of the satisfaction range (>50), and also assuming that the 2SD range encompasses the sample under investigation, Figure 13.2 shows that a health satisfaction from 6-10 allows normal SWB. Thus, health satisfaction of <6 is a risk factor, associated with homeostatic failure (PWI < 50) for some people.

(ii) Individual resilience: From Figure 13.2 it can be seen that, even with the lowest rating for health satisfaction (zero) about half of the sample maintained SWB above 50 and a few people into the high 80s. This attests to the power of homeostatic compensation. Through the use of either external buffering resources (e.g. wealth or relationships) or internal buffering resources (e.g. sense of control, self-esteem or optimism), combined with a naturally high SWB set-point, their overall personal wellbeing has been little affected.

(c) Figure 13.3 shows a progressive decrease in the magnitude of the scale-sample variance from 0 to 6. It then stabilizes. An investigation of this is as follows:

The side of this figure designated ‘A’ shows variation in health satisfaction caused by individual set-points. This ranges over the positive health satisfaction range of 6-10. The half of the figure designated ‘B’ indicates the onset of pathology at the point that people report feelings of health neutrality, neither satisfied nor dissatisfied. At this point, the least resilient people, who may be those who have the lowest set-points, report lower-than-normal Personal Wellbeing Index (Figure 13.2) and this causes the sample variance to increase (Figure 13.3). This reinforces the usefulness of regarding 5/10 as a level of health satisfaction that puts SWB homeostasis under a significant degree of threat.

A corollary of this is that the stable level of scale-sample variance over the 6-10 response range can be used to calculate the normal range of set points. This can only be approximate since even with a 10/10 health satisfaction other influences on the person’s life may be acting to reduce SWB. Nevertheless, at this highest level of health satisfaction, reported by 14.0% of the total sample, the x 2SD range extended down to 64.89 points (Table A.1). Thus, as a working hypothesis the normal set-point range may be regarded as 65 points or higher. The implication is that individual SWB scores of <65 indicate pathology.
Figure 13.4 shows the average changing nature of the top and bottom of the response variance. Consider first the bottom of the range.

Over the scale range 0-6 the bottom of the range rises in a fairly consistent manner. Beyond 6/10 further rises are reduced. This is consistent with a lower normative set-point range of 65. When there are people in the sample with values < 6, their SWB will be sensitive to the varying levels of stressors, including health. However, this sensitivity is much reduced when people are experiencing a level of SWB (65+) that lies within their set-point range.

The top of the response-sample ranges shows a quite different pattern. shows almost no change over the response range 0-4. Beyond this, the rate of change accelerates.

In order to explain this a further hypothetical construct will be introduced, as the set-point-range (SPR). That is, under normal conditions SWB is free to vary within a range. The magnitude of this range is not known but may be about 10 points.

Under non-challenging conditions SWB will tend to lie at the top of its SPR. Then, as the level of challenge is increased, it will progressively have a higher probability of lying at the bottom of the SPR. As the level of challenge becomes even stronger it will remain at the bottom of the SPR as long as homeostasis is retained.

This hypothesized sequence explains the changes shown in Figure 13.4. At high levels of health satisfaction SWB is very sensitive to challenge, and quite minor reductions in health satisfaction are effective in shifting the probability of SWB within the set-point range. Moreover, since in the high satisfaction ranges the whole sample is experiencing this phenomenon, these probability changes have a marked influence on SWB.

The influence of decreasing health satisfaction on the top of the SWB range decreases for two reasons as:

(a) Progressively more people have a SWB that sits at the base of the set-point range. This then cannot change further unless the person experiences homeostatic failure, which will cause a further drop.

(b) The people at the top of the range have not experienced homeostatic failure (Figure 13.2). Thus, over the health satisfaction range of 0-3 the SWB of these people remains unchanged despite the continued decreased in the mean SWB of the response groups as progressively more people experience homeostatic defeat.

This is also interesting in another respect, that it may be age-dependent. In old age, health satisfaction decreases, while the Personal Wellbeing Index rises. This Figure should be split by age.
13.2. **Relationship Satisfaction**

These results come from Table A12.4.

A major difference from Figure 13.1 is that while the median satisfaction interval for health was 80 points, the median for relationships is 100 points. Over one quarter of the sample (25.8%) rate their satisfaction as 10/10.
lower, or people are programmed to register higher, or more resilient, levels of relationship satisfaction. There seems no good reason to expect that either of these is valid.

A further possibility is that ‘relationships’ allows more scope for higher ratings than does ‘health’. In a sense, health is unitary. People have only one health and this can be affected by myriad forms of illness or disability. Relationships, on the other hand, are more flexible. If satisfaction with family relationships is low, satisfaction with friendship relationships can be high. Moreover, if the item about relationships is answered with the best source of satisfaction in mind, then this might explain why so many people rate this as 10/10.

(b) Again it is evident that the changes in the Personal Wellbeing Index across ratings of relationship satisfaction are driven mainly by changes at the bottom of the ±2SD range. Over the entire 0-10 range, the top of the range has varied by 23.1 points, while the bottom of the range has varied by 46.9 points. This two-fold difference, while substantial, is far less than the three-fold difference for health satisfaction.

The cause of this difference lies in the magnitude of the variance within each unit of satisfaction rating.

13.3. Standard of Living Satisfaction

These results come from Table A12.5.

![Figure 13.7: Satisfaction with Standard of Living (Frequency: combined sample)]
This pattern is similar to Health in having a median at 8/10.

![Graph showing the distribution of satisfaction with Standard of Living against Personal Wellbeing Index scores.](attachment://graph.png)

**Figure 13.8: Satisfaction with Standard of Living x Personal Wellbeing Index**

### 13.4. Combined Data

It is apparent that the Personal Wellbeing Index scores corresponding with low domain satisfaction are more tightly bunched (i.e. smaller standard deviation) in the case of relationships. This applies to both high and low satisfaction. Relative to health, at low levels of satisfaction, the SDs are smaller showing a more tightly grouped distribution. Thus, low levels of relationship satisfaction diminish the Personal Wellbeing Index to about the same extent as for Health but with less variation around the mean. The influence of low relationship satisfaction is, thus, more predictable in its damaging influence on the Personal Wellbeing Index.

(c) It is evident from Figure 13.6 that the progressive decline in the top of the +2SD range shows two phases as:

- 10, 9, 8, 7, 6, 5, 4: A progressive decrease to about 80 points.
- 4 and below: Maintenance at about 80 points.
It is notable that this downward progression extends further than for health (over the range 10-4 compared with 10-7) and that it plateaus at a lower level than health (80 vs 90 points). Again, this reinforces the hypothesis that low relationship satisfaction is a more powerful determinant of low personal wellbeing than is low health.

Following the logic presented in relation to health, the initial decrease in Personal Wellbeing Index from the highest rating of 10/10 for relationship satisfaction, reflects the changing set-point. This occurs over the neutral-positive region of the rating scale (5-10). Scores below 5, therefore, indicate pathology. The changing variance is shown below.

**Figure 13.10: Health and Relationship Satisfaction x Personal Wellbeing Index Standard Deviations**

### 13.5. Personal Wellbeing Index Mean Scores vs. Domain Ratings

These results are taken from Table A12.10.
The following can be observed:

1. The intersection of both domains with the hypothetical linear relationship line is at about 70. That is, a person who responds with a satisfaction rating of seven will likely have a Personal Wellbeing Index rating of about 72. This seems to represent the neutral position for the homeostatic system, where a satisfaction value corresponds for both the value of a domain and the value of the Personal Wellbeing Index.

2. Satisfaction ratings above and below this level are dampened in relation to a linear relationship between the Personal Wellbeing Index and the domain ratings. This is consistent with the action of a homeostatic system. The degree of dampening is determined by the extent to which core affect dominates the valuation of the domain; high core affect high dampening. This predicts that the lowest levels of core affect are found in Satisfaction with Standard of Living and the highest are in Satisfaction with Health. This is consistent with the regressions of the domains against Life as a Whole. Here, Standard of Living dominates the unique variance indicating its relatively low levels of core affect, which represents the shared variance.

3. It is remarkable to note the close correspondence between this value and the population mean Personal Wellbeing Index value of 75.0 (Table A2.1).

13.6. **Demographic Influences and Predictions from Homeostasis Theory**

This chapter tests predictions from homeostasis theory against various demographic data.

13.6.1. **Life as a Whole**

*We asked:* ‘Thinking about your own life and personal circumstances, how satisfied are you with your life as a whole’.

The results on ‘life as a whole’ are taken from Table A12.10.

![Figure 13.12: Frequency Distribution for Life as a Whole](image)

**Prediction 12.6.1:** The response to the complex and abstract question ‘How satisfied are you with your life as a whole’ is normally generated by a heuristic that reflects core affect (Davern et al., 2007). Thus, it will normally be positive, lying within the range of 6-9 (60-90 points) which is the hypothesised range for individual set-points.

**Result 12.6.1:** 74% of responses lie between 6-9.
Prediction 12.6.2: More responses will lie below the 6-9 range than lie above. This is due to the nature of the influences that are causing a response different from core affect. A response of ‘10’ will reflect an acute situation of enhanced positive affect due to some recent life event. Such responses are transitory due to rapid adaptation.

A response of 5 and below will reflect either an acute or a chronic situation that has caused homeostatic defeat. Thus, the response that is provided reflects a reduced level of satisfaction caused by the inducing agent. This may be either short or long-term, depending on the rate of adaptation. If adaptation is impossible due to the persistent strength of the challenging agent, then SWLW will remain chronically below its normal set-point range and the person will be at enhanced risk of depression.

Thus, because the below-normal response may be either acute or chronic, while the above-normal response can only be acute, more people should lie below than above the normal range.

Result 12.6.2: 15.9% lie below the 6-9 range while 14.9% lie above. This difference is magnified if the normal range is considered as between 7-9, which is the symmetrical portion of the distribution (Figure 13.12). Using this criterion, 21.3% of responses lie below while 14.9% lie above.

Prediction 12.6.3: Core affect is always positive, so any response in the dissatisfied 0-4 range of the scale should indicate pathology in the form of a high risk for depression. Thus, the frequency of responses in the 0-4 range should approximate the incidence of depression within the general population.

Result 12.6.3: 9.0% of responses lie within the 0-4 range.

13.6.2. Life as a Whole vs. Personal Wellbeing Index

Table A12.10 shows the mean value of the Personal Wellbeing Index for each 0-10 response on the Life as a Whole Scale. The mean and SD for each level on the response scale are shown below.

![Graph](image)

Figure 13.13: Life as a Whole vs. PWI Mean and Standard Deviation (cumulative data)

The changes in the value of the Personal Wellbeing Index means are quite linearly related to Life as a Whole. However, the increments of change are more variable over the range 0-2 and also show relatively little change. The total point change over these three response intervals is 4.7 points, compared with 8.8 points over the response range 8-10. This may be because people have difficulty distinguishing between response choices at the lower-end of the scale or that there is a ‘floor-effect’ in that people with a PWI < 40 are less likely to complete the questionnaire.
This linearity of change is not shared by the standard deviation. Here there appears to be a flattening-off of the change between 6-10 on Life as a Whole. In order to further examine this phenomenon, the x2SD range for the Personal Wellbeing Index at each response point on Life as a Whole is shown below.

![Graph showing the range of PWI values for each response point on Life as a Whole](image)

Figure 13.14: Life as a Whole x Personal Wellbeing Index Standard Deviation

13.7. Effect of Recent Life Events

*We asked:* ‘Has anything happened to you recently causing you to feel happier or sadder than normal? [If yes] How strong would you rate this influence?’

These results come from Table A12.11.

![Graph showing the percentage of people reporting events](image)

Figure 13.15: Recent Life Events vs. Personal Wellbeing Index (combined data)

Homeostasis theory predicts that within any Australian general population sample, the vast majority of people will have a level of SWB that lies within their normal range. From this can be derived two predictors as follows:
1. The experience of a recent ‘happy’ event will have little impact on the Personal Wellbeing Index. There are two reasons. First is rapid adaptation to sources of hedonic pleasure. Second is that the residual influence of such an event, following the brief acute response, will be restricted by the margin between the set-point and the top of the set-point range. Consistent with these predictions, the difference is SWB between the happy event and the no event groups is +0.9 points.

2. No such restrictions are imposed on the outcome of experiencing a sad event. First, the rate of adaptation to sad events is much slower than it is to happy events. Second, recovery is not guaranteed. If the source of the negative event remains as a chronic and powerful source of stress or anxiety, then this may act to chronically defeat homeostasis and, therefore, to keep SWB depressed below its normal set-point range.

Consistent with these predictions, the difference in SWB between the sad event and the no event groups is -4.8 points.

A further prediction from homeostasis concerns the changes in variance. That is, the effect of a happy event should be to increase the probability that people are experiencing the upper-half of their set-point range, instead of being evenly distributed through the set-point range as for the no-event group. This is confirmed. The happy event group has a standard deviation that is 0.82 points less than that of the non-event group (Table A12.12). Note: If all of the people comprising happy event group had simply been made happier, in the absence of a homeostatic system, the standard deviation should show no change or even an increase due to individual differences in the strength of response to the happy event.
Dot Point Summary for Insights into Homeostasis

1. The intersection of the three domains with the hypothetical linear relationship line is at about 70 points. That is, a person who responds with a satisfaction rating of seven will likely have a Personal Wellbeing Index rating of about 72. This seems to represent the neutral position for the homeostatic system, where a satisfaction value corresponds for both the value of a domain and the value of the Personal Wellbeing Index.

Satisfaction ratings above and below this level are dampened in relation to the Personal Wellbeing Index. This is consistent with the action of a homeostatic system.
Appendix A1

A1.1 References to the Text


A1.2 Previous Reports on the Australian Unity Wellbeing Index


Appendix A1 continued


### A1.3 Data Screening Case Log: (Survey 21 May 2009)

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## A1.4 Item Data Screening Log: (Survey 21 May 2009)

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