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Australian Unity Wellbeing Index Survey 19

**Report 19.0
August 2008**

Part A: The Report

***“The Wellbeing of Australians –
Links with exercise, nicotine and alcohol”***

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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 19th survey, undertaken in April 2008. Our previous survey had been conducted six months earlier in November 2007. This six month period was eventful. In November 2007 the Labor Party, under the leadership of Kevin Rudd, won an election and so wrested power from long-serving Prime Minister John Howard (Liberal Party). The following period, up to the current survey, was filled with new government initiatives, some to over-turn previous policy and others to initiate new policy.

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 19 are the use of alcohol and tobacco, and exercise.

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 fallen by a significant 1.0 percentage points since Survey 18 in November 2007. All of the domains have followed suit to various degrees.

One reason for this fall appears to be a sharp increase in inflation (Consumer Price Index). Over the 19 surveys, the CPI averaged over the 12 months prior to each survey, is able to explain 56% of the variation in the wellbeing of females and 18% for males.

For the fourth time in these surveys, we included a new domain for the Personal Wellbeing Index. This is 'How satisfied are you with your spirituality or religion'. We again found that people who have a weak level of satisfaction with their spiritual/religious beliefs have low subjective wellbeing. This new domain will not be included in the Personal Wellbeing Index until we can establish its influence on the Index, so that the longitudinal comparisons can be retained.

- *The level of population wellbeing has fallen by a significant 1.0 percentage point and this is partly caused by the rise in inflation.*

National Wellbeing Index

The National Wellbeing Index has fallen by a non-significant 0.7 points since the previous survey. It remains at its highest level yet recorded.

Two domains have risen significantly. Satisfaction with Government has risen by a massive 5.4 points and with National Security by 1.3 points. Both of these domains are now at their highest level yet recorded.

Two domains have fallen significantly. Satisfaction with the Economic Situation has fallen a massive 8.5 points and with Business 2.2 points.

- *Two domains have shown dramatic change since Survey 18, with higher Government satisfaction and lower satisfaction with the Economic situation..*

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 3.0% since the previous survey. 46% 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 46% 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

Physical Activity and Socialization

- (a) Strong activity is associated with above normal wellbeing. Whether the activity causes high wellbeing or high wellbeing causes strong activity is uncertain.
- (b) The association between strong activity and wellbeing is marked for people with low household income.

The strong group have a resource (much as do people who are married) that allows them to experience high wellbeing even with low household income. Whether this resource is the activity itself, or the conditions (personality, health, motivation, etc) that permit such activity cannot be determined from these data.
- (c) The negative influence of extreme BMI values on wellbeing is counteracted by strong exercise.
- (d) Exercising for 3 days each week is associated with the maximum benefit for wellbeing. Exercising more frequently confers no additional benefit for the sample as a whole.
- (e) The normal dip in wellbeing for people in middle age does not occur for those who exercise 6-7 times each week.
- (f) The association between frequent exercise and wellbeing is marked for people with low household income.
- (g) Involvement with groups, of itself, is weakly associated with higher wellbeing. It is the exercise component, undertaken either with or without a group, that strongly associates with high wellbeing.
- (h) Involvement with groups that exercise, offsets the normal dip in wellbeing of people in middle age.
- *Exercise undertaken at least three times each week, most particularly involving strong activity, is associated with high wellbeing.*

Drinking and Smoking

- (a) People are more likely to drink every day if they are males, on high incomes.

People are less likely to drink every day if they are female, on low income, aged 18-25 years, never married, living with parents or other adults, engaged in fulltime family care, study, or who are unemployed.

The highest incidence of never drink (>20%) are found among females, aged 26-35y, aged 76+ years, never married, widowed, live alone, live with other adults, income <\$15K, fulltime home/family care, and unemployed.
- (b) The 28.3% of the sample who drink alcohol every day have the highest wellbeing. The 16.0% of the sample who never have an alcoholic drink have below normal wellbeing.
- (c) Males are more likely to consume alcohol than females. Far fewer males than females never drink (12.2 vs 19.9%) and far more males than females drink daily (35.5 vs. 21.1%).

Males who never drink have normal levels of wellbeing. Females who never drink have below normal wellbeing.

Males who drink everyday have above normal wellbeing. Females who drink everyday have normal level wellbeing.
- (d) Not drinking alcohol during the middle ages 36-65 years disadvantages wellbeing.

The reason for this is uncertain but could, possibly, be linked to coping. Middle age can be a stressful period of life when people are managing families, work and mortgages. Perhaps the consumption of alcohol during this time is an important coping strategy for many people. At these ages around 2/3 of the sample drink alcohol at least weekly (Table 11.1).

- (e) Not drinking alcohol disadvantages the wellbeing of people who are divorced, who are sole parents, and who are engaged in full-time home/family care.
 - (f) There is no systematic change in male wellbeing as the number of drinks per session exceeds three. Female wellbeing falls at more than three per session.
 - (g) As the number of drinks per session exceeds three, the wellbeing of the 46-55y group goes down, while the wellbeing of the 18-25y group does not change and remains high. This result for the 18-25y group shows that the decreased wellbeing is not a direct consequence of the alcohol.
 - (h) The wellbeing of the married group decreases with more than three drinks per session. This does not occur for the other marital status groups. One explanation is that the heavy drinking is associated with a dysfunctional relationship.
 - (i) With more than four drinks per session, the wellbeing of people living only with their partner remains within the normal range whereas the wellbeing of people living with their partner and children decreases.
 - (j). Current smokers have lower wellbeing. However, since people living in difficult circumstances are more likely to smoke, it is more likely their poor living conditions, than their smoking, that is causing the decreased wellbeing.
 - (k) The exception to the rule, that smoking is associated with low wellbeing, comes from the group who live only with their partner. Their wellbeing remains in the normal range. If smoking is acceptable to both people, this may generate an 'us-against-them' mentality which enhances their bonding and enhances wellbeing.
 - (l) Females who smoke have lower wellbeing than males who smoke. This may be because more females than males are living in very difficult conditions.
- *Drinking a small amount of alcohol each day is associated with high wellbeing. Smoking cigarettes is associated with low wellbeing.*

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

- (ii) 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.
- (j) 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.

- (k) 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 \$7,143 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 \$106,695. 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.

- *While females had higher wellbeing from April 2001 to May 2005, this was followed by 2.5 years where there was no gender difference. Then, in Survey 19 the wellbeing of males is higher than that of females. The reason for this change over time is not known.*

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.
- (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) Relationships remains higher than it was at Survey 1. Health remains no different from Survey 1.
- (d) The National Wellbeing Index is at a very high level.
- (e) The National domain of Government is very high within both the youngest and oldest groups.
- (f) Satisfaction with environment has returned to its normal range after having fallen in Surveys 16 and 17. People have now habituated to the message of global warming.
- (g) In the middle age, people who do not live with a partner are at risk of low wellbeing.
- (h) Living with your children as a sole parent from 66 years and older is good for your wellbeing.
- (i) The average wellbeing of married people varies by 2.4 points across the age-range. The wellbeing of people who are divorced varies by 6.3 points, is lowest at 46-55, and never enters the normal range.
- (j) Unemployment has a devastating effect on personal wellbeing beyond 25 years of age.
- *The fall in satisfaction with the environment, that had been seen in Surveys 16 and 17, is over, with normal levels of satisfaction recorded for all age groups..*

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.

- (f) 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.
- (g) 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.
- (h) 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.
- (i) 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:

- (a) 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.
- (b) 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.
- (c) 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
- (d) 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 (58.2).
- (e) 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.
- (f) Even though people who are divorced and have a full-time well-paid job, their average level of wellbeing remains below the normal range.
- (g) 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) The 10.5% of people who are Fulltime employed and yet 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) While males who are engaged in fulltime home or family care are positioned at the bottom of their normative range. Their wellbeing is -2.6 points below males who are fulltime employed. The wellbeing of full-time home care females is -0.7 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.
- (h) *Some major international events cause people to recall their lives differently. September 11 caused more males and females to recall a recent personal event that made them feel sadder than normal. The prospect of war (with Iraq) caused males, but not females, to recall a recent personal event that make them feel happier than normal.*

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 18 additional surveys have been conducted, with this most recent survey in April 2008. 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 17th April – 1st May 2008. 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 23,491 (9,585 Desk Top Marketing System & 13,906 Random Digit Dialling) numbers were called. Of these, 8,906 (4,441: 49.9% DTMS & 4,465: 50.1% RDD) connected with a respondent and 2,000 agreed to complete the survey. This gives a base response rate of 21.7%. However, this response rate reflects, in part, the methodological constraint that an even gender split was maintained at all times throughout the survey, meaning that some people contacted were excluded on the basis of gender. When the true response rate is calculated as [completes/completes + refusals] then the effective response rate is 27.8%.

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, Dunnetts 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 10 concerns Life Events.
- (f) Chapters 11-12 concern the special topics for this survey which are Alcohol and Tobacco consumption and extent of Physical Activity.
- (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 18 and Survey 19

2.1. Overview

Table 2.1: Means and standard deviations of the 19th survey

Question	Mean	SD	Point change from November 2007	t-test p value
PERSONAL WELLBEING INDEX	74.80	12.71	-1.01	.014
Personal domains				
1. Standard of living	76.73	17.77	-1.60	.005
2. Health	74.79	19.70	-0.33	.594
3. Achieving in life	72.54	19.64	-0.97	.113
4. Personal relationships	78.65	22.13	-0.57	.419
5. How safe you feel	79.29	17.92	-0.90	.109
6. Community connect	70.44	19.75	-0.68	.288
7. Future security	71.09	20.08	-1.93	.002
8. Spiritual/ Religious Fulfilment	71.52	24.63	1.93	.002
Life as a whole	77.00	16.96	-1.33	.013
 NATIONAL WELLBEING INDEX	 63.01	 13.36	 -0.71	 .137
National domains				
1. Economic situation	62.41	19.09	-8.47	.000
2. State of the environment	59.11	19.22	0.72	.249
3. Social conditions	61.92	18.22	-0.43	.468
4. Government	61.45	21.58	5.35	.000
5. Business	62.50	17.25	-2.16	.000
6. National security	70.86	17.71	1.25	.035
Life in Australia	83.45	16.74	0.81	.140
 Likelihood of Terrorist Attack in Australia				
% who think it likely	46.4%		-3.0%	
Strength of likelihood	65.70	18.97	-0.81	.359

The Major Indices

These results are found in Table 2.1 (Survey 19), Table A2.1 (Comparative between surveys) and Table A2.2 (Surveys 1-10).

2.2. Personal Wellbeing Index

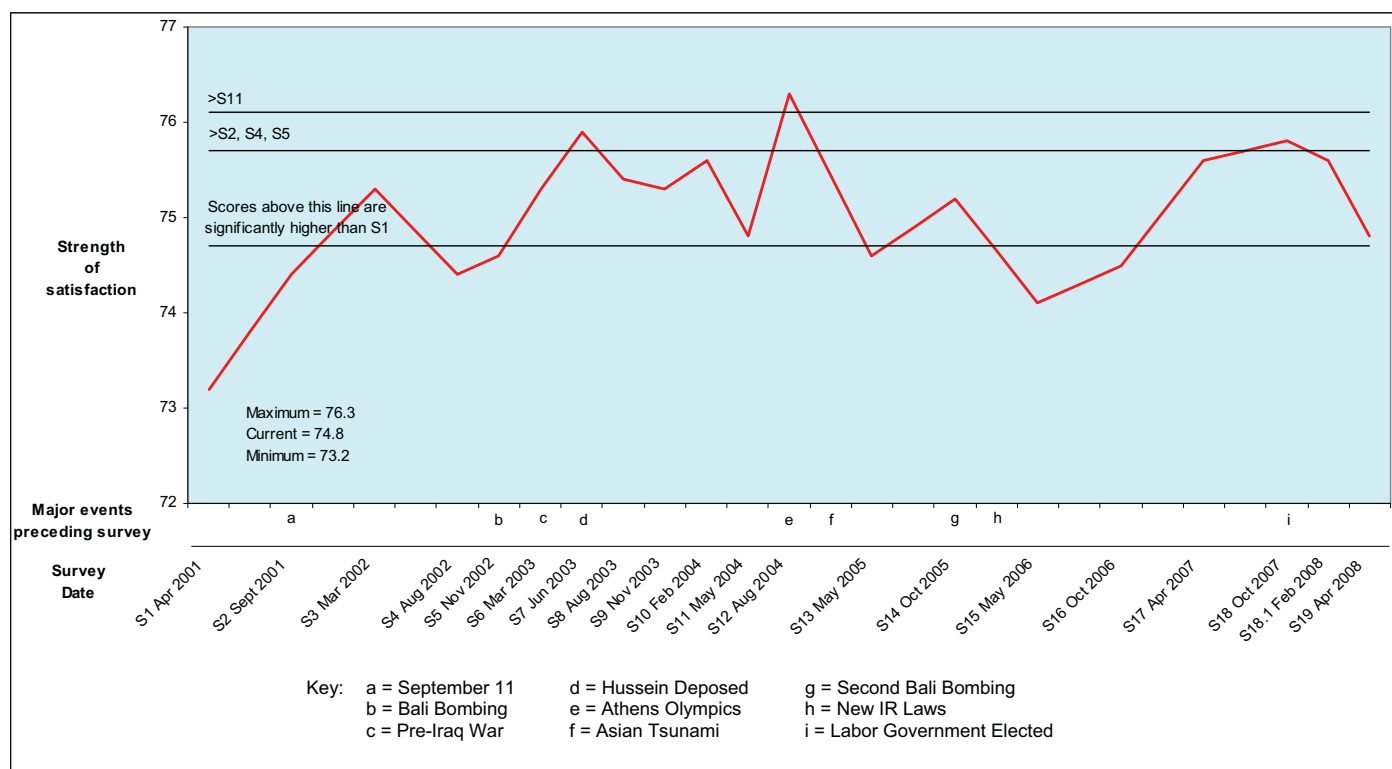


Figure 2.1: Personal Wellbeing Index

The Personal Wellbeing Index has fallen by a significant 1.0 percentage points since survey 18 in November 2007 and a fall of 0.8 points since survey 18.1 in February. In other words most of this decrease has occurred over the past two months (Tables 2.1 and A2.1). This reflects a general decrease in the domains since Survey 18 with the exception of Spiritual/Religious which has significantly risen.

In other respects it is notable that the Personal Wellbeing Index is so stable. Over the 18 surveys it has varied by just 3.1 points and, except for S1-S2 (September 11), S11-S12/S12-S13 (Sydney Olympics) and S14-S15 (Second Bali bombing), the change from one survey to the next has been 1 point or less. The range of values has been from 73.2 (S1) to 76.3 (S12) and the Personal Wellbeing Index is currently 1.6 points above its level at Survey 1, which is significant.

The most obvious trend for the Personal Wellbeing Index is that it rose following September 11 and remained generally higher. Of the 18 surveys conducted since Survey 1, 12 (66.7%) 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 this February survey.

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. Some of these have already been acknowledged, as the external sources of threat through September 11 and the Bali Bombings. The Athens Olympic success in 2004 has also been mentioned.

It is also likely that the economic conditions have exerted some degree of influence. It is important to note that the general economic situation in Australia has remained strong throughout this period with low interest rates and low unemployment. To what extent this has been influential in causing the general elevation of the Personal Wellbeing Index is unknown. However, the strong economy is unlikely to be a cause of the marked rise following September 11 because these same economic conditions existed prior to the first survey. One contender as an economic idea that might influence wellbeing is the rate of inflation. While this has remained low and generally within the 3 percent per annum ceiling mandated by the Reserve Bank, it has shown quarterly fluctuations, and so could influence wellbeing.

2.2.1. Consumer Price Index

The Consumer Price Index (CPI) measures quarterly changes in the price of a 'basket' of goods and services which account for a high proportion of expenditure by the CPI population group (i.e. metropolitan households). This 'basket' covers a wide range of goods and services, arranged in the following eleven groups:

- Food
- Alcohol and tobacco
- Clothing and footwear
- Housing
- Household contents and services
- Health
- Transportation
- Communication
- Recreation
- Education
- Financial and insurance services.

Further information about the CPI is contained in Australian Consumer Price Index: Concepts, Sources and Methods, 2005 (cat. no. 6461.0) which is available on the ABS web site <<http://www.abs.gov.au>>.

The CPI data are presented in Table A2.1.1. The value for the CPIs have been selected as being from the quarter closest to the period during which the data were collected. Each of these values is then subtracted from the value that most closely corresponded with the previous survey, and the result divided by the number of intervening months. Thus, each value used in subsequent analyses is the CPI/month in the period preceding each survey.

Table 2.2 gives the correlations of the CPI changes against the PWI over the course of the 19 surveys. ie N=19. The PWI is calculated as the mean for each gender for each survey.

Table 2.2: CPI Calculations

Row number	Character of CPI quarters	Males		Female	
		r	p<	r	p<
1	Future quarter ¹	.27	ns	-.01	ns
2	Same quarter ²	-.24	ns	-.40	.05
3	Past 1 ³	-.08	ns	-.55	.01
4	Past Σ 2	-.04	ns	-.43	.05
5	Past Σ 3	-.53	.01	-.64	.01
6	Past Σ 4	-.43	.05	-.75	.001
7	Past Σ 5	-.59	.01	-.66	.001
8	Past Σ 6	-.58	.01	-.67	.001
9	Past Σ 7	-.58	.01	-.49	.025
10	Past Σ 8	-.47	.05	-.53	.01
11	Past Σ 9	-.37	ns	-.44	.05
12	Past Σ 10	-.38	ns	-.48	.05

Notes:

- (1) This uses the single CPI/month value from Table A2.1.1 that is more recent than the quarter during which the data were collected.
- (2) This uses the single CPI/month value from Table A2.1.1 that is closest to the time of data collection for the survey.
- (3) This is the number of consecutive past quarterly CPI values that have been combined to yield an average figure for the CPI. For example, 'Past 1' is the difference between the CPI value closest to the period of data collection minus the CPI value in the previous quarter. 'Past Σ 2' indicates the difference between the CPI value closest to the period of data collection and the value of the CPI two quarters previously. Thus, this latter procedure yields an average figure for inflation over the six months prior to the survey period.

Description of the Results

These results trace out the effects of inflation on the SWB of males and females. They show the following:

1. The first line in the table shows no relationship between the measure of inflation (CPI) and the PWI for either gender. This is how it should be because the CPI is taken in the future quarter of the measurement. This simply confirms that there is nothing inherent in these data causing significant correlations.
2. The second line shows the correlations using the single CPI value that is closest to the period in which the survey data were collected. This shows a significant relationship for females but not

for males. This seems to indicate that females are exquisitely sensitive to the cost of goods and services.

3. The third line shows the relationship between the PWI and the single CPI value for the quarter prior to the survey. This shows much the same result as for line two.
4. Line 4 shows the result of combining, and averaging, the CPI in the period six months prior to the data collection. It continues to show a negative relationship for females but not for males.
5. Line 5 show the result of combining CPI data over nine months prior to the survey. At this point males also show a significant correlation and the correlation for females is increased.
6. Line 6 shows the most powerful result for both genders together. The power of the female correlation is very high, explaining 56.3% of the variation within the PWI. By contrast, the highest level of relationship for males, at Line 8, explains 33.6% of the variation.
7. Following the averaging of the CPI over more than two years (line 8+) the correlations for both genders decrease. This is expected as the averaging process progressively diminishes the differences between data points.

Conclusions:

1. The SWB of females is far more sensitive to the effects of inflation than the SWB of males.
2. In terms of both genders, the cumulative period over which people have the greatest sensitivity to inflation is one year.

The changes in the CPI vs. the Personal Wellbeing Index is shown in Table A2.1.1 and Figure 2.1.1 below:

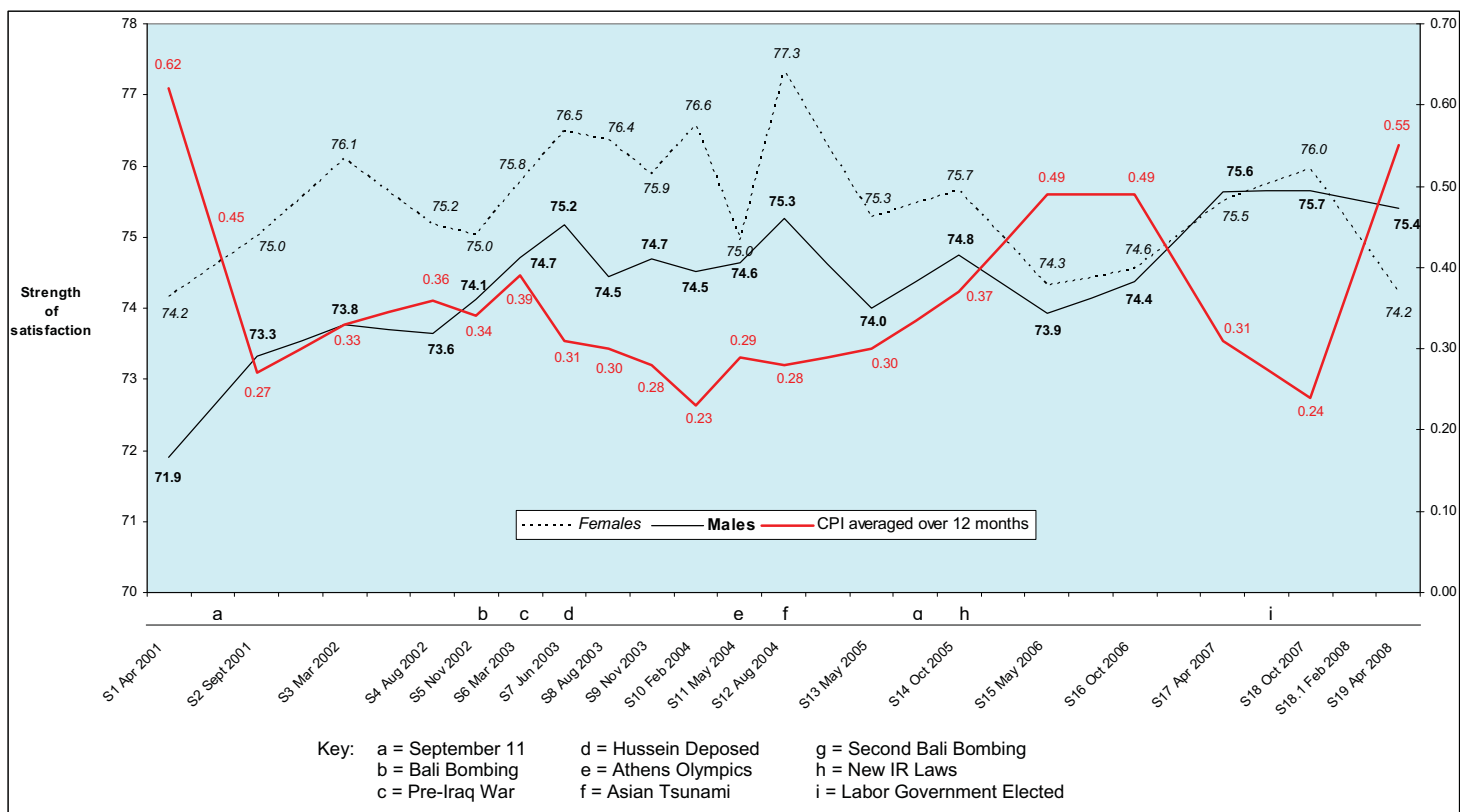
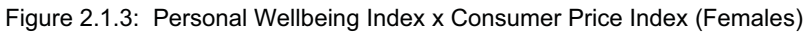


Figure 2.1.1: Personal Wellbeing Index x Consumer Price Index



9

National Wellbeing Index

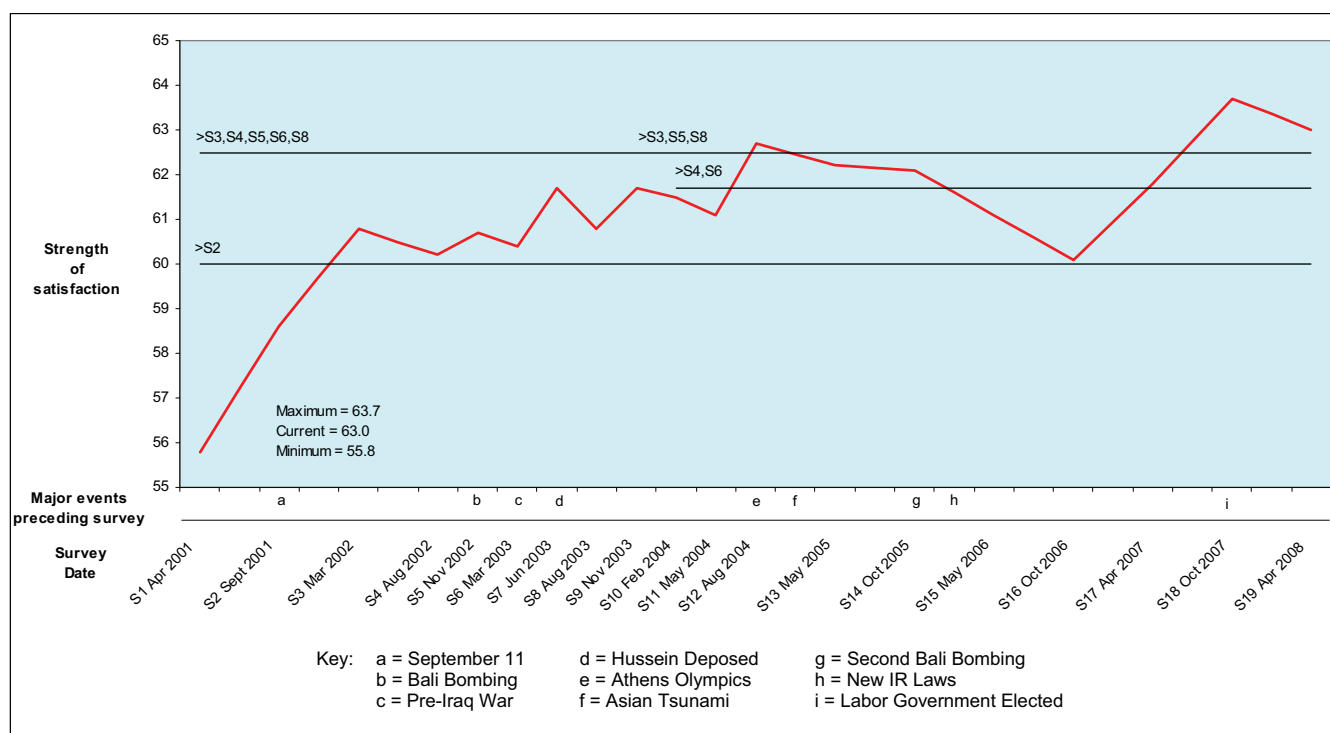


Figure 2.2: **National Wellbeing Index**

The National Wellbeing Index has fallen by a non-significant 0.7 percentage points since Survey 18, marginally down from its highest recorded level (63.7 points). The major domain influencing this fall is Economic conditions (down 8.5 points) while the major domain opposing the fall is Government (up 5.4 points). 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 fallen since Survey 18, two of them significantly (Standard of Living -1.6 points; Future Security -1.9 points). The domain of Spiritual/Religious has moved significantly against this trend (+1.9 points).

Standard of Living

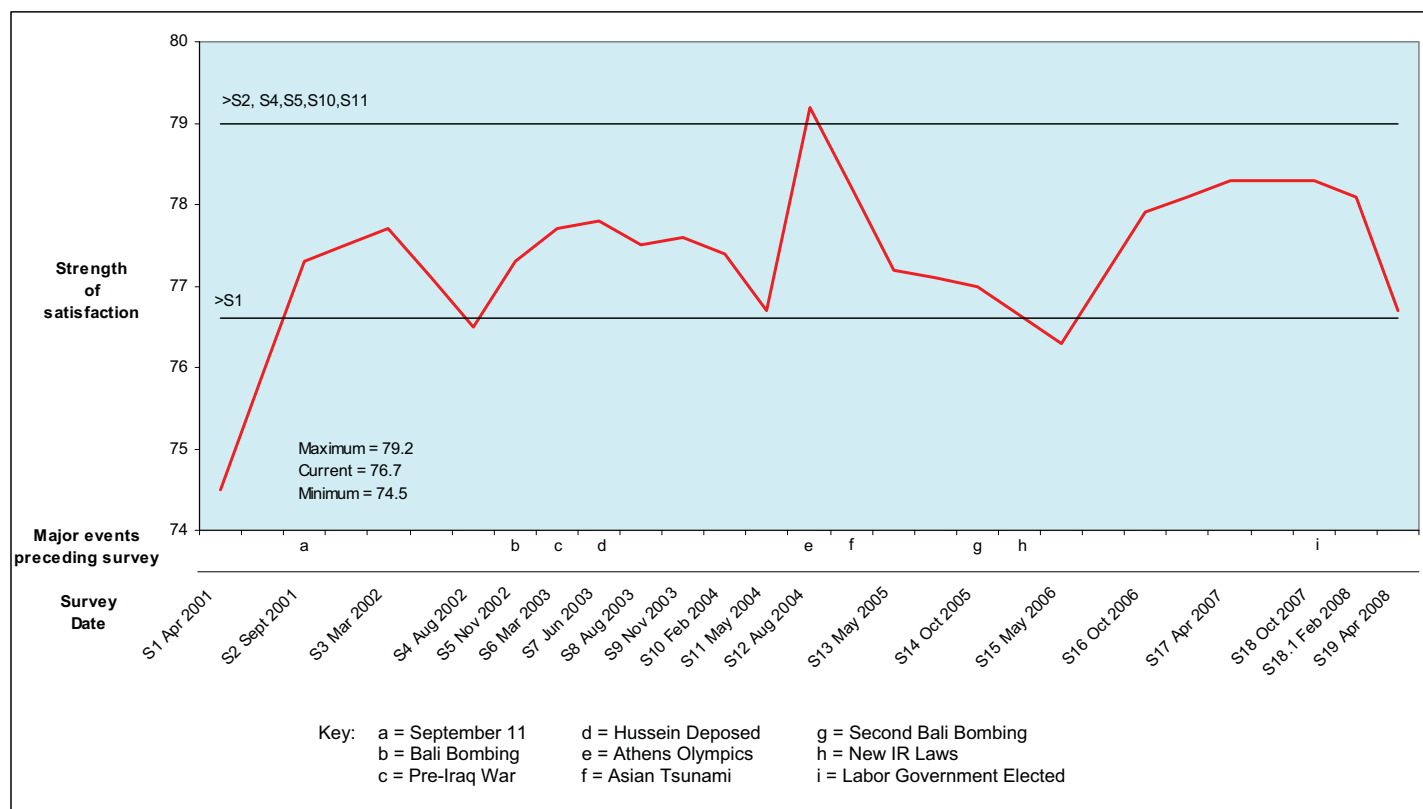
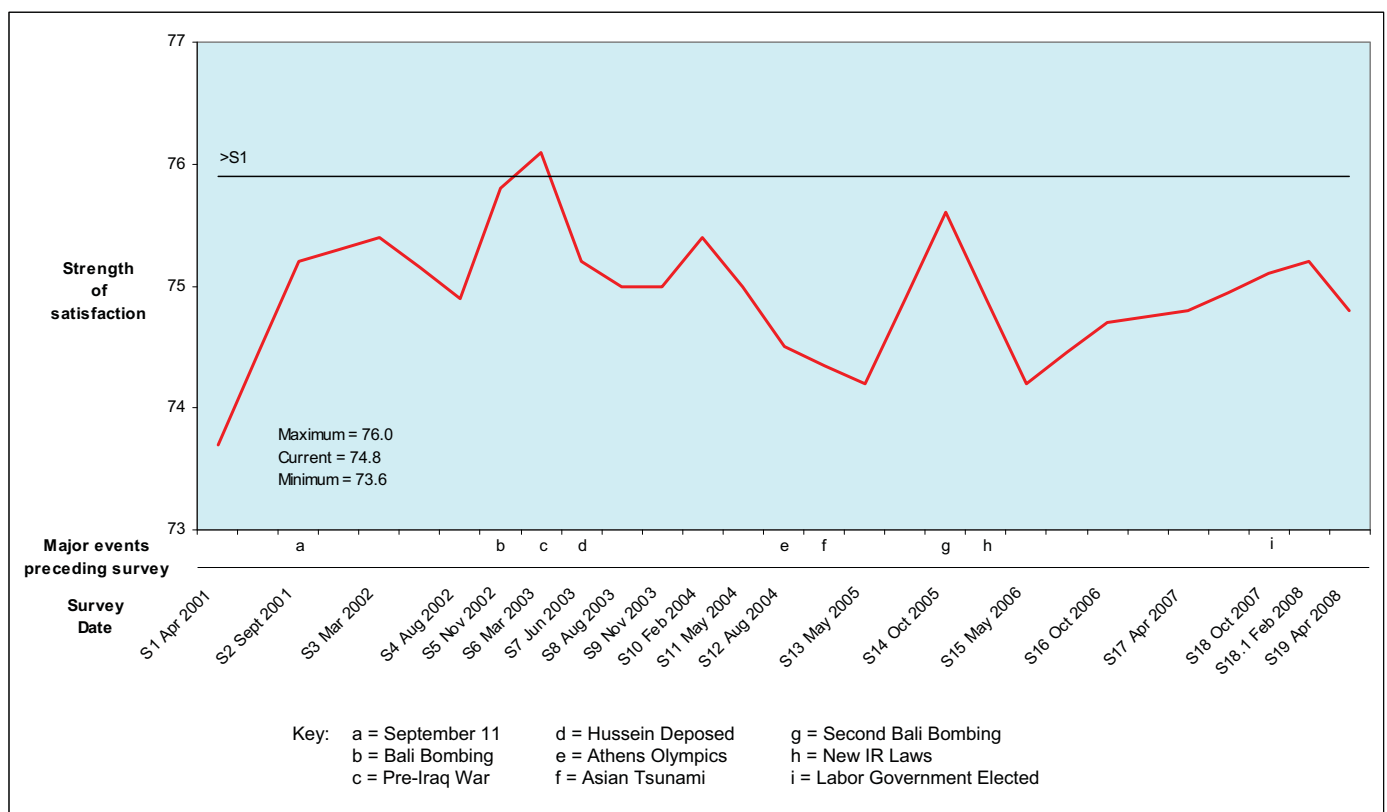


Figure 2.3: Satisfaction with **Standard of Living**

Satisfaction with standard of living has significantly fallen by 1.6 points since Survey 18 (Table A2.1). It remains higher than at Survey 1. 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. Thus, 17/19 (89.5%) of 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 fascinating to note that the rise in satisfaction with Standard of Living between May 2006 and October 2007 occurred despite a succession of 0.25 point rises in interest rates.

Health

Figure 2.4: Satisfaction with **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 it has fallen by a non-significant 0.3 points since Survey 18. 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% between April 2001 (S1:73.6) and March 2003 (S6:Pre-Iraq war:76.0).

Achieving in Life

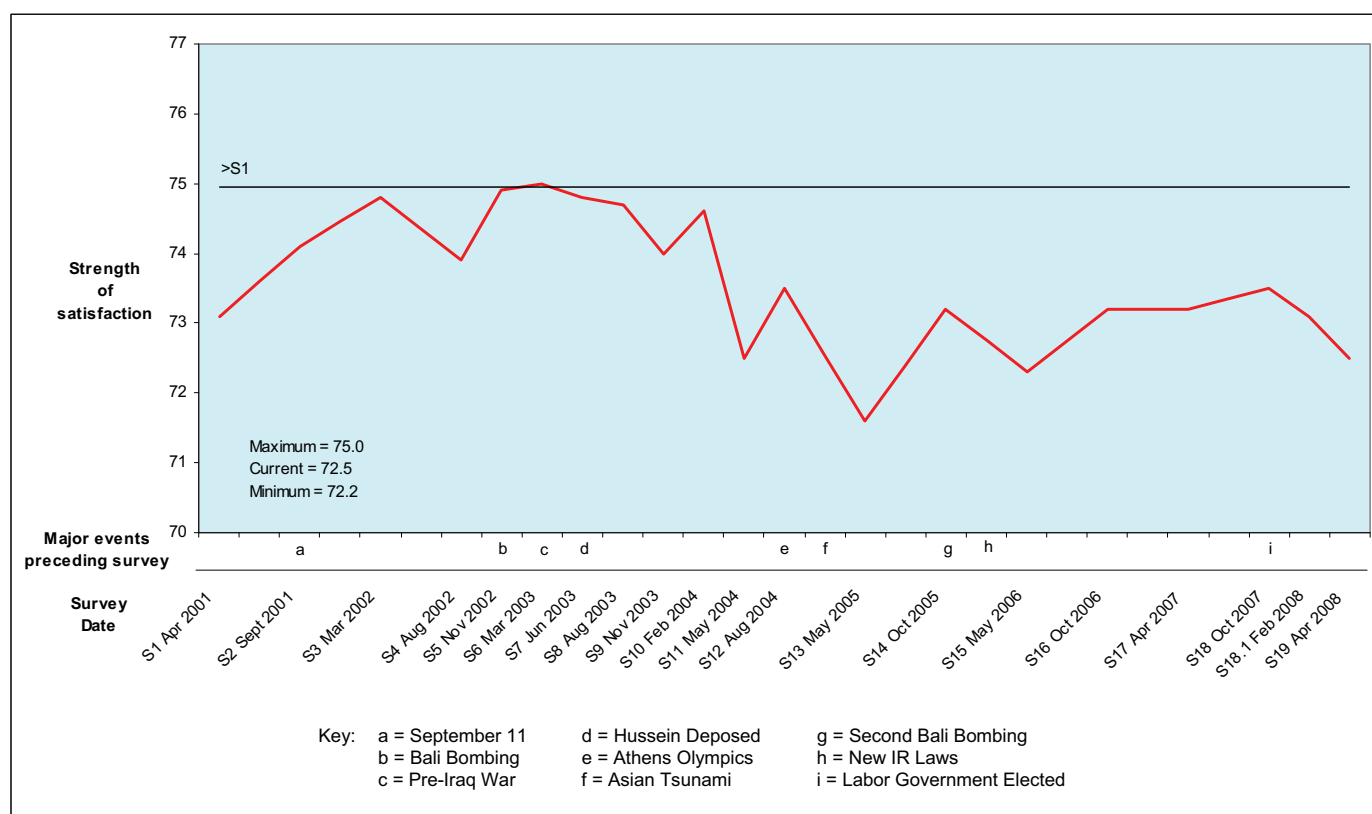


Figure 2.5: Satisfaction with **What you are Currently Achieving in Life**

Achieving in life has fallen by a non-significant 1.0 points since Survey 18. 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.

Relationships

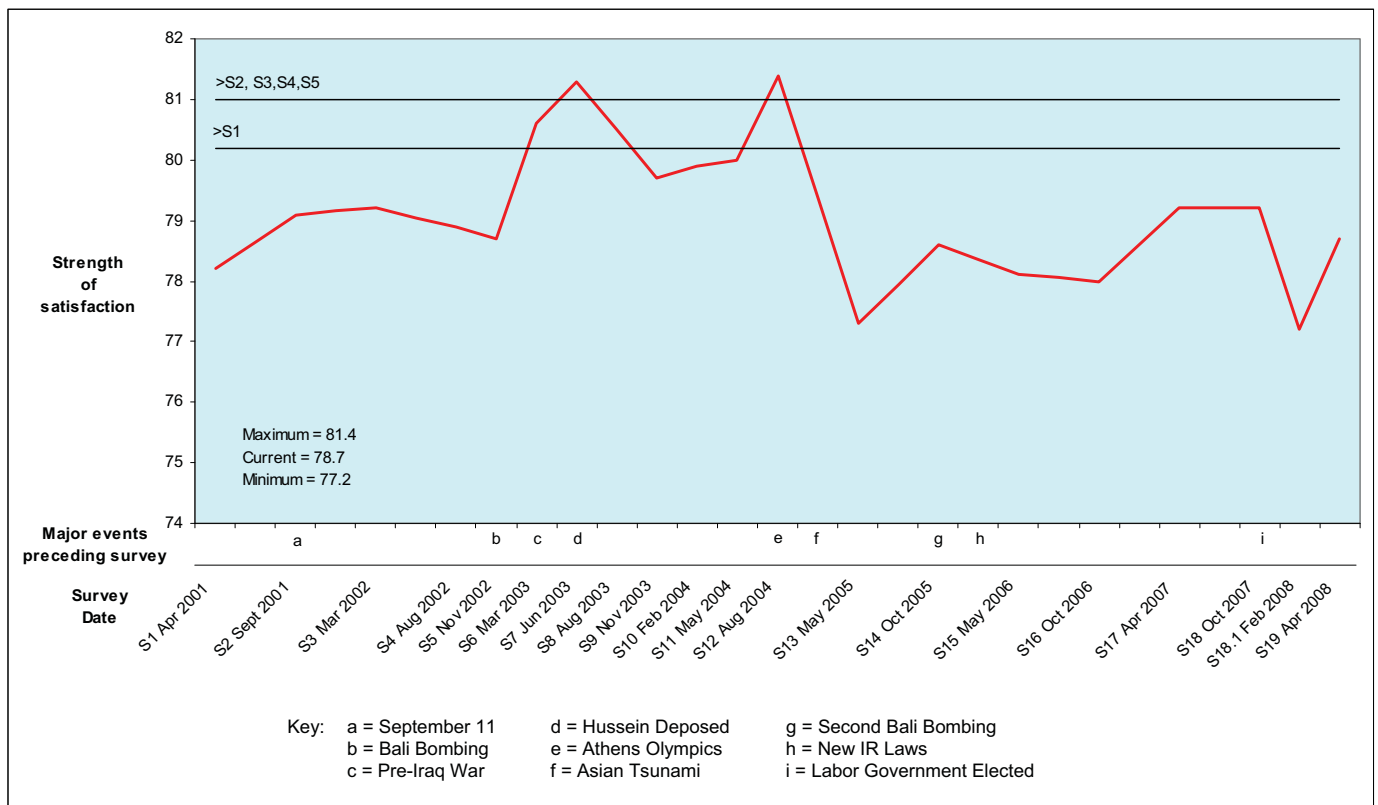


Figure 2.6: Satisfaction with **Relationships**

Satisfaction with relationships fell by a massive and significant 2.0 points between surveys 18 and 18.1. Now it has recovered some of that lost ground and is 0.6 points (non-significant) lower than Survey 18 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 (S12) value of 81.39 points. 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

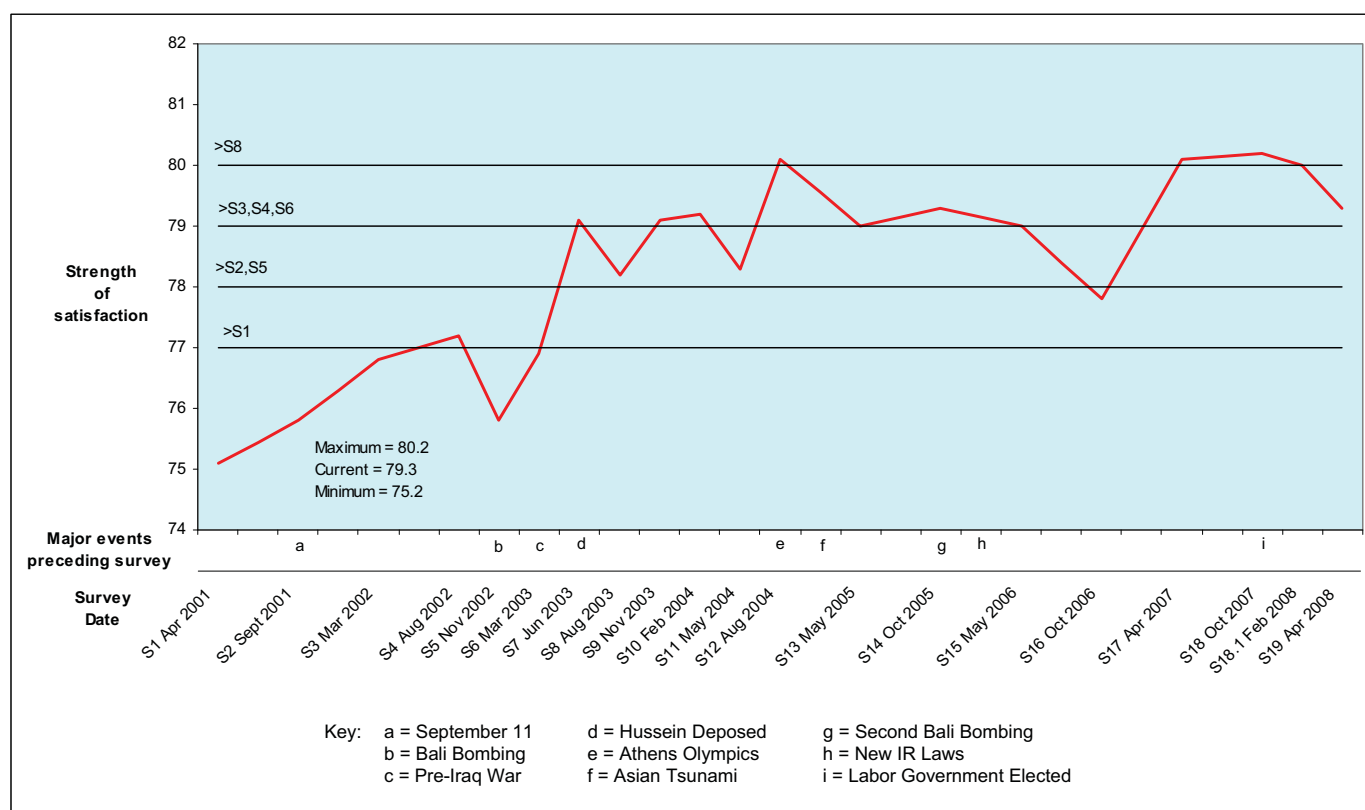


Figure 2.7: Satisfaction with **How Safe you Feel**

Satisfaction with personal safety has fallen by a non-significant 0.9 points since Survey 18 (Table 2.1). It remains at one of its highest levels.

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 current rise is hard to explain but is associated with a relatively low proportion of the sample feeling that a terrorist attack is likely (see Section 2.8). The range of scores is 5.0 points between April 2001 (S1: 75.2) and October 2007 (S18: 80.2).

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 ($r = -.44$) and less strongly with the strength of belief among those respondents who think an attack likely ($r = -.15$). The correlation of $-.44$ explains about 19% 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.

Community

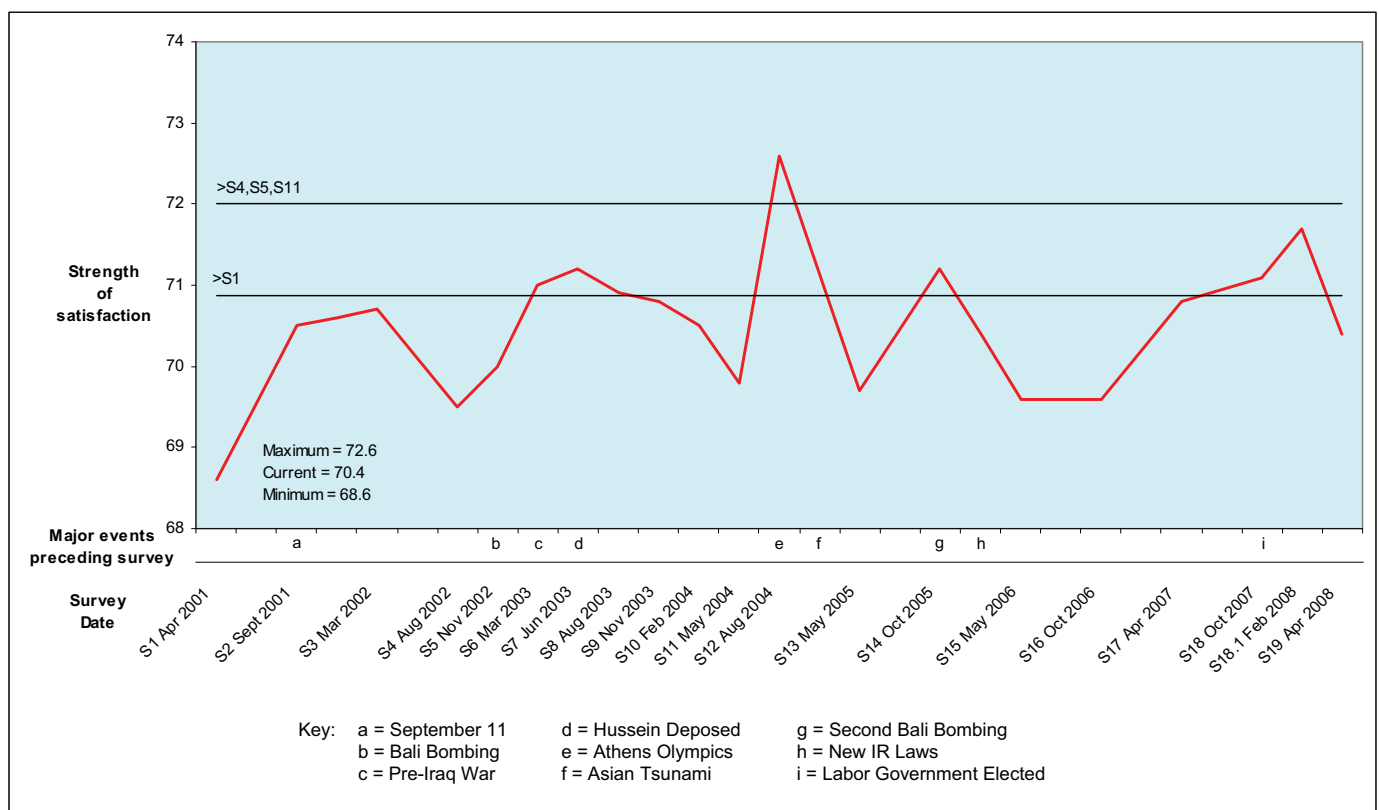


Figure 2.8: Satisfaction with **Feeling Part of Your Community**

People's satisfaction with feeling part of their community has fallen by a non-significant 0.7 points since Survey 18. It is once again no different from its level at Survey 1.

Apart from the Olympic period elevation (S12), 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. An external 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 4.0 points between April 2001 (S1:68.6) and August 2004 (S12:Olympics:72.6).

Future Security

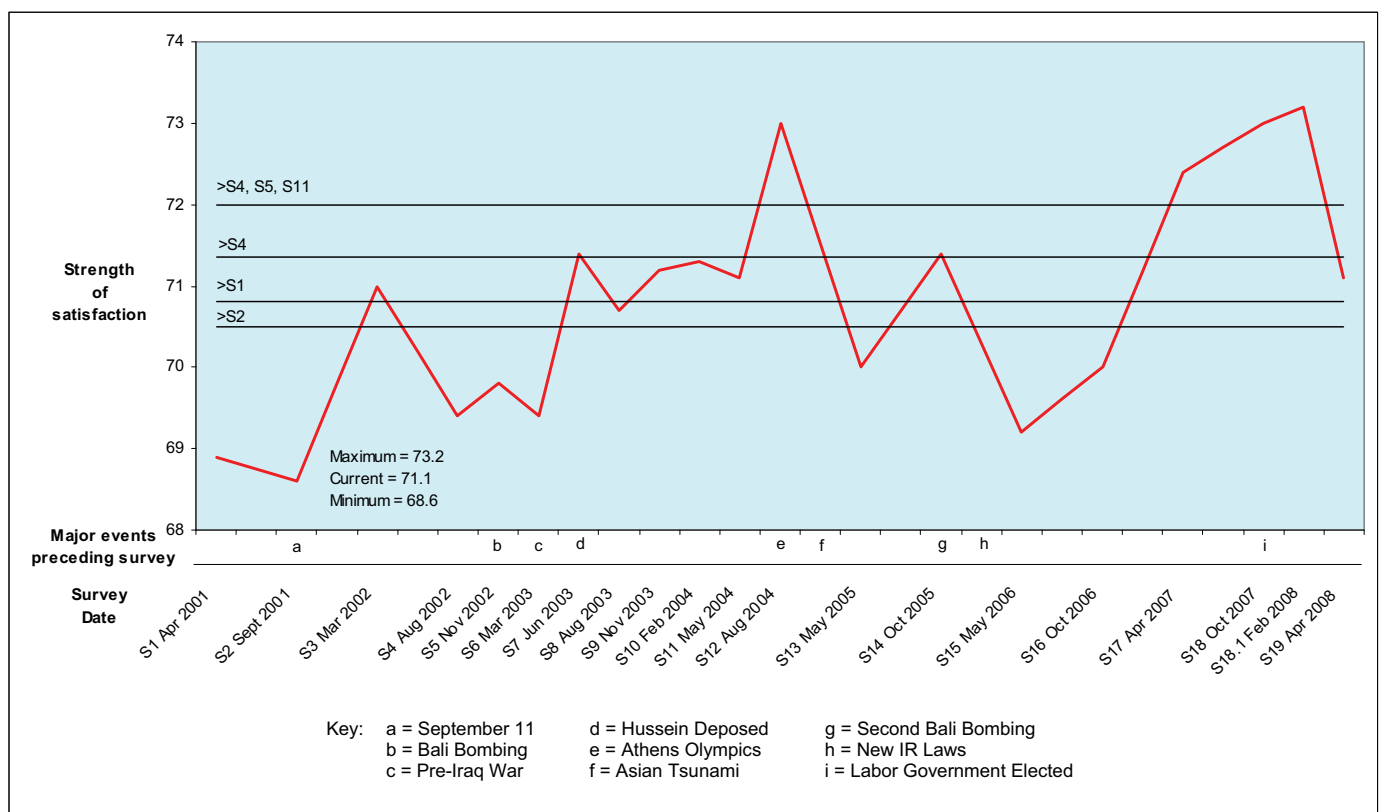


Figure 2.9: Satisfaction with **Future Security**

Satisfaction with future security has fallen by a significant 1.9 points since Survey 18. It reached its highest recorded level (73.2) at Survey 18.1. It is now at a level that is higher than Survey 2 but 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 proportions of the sample who answered in response to this item for Surveys 17-19 are shown in Table A2.16 and below.

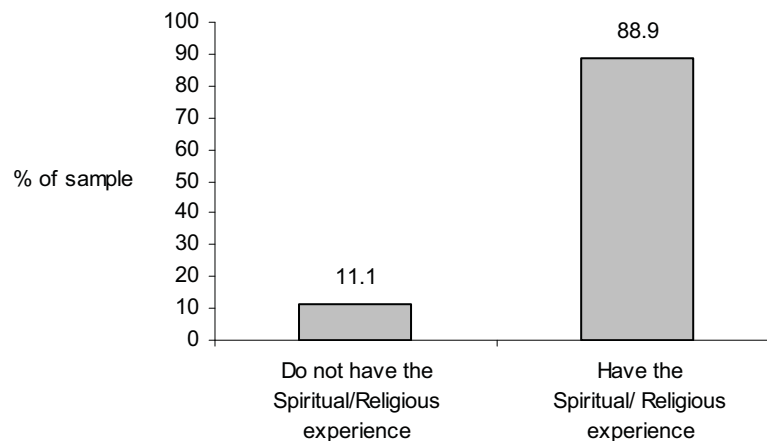


Figure 2.10: Proportion of the sample who have the Spiritual/Religious experience (combined)

While 11.1 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 A2.16 and below.

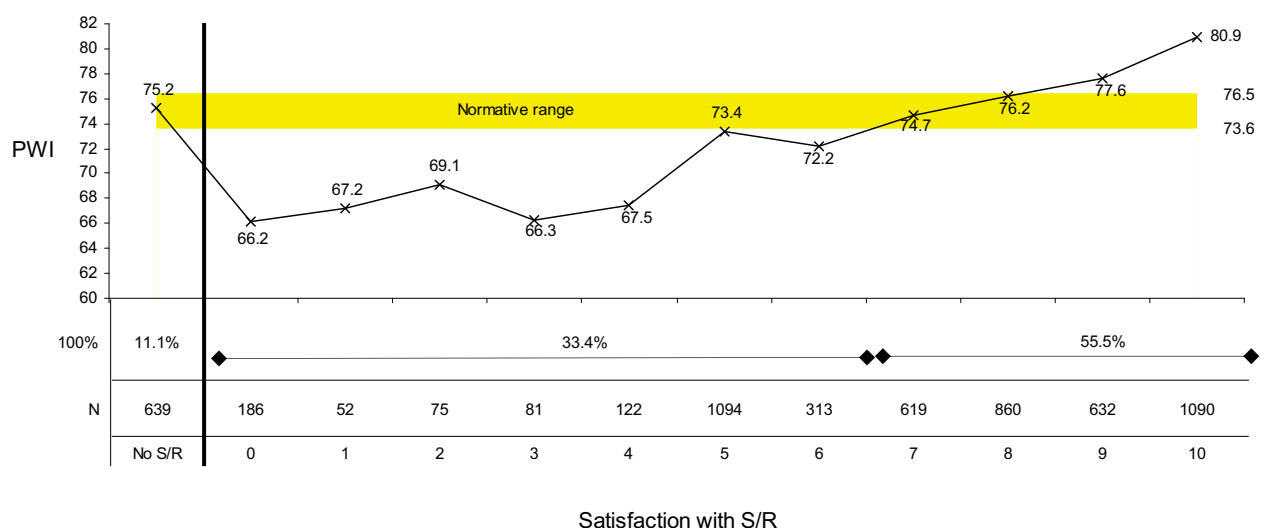


Figure 2.11: Satisfaction with Spiritual/Religious vs. Personal Wellbeing Index (combined sample)

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 sample) 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 (33.4% of the total sample).
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.

An important question when attempting to interpret these results is whether people under strong homeostatic challenge are more likely to seek a spiritual/religious experience. This requires further analysis.

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. No differences are evident in between 'Don't have it' and combined SIR 1-10.
2. For all domains, the zero Spiritual/Religious satisfaction group are 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.

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 A2.4 where comparative statistics have been calculated over Surveys 17-19.

The results show that the mean score for the Personal Wellbeing Index that includes the Spiritual/Religious domain is 0.6 points lower than for the original seven-domain scale (74.8 vs 75.4 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?”

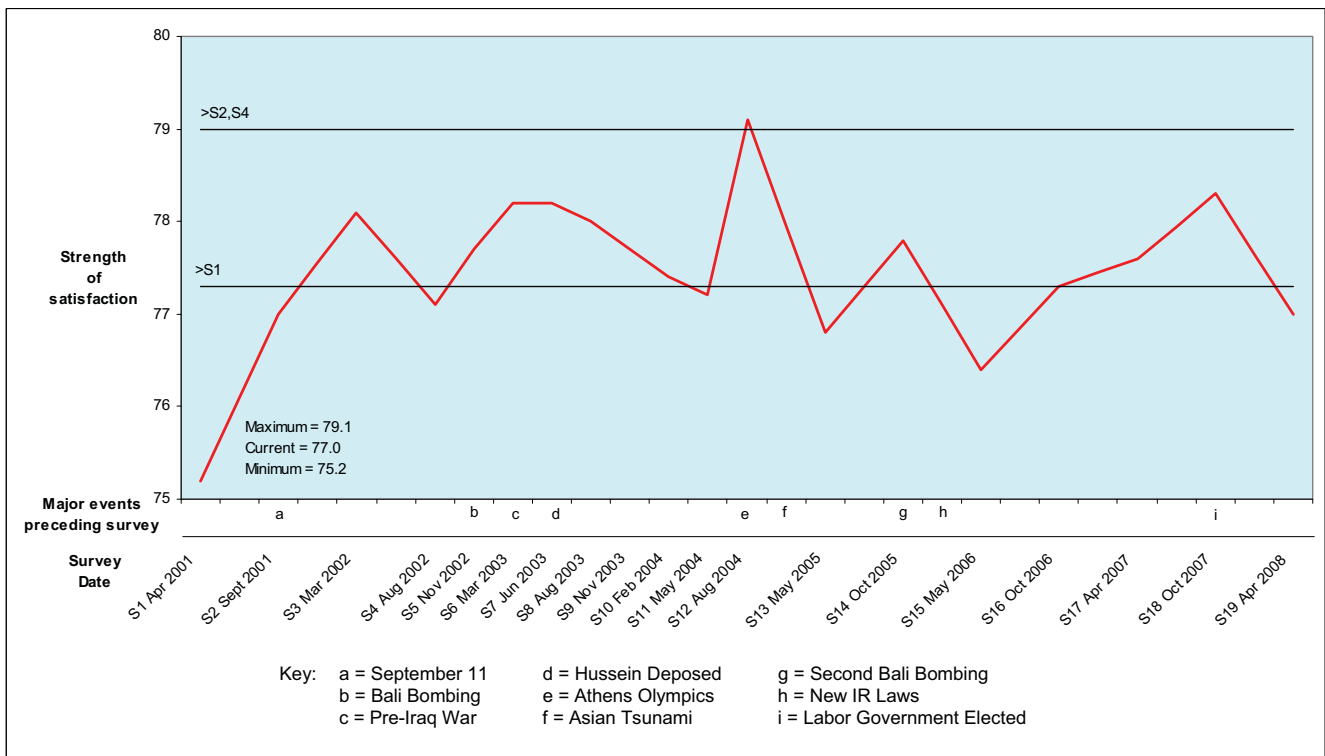


Figure 2.12: Satisfaction with **Life as a Whole**

Satisfaction with life as a whole has fallen by a significant 1.3 points since Survey 18. It is once again no different from 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).

Summary of the Changes in Personal Wellbeing

The personal wellbeing of Australians has fallen by a non-significant 1.0 points since November 2007. It remains higher than it was at Survey 1.

Looking back over the entire record of the Index (Figure 2.12) 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. First consider the domains that have not changed.

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.

Since Survey 13, three of the domains have shown only minor degrees of change. Minor, but significant, fluctuations have occurred within both Standard of Living and Community Connection. No significant changes have occurred in Relationships.

So it is really only the domains of Safety and Future Security that have changed substantially since Survey 13. While safety remains high, future security has fallen back to be no different from Survey 1.

It is important to state that these two domains do not measure the same experience. While the survey mean scores show a high correlation (.83, Table A2.13), the within-survey correlation, using the scores of individuals (Table A2.18) is much lower (.44). 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 terrorist threat had not materialised as any overt event within Australia and is unlikely to be driving these changes. Although a bare minority of the population (49.4%) still considered a terrorist attack to be likely 'in the near future' at Survey 18, this proportion had been both lower (48.3%, S13) and higher (73.4%, S14) with no concomitant shift in Satisfaction with either Safety or Future Security.

The only domain to consistently remain higher than baseline is Safety. This may be a function of the American alliance but 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 peace-keepers 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 and, perhaps therefore, a sense that potential threats are being effectively managed.

Two other points are relevant to note. The first is that the past seven years have been a period of economic prosperity, with solid economic growth and low unemployment. While this has presumably played some role in maintaining population wellbeing at a high level, it cannot explain change during this period.

The second matter of note is that on 4th December 2006 the opposition Labor party elected a new leader in Kevin Rudd. Up to the time of the change of Government (just after Survey 18) he maintained an image as a credible alternative to the long-serving incumbent, John Howard. However, even if this event had exerted some effect on the wellbeing of the population, it would presumably only do so among Labor votes and it is not at all clear why this should differentially affect the domains of Safety and Future Security.

2.5. National Wellbeing Domains

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

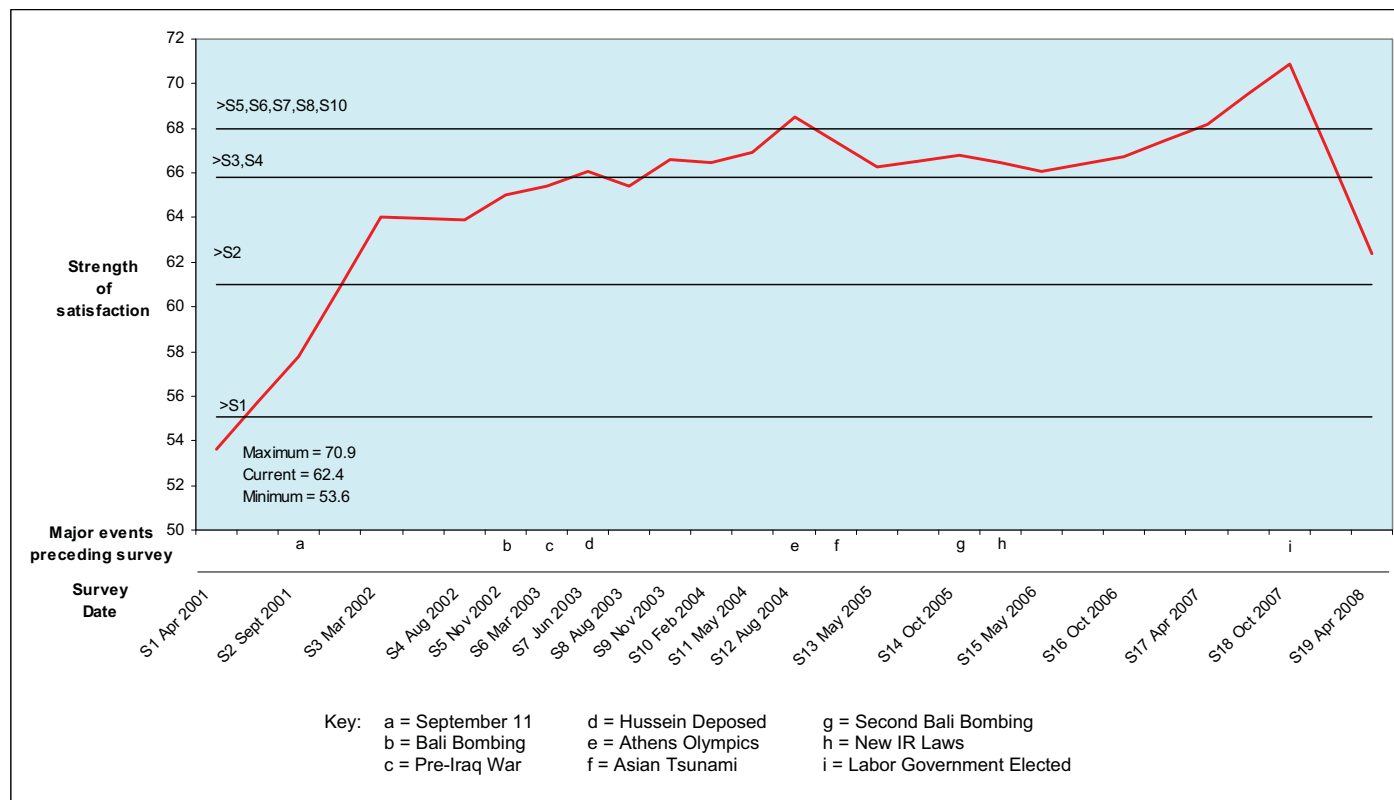


Figure 2.13: Satisfaction with the **Economic Situation in Australia**

Satisfaction with the economic situation has fallen by a massive and significant 8.5 points since Survey 18 and is now at a level only higher than Surveys 1 and 2. The reason for this precipitous fall is not clear, but could represent a lack of public confidence in the economic management ability of the new Government.

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. 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).

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

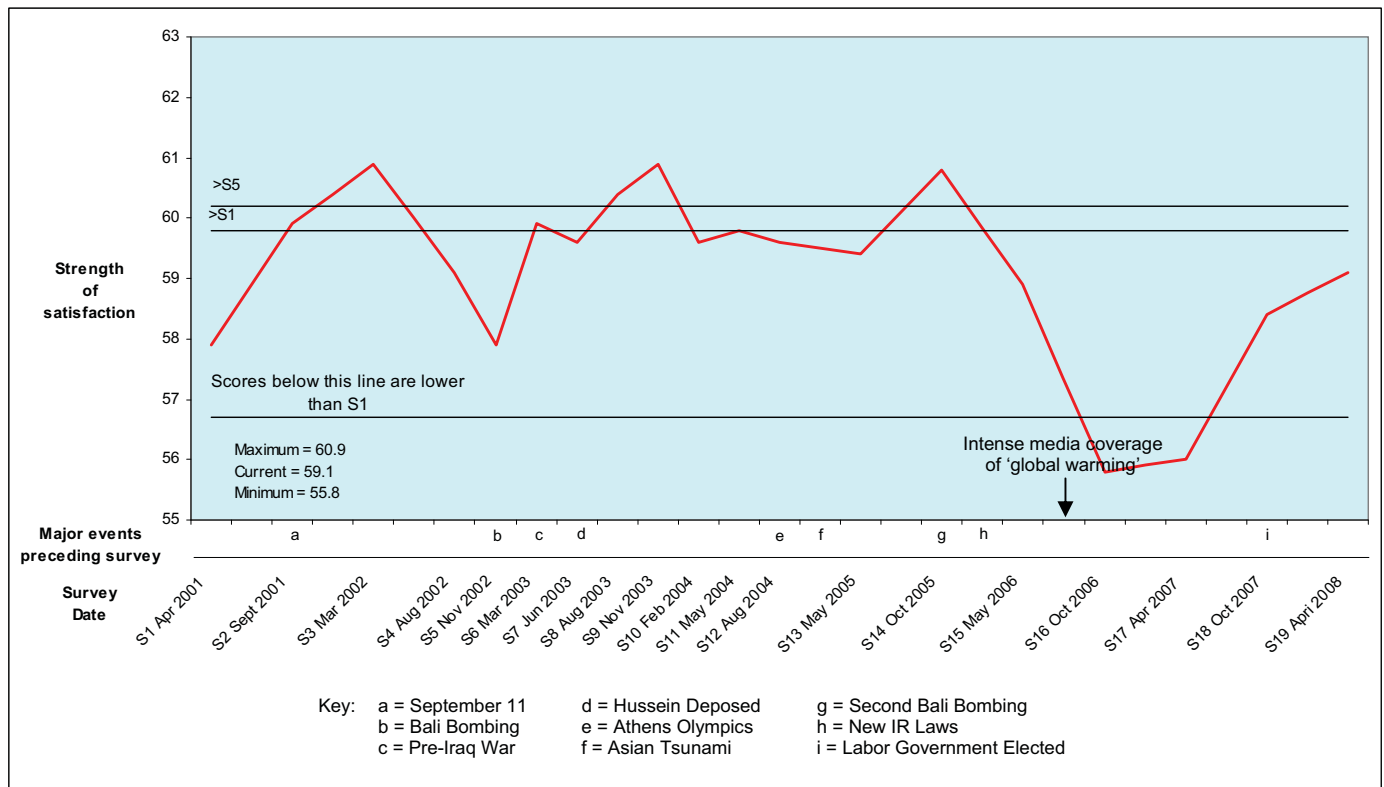


Figure 2.14: Satisfaction with the **State of the Natural Environment in Australia**

Satisfaction with the state of the environment has risen by a non-significant 0.7 points since Survey 18. 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 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).

“How satisfied are you with Social Conditions in Australia?”

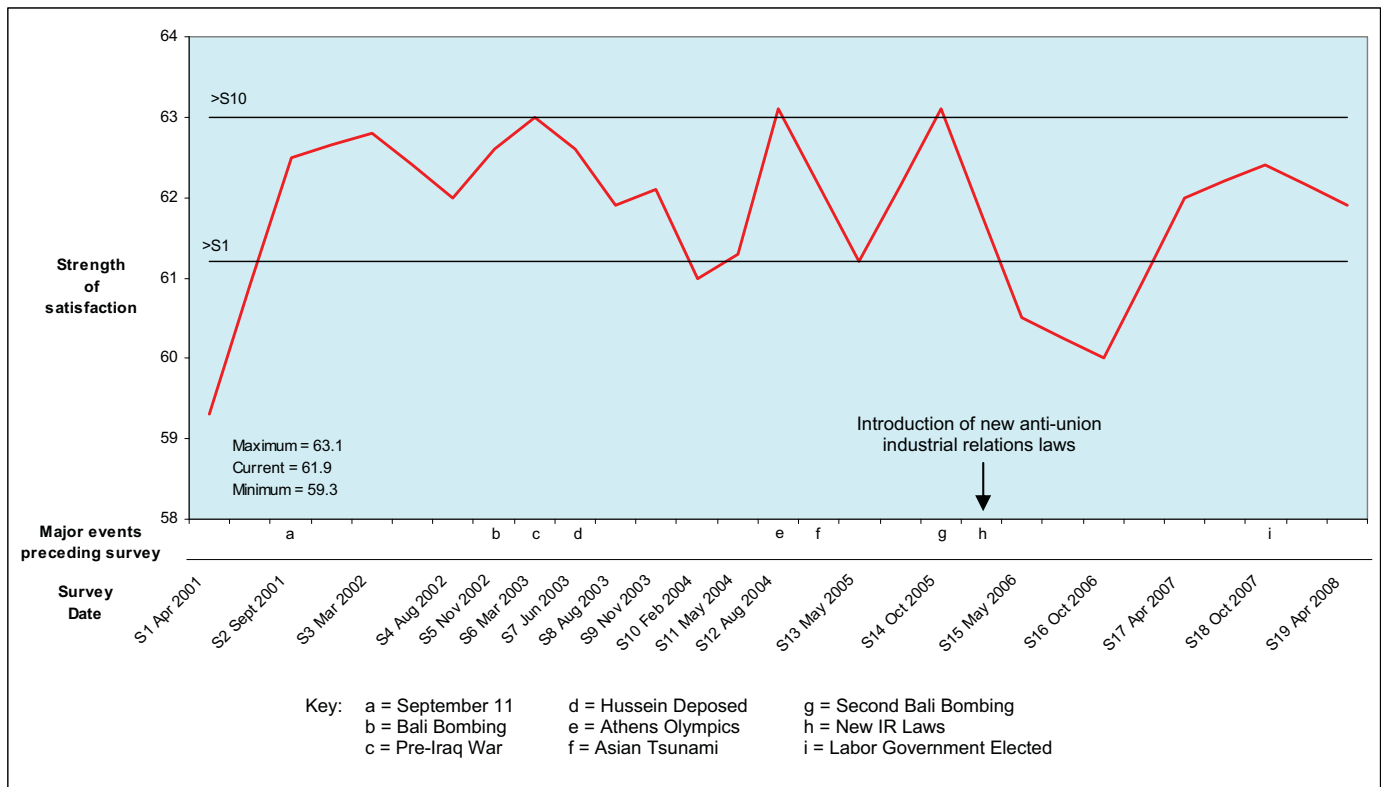


Figure 2.15: Satisfaction with the **Social Conditions in Australia**

Satisfaction with social conditions has fallen by a non-significant 0.4 points since Survey 18, to remain higher than Survey 1 and Survey 16. This has confirmed the recovery from the fall of 3.1 points between Surveys 14 and 16.

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).

“How satisfied are you with Government in Australia?”

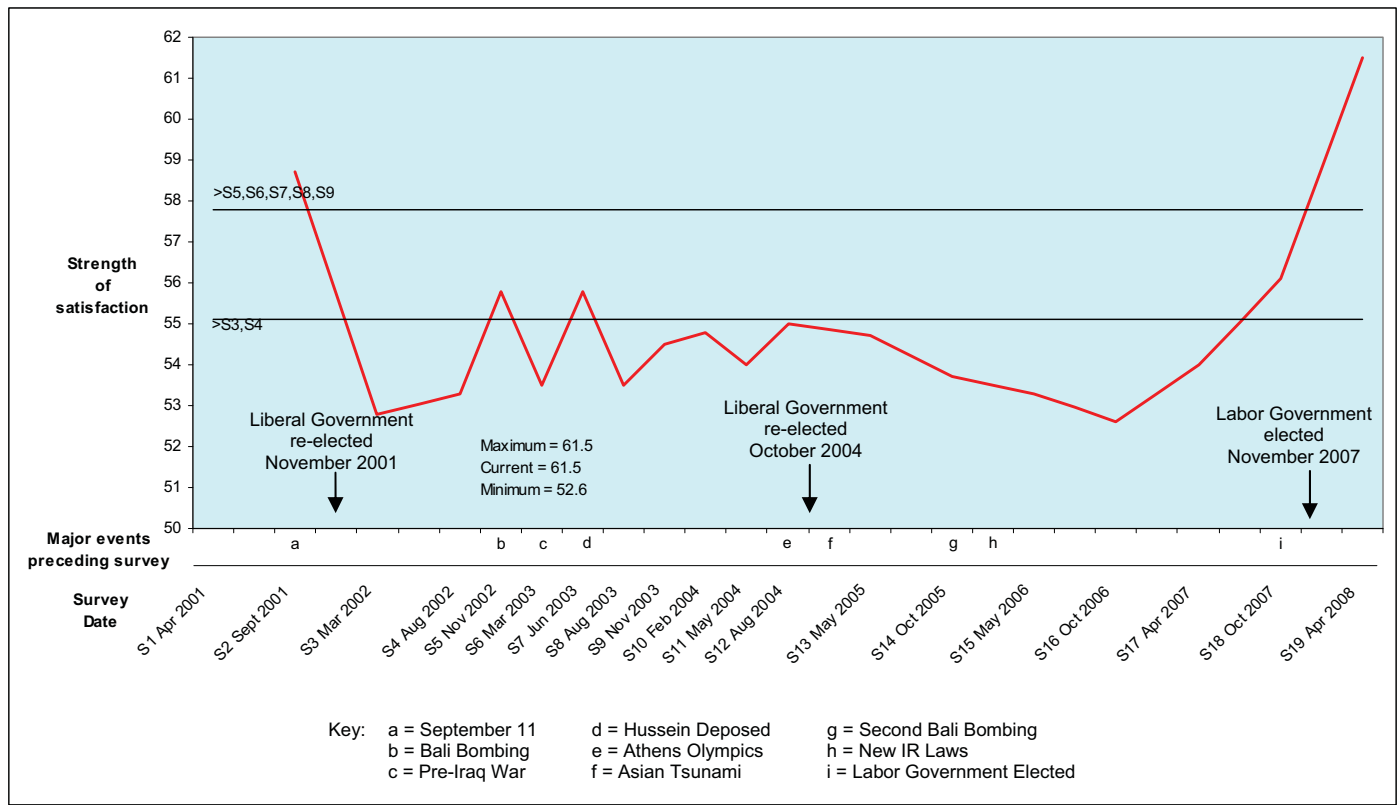


Figure 2.16: Satisfaction with **Government in Australia**

Satisfaction with Government rose a significant 2.1 points between Surveys 17 to 18, and has now risen a further 5.4 points between Surveys 18 and 19. This takes the total rise over the past year to 7.5 points. It recorded its lowest level at Survey 16 (52.6 points) and is currently 3-4 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?”

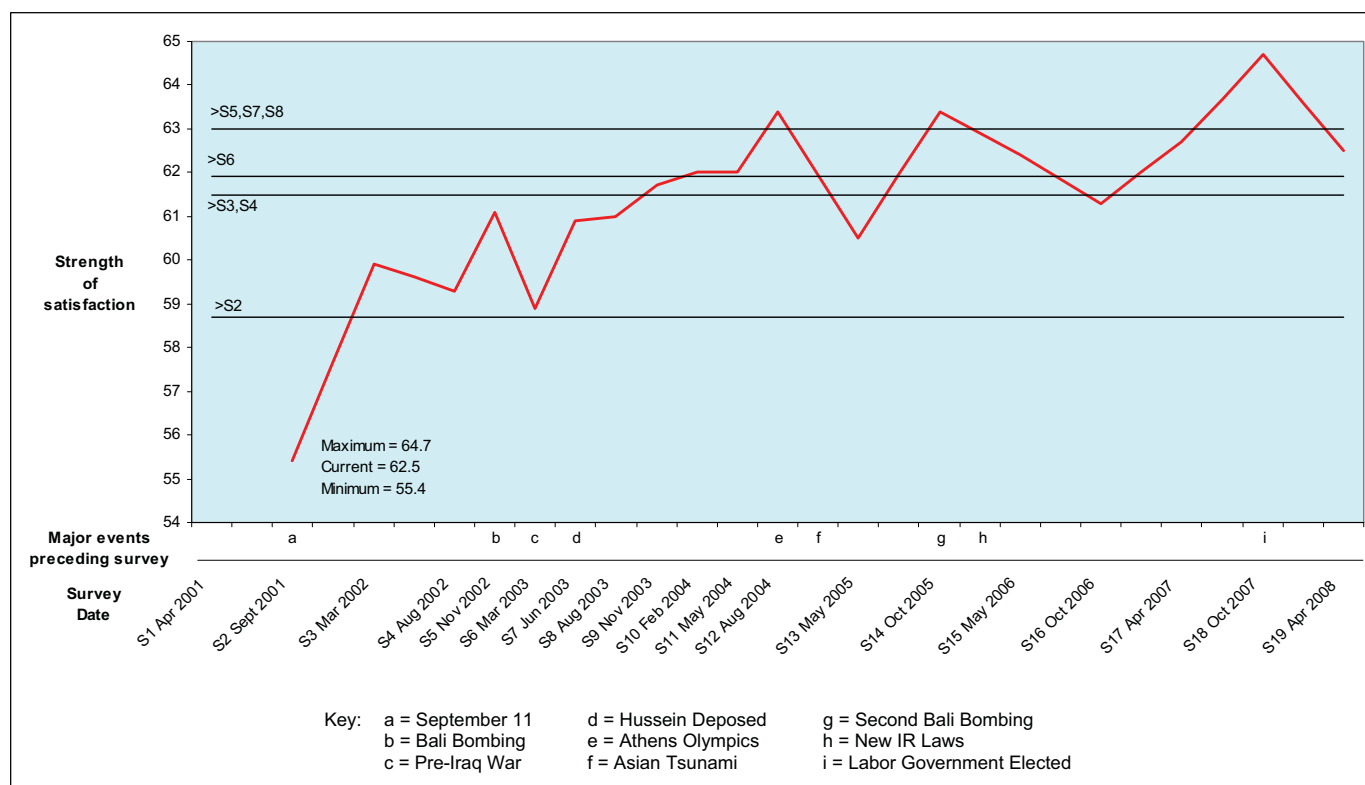


Figure 2.17: Satisfaction with **Business in Australia**

Satisfaction with Business has fallen by a significant 2.2 points since Survey 18, 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?”

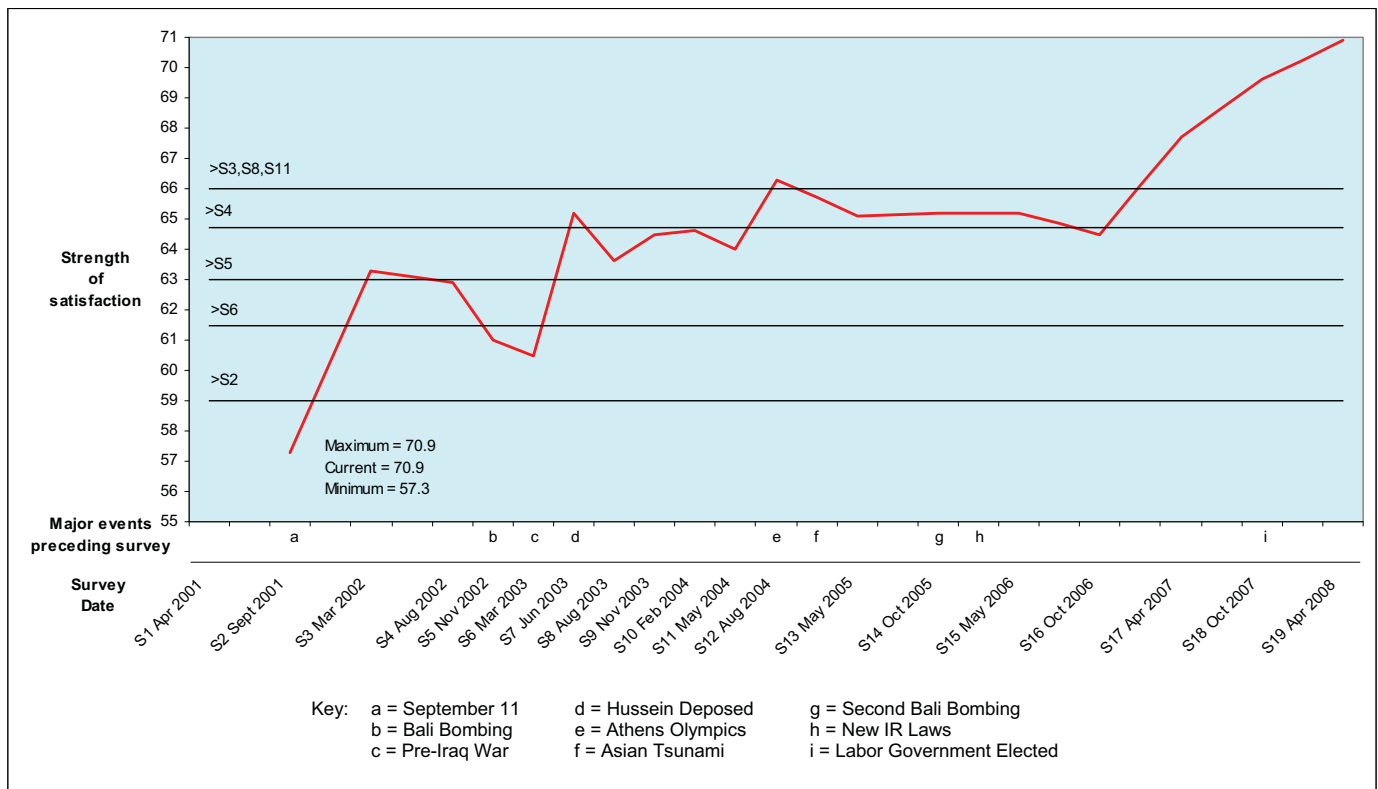


Figure 2.18: Satisfaction with **National Security**

Satisfaction with national security is at its highest level yet recorded. It has risen a significant 1.3 points since Survey 18.

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?”

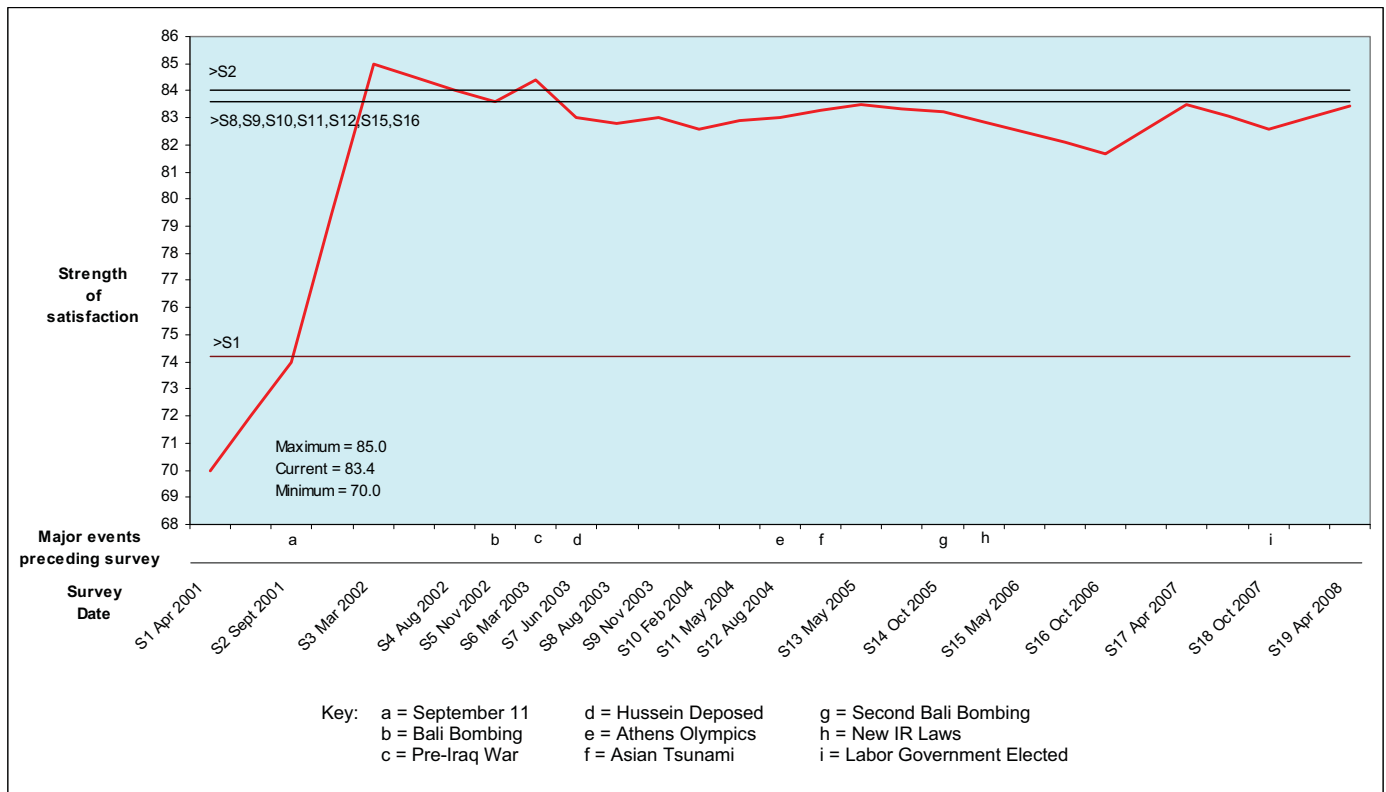


Figure 2.19: Satisfaction with **Life in Australia**

Satisfaction with life in Australia has risen by a non-significant 0.8 points since Survey 18 and remains higher than both Survey 1 and Survey 2.

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 March 2002 (S3:5 months following September 11:84.9).

Summary of changes in National Wellbeing

The National Wellbeing Index has remained steady between Surveys 18 and 19. However, this average masks major changes at the level of individual domains. Four domains have shown significant changes 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 has now ended with both domains posting significant falls (Economic situation -8.5 points and Business -2.2 points). These falls may be influenced by rising interest rates or by popular perceptions of Labor governments in general as poor economic managers.

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. These results attest to the speed of adaptation by the population to continuous negative publicity.
3. Satisfaction with 'Government in Australia' was at a relatively high level in October 2007. Notably, however, the incumbent Liberal Party lost the election held just one month later. This is interesting since it seems to indicate that people are answering the question as intended. That is, they are responding to the proper functioning of the democratic processes of governance rather than to the popularity of the incumbent political party.

The other possibility is that, so close to an election, people's views become more polarised in favour of one political party for whom they intend to vote. This then causes their satisfaction with that party to rise, and so overall satisfaction with Government goes up.

In any event, Survey 19 has shown a spectacular rise in satisfaction, taking it to by far its highest level yet recorded. Presumably this reflects a general feeling in the population that Government is doing a good job.

4. The new anti-union, industrial relations laws came into force on 27th March 2006. The aim of these laws was to cause the negotiation of individual worker-employer agreements rather than the previous collective-bargaining undertaken by unions. This new procedure was widely condemned by ordinary workers due to the perceived power-differential favouring the employer in many circumstances. Subsequent publicity tended to confirm the expectation of worker exploitation by unprincipled employers.

It is therefore notable that the next two surveys (S15 and S16) showed a fall in satisfaction with social conditions, but that previous levels were regained one year later. Thus, if these IR laws were causal in this fall, their influence lasted only over a 6-12 month period, which is much the same as that demonstrated for satisfaction with the natural environment.

The incoming Labor Government had pledged, during campaigning, to repeal these laws if it was elected to office. Indeed, the laws were repealed in early 2008 and satisfaction with Social Conditions has returned to its customary level.

2.7. Australian Wellbeing Summary

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.

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

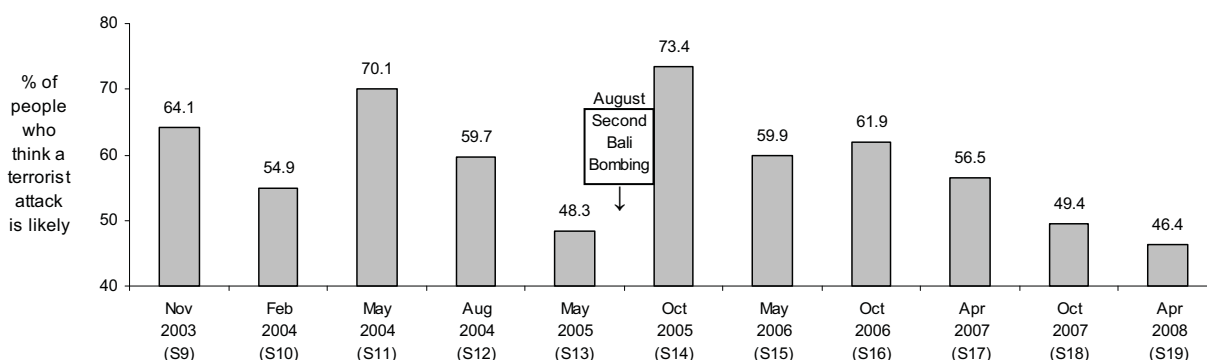


Figure 2.20: Percentage who think a terrorist attack is likely

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. In relation to Survey 19, 46.4% of the sample responded 'Yes' (Table A2.1). This is 3.0% less than the proportion who responded 'Yes' six months earlier in October 2007.

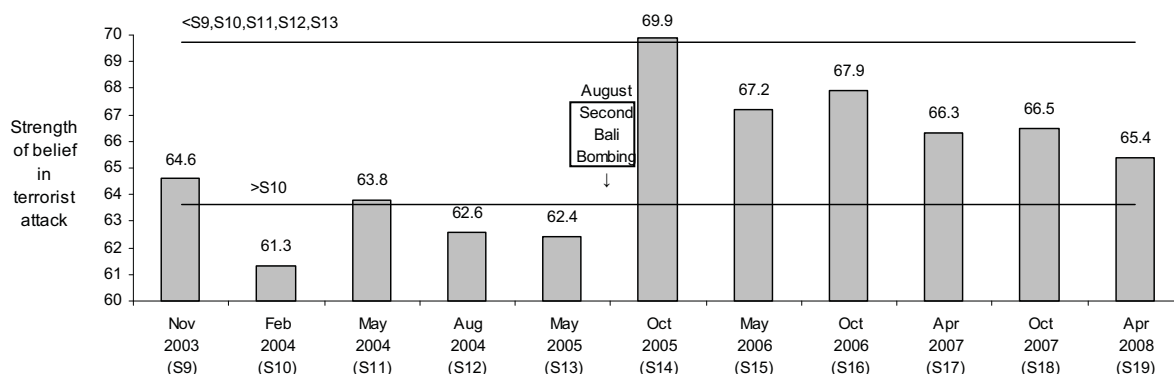


Figure 2.21: Strength of Belief in a Terrorist Attack

Figure 2.21 shows data that are restricted to the people who consider a terrorist attack likely (i.e. the 46.4% who said 'Yes' in Survey 18). They are asked to rate the strength of their belief that such an attack will occur (Table A2.1). The mean scores representing the strength of their belief for each survey are shown.

As can be seen, the strength of this belief has changed little over the past two years and 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 2.22 has been prepared on the basis of the accumulated data shown in Table A2.3.

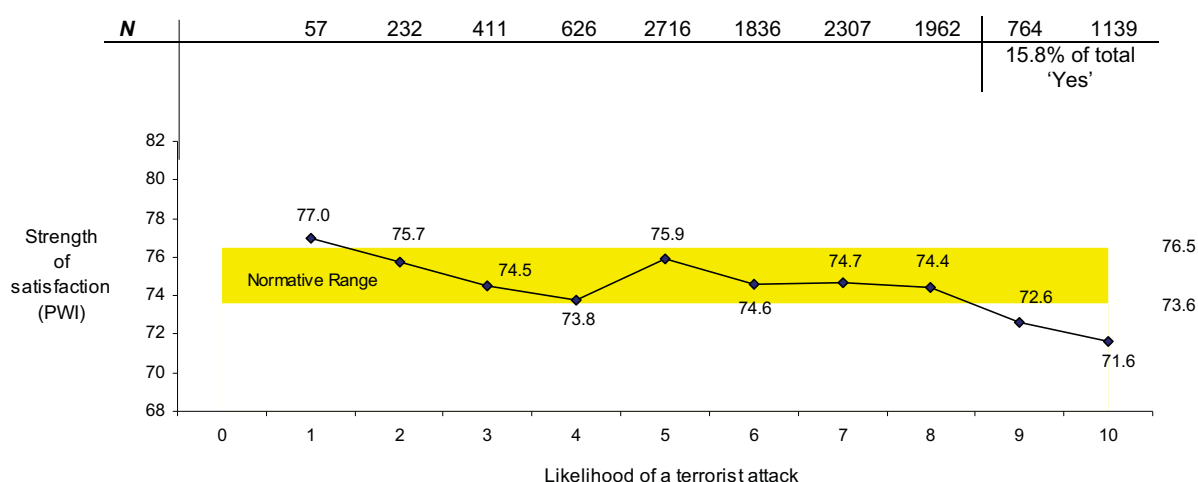


Figure 2.22: Likelihood of Terrorist Attack x Personal Wellbeing Index (combined surveys 9-15)

Using the PWI mean scores in Table A2.3 and Figure 2.22, 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.

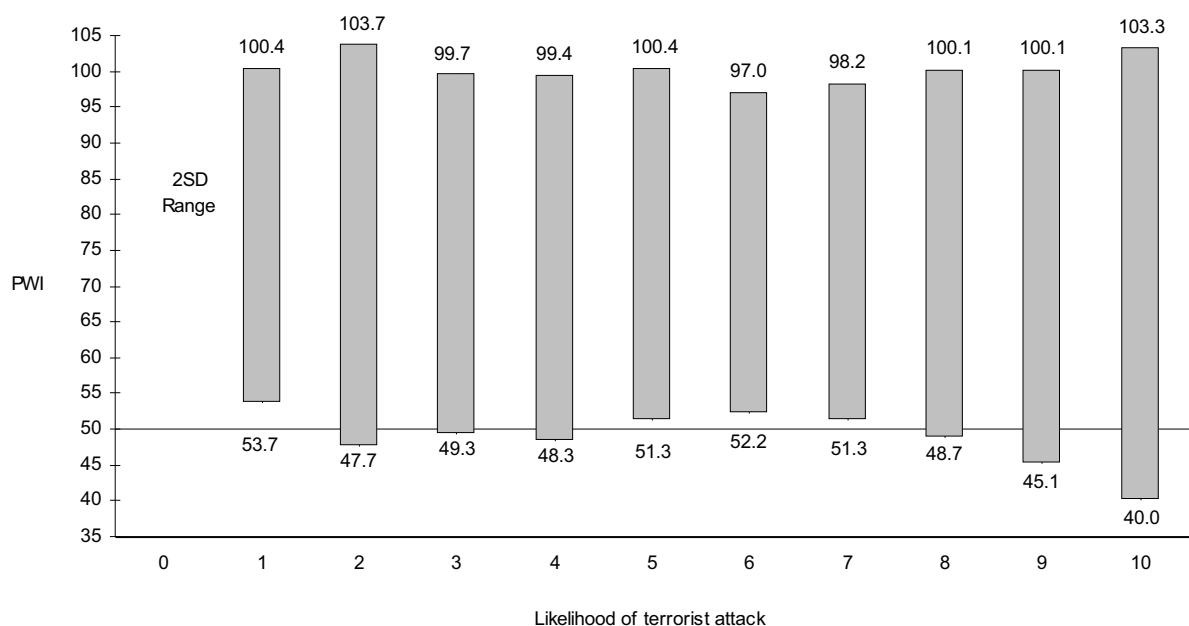


Figure 2.23: Likelihood of Attack x Personal Wellbeing Index Showing 2SD Below the Mean

Figure 2.23 shows the two-standard deviation range of the Personal Wellbeing Index for each level of attack likelihood. 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%) has the highest mean score (77.3) and the highest margin above 50 points (53.7). The implications of this are as follows:
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.

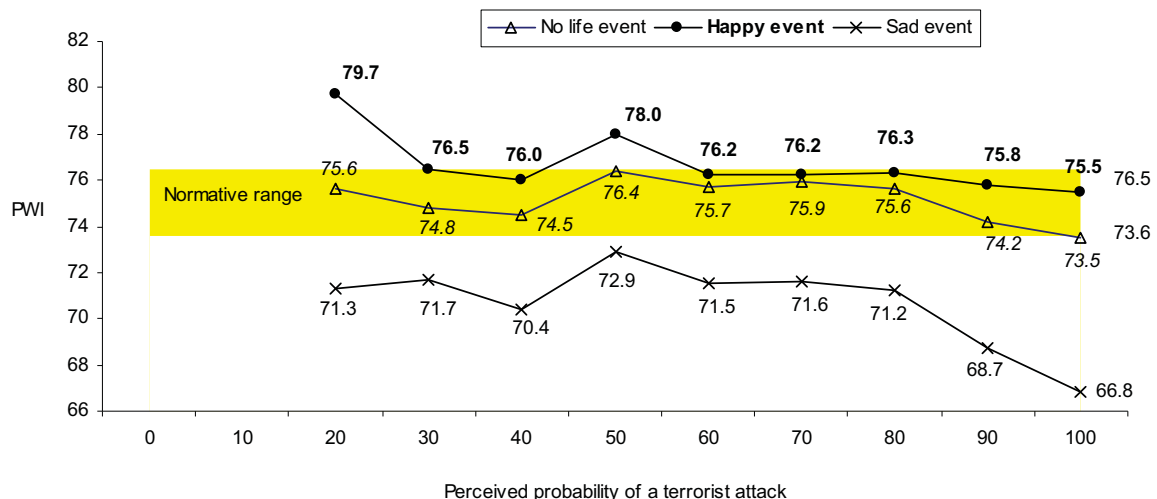


Figure 2.24: Personal Wellbeing Index x Attack Probability x Life Events

Figure 2.24 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=409) their Personal Wellbeing Index remained within 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 is 2.4 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 4.6 percentage points, from 80.1 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 (4.6 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 6.3 points, which is higher than the other two groups. However, there is something strange about the PWI value of 72.9 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 5.1 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 11 survey mean scores to work with the one-tail criterion for significance is $r = .62$. Thus, the actual correlations with safety (percentage who think an attack likely = $-.44$; strength of belief = $-.15$) fall short of significance. 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 2.24).

However, despite this weak statistical result it is possible that the addition of future survey data will take these correlations closer to significance. 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 .38. This is convergent validation for the two measures between surveys.

2.9. State Comparisons

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 = 36,913). The results are shown below.

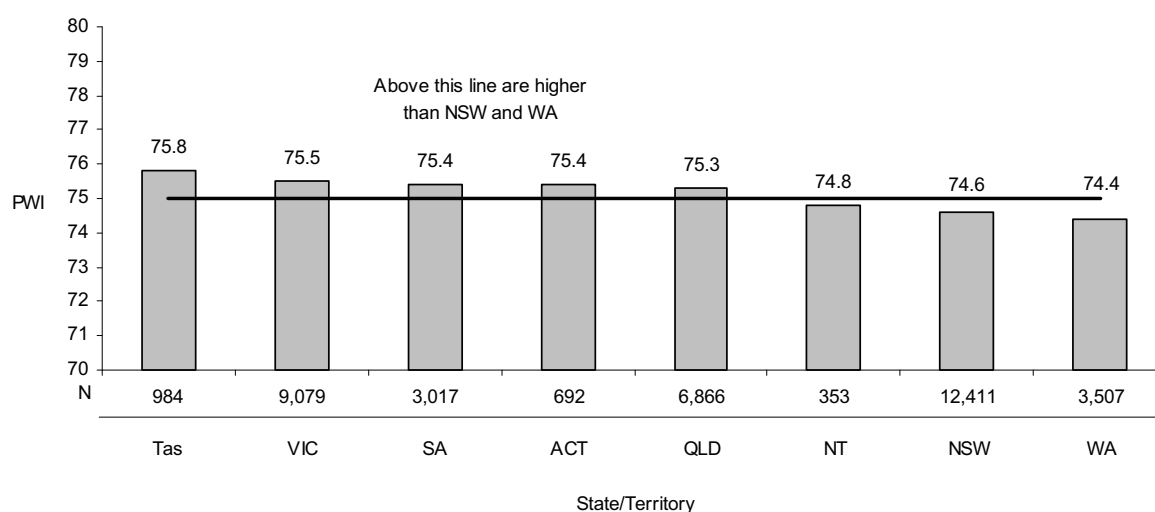


Figure 2.25.1: State/Territory Comparisons using Combined Data using Combined Data (Personal Wellbeing Index)

Statistical tests of significance show that VIC, SA, QLD > NSW, WA. However, such tests are sensitive to the number of respondents in each group. It is, thus, reasonable to expect that as the numbers of respondent in TAS and ACT builds over future surveys, they will also become significantly higher than NSW and WA.

An important perspective onto these results is that the means for all states and territories fall well within the normal range (73.6 – 76.5 points). Moreover, the full range of these results is 1.4 points.

2.9.2. State/Territory Comparisons Over Time

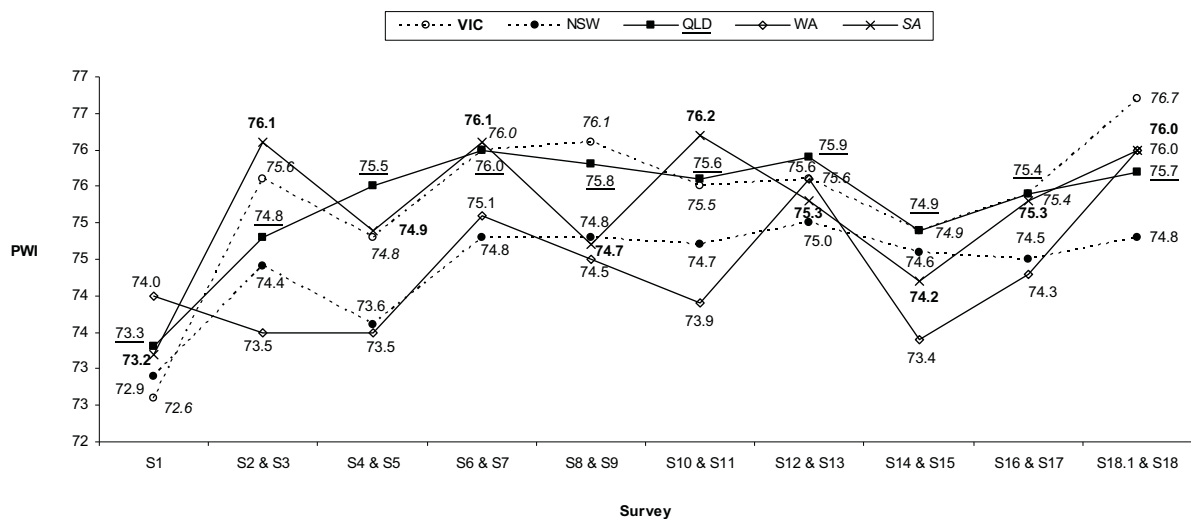


Figure 2.25.2: State x Grouped Surveys (Personal Wellbeing Index)

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-S18 (N=20,120, Table A2.5).

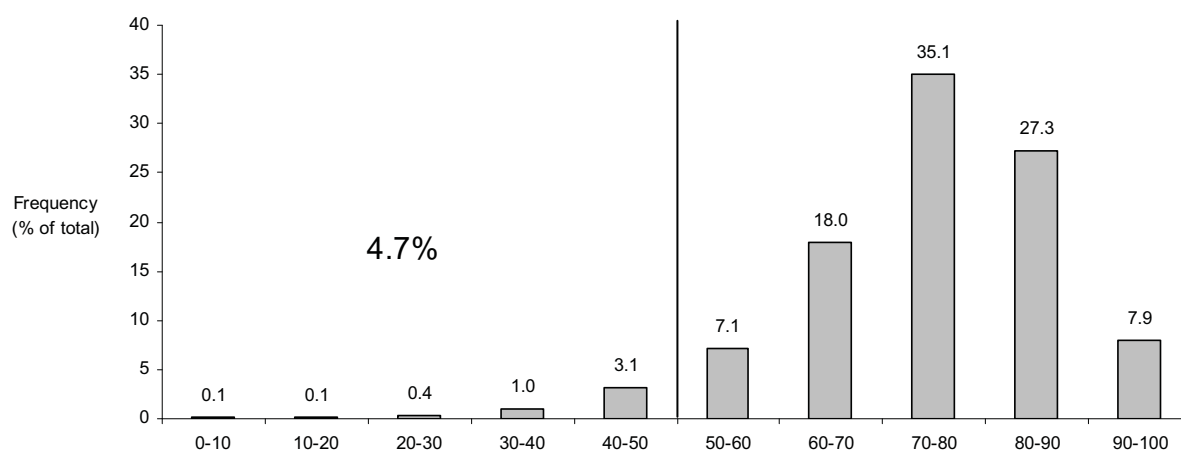


Figure 2.26: Frequency Distribution of Personal Wellbeing Index

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 4.7% 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=38,420).

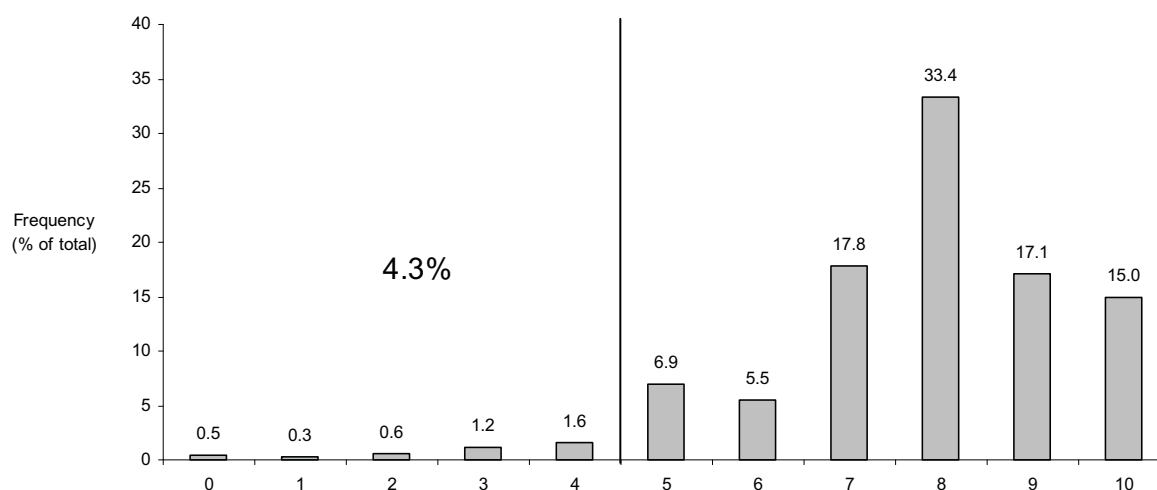
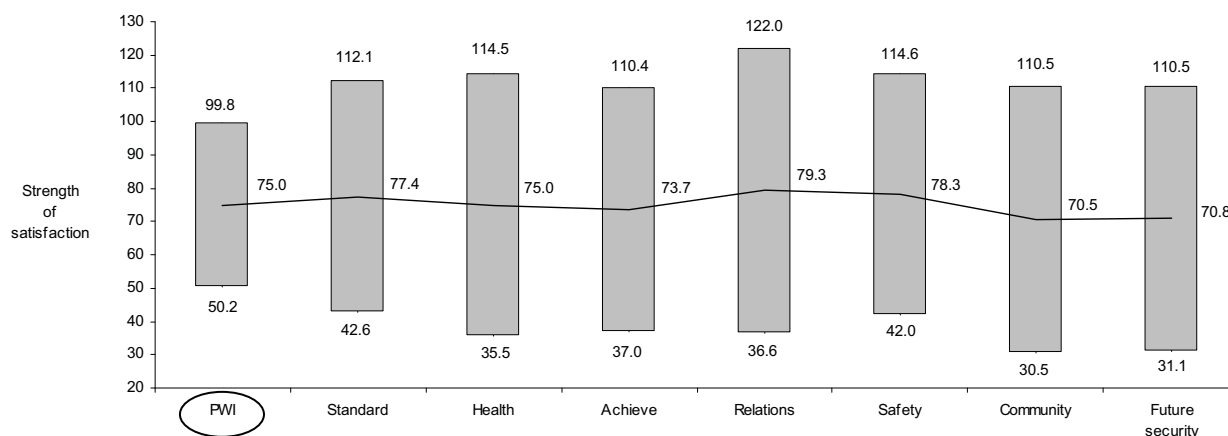


Figure 2.27: Frequency Distribution of 'Life as a Whole'

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 2.28 is N=37,330 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 empirical-theoretical match. The highest degree of variability is given by Relationships, which extends over 84.5 percentage points.

Figure 2.28: Normative Range for Individual Data: **Personal Wellbeing Index**

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 2.29 is N=32,425 for National Wellbeing Index (Table A2.21). The ranges are generally larger than for personal wellbeing and the largest is for Government which is 98.8 percentage points. It is notable that the range of the National Wellbeing

Index (59.5 percentage points) is larger than that of the Personal Index (49.4). Moreover, National Wellbeing Index range does not cover the top 9.2% 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).

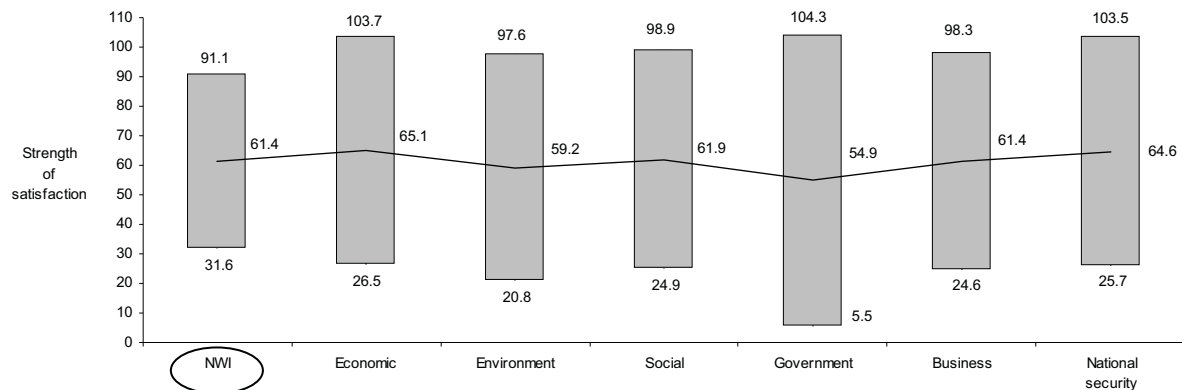


Figure 2.29: Normative Range for Individual Data: **National Wellbeing Index**

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)

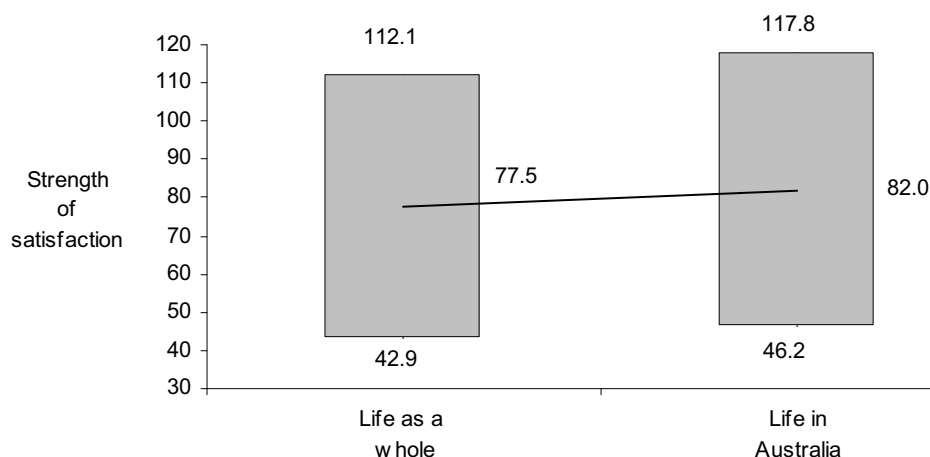


Figure 2.30: Normative Range for Life as a Whole and Life in Australia

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 : 81.9) is being rated as higher than the proximal variable (Life as a whole : 77.5), which is against theory. However, it was not always so as the Figure below shows.

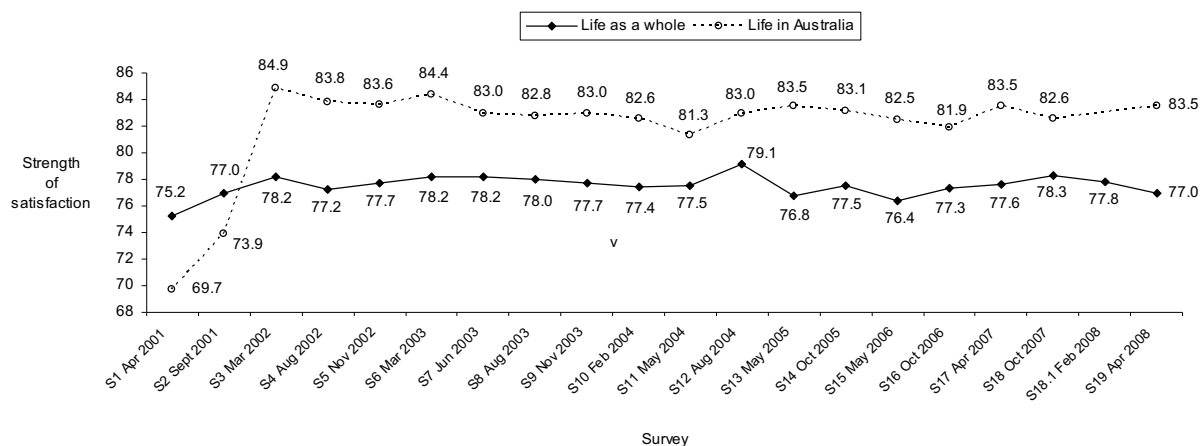


Figure 2.31: Life as a Whole vs. Life in Australia: Survey Means

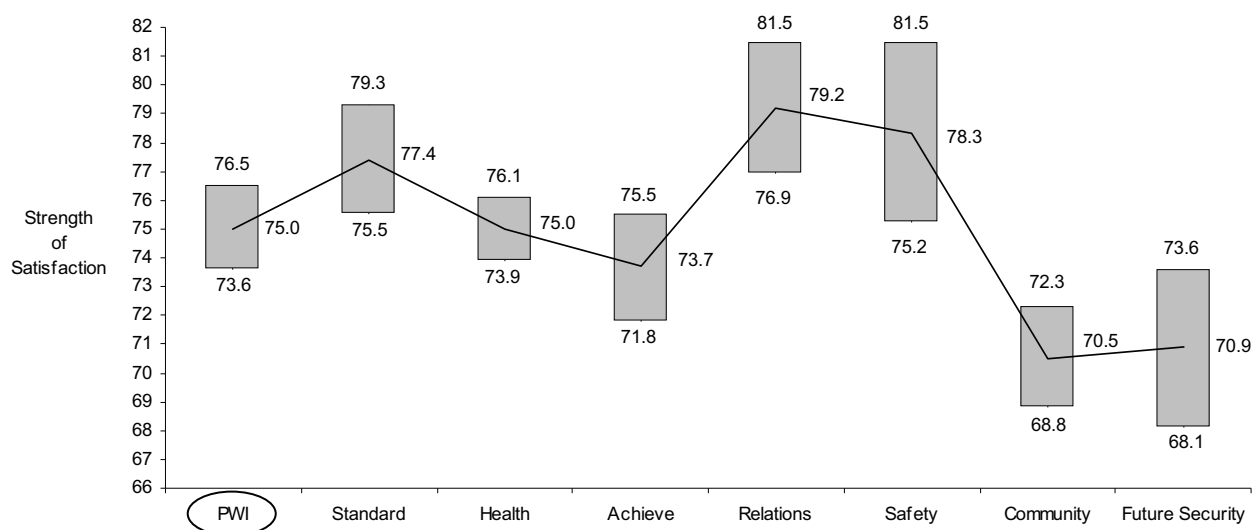
It is evident that the ordering of the means was consistent with proximal-distal theory prior to, and immediately following, September 11. Then, six months following September 11 (S3), satisfaction with life in Australia increased by an astonishing 11.0 percentage points. Then there was a decreasing 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 $r=.89$, $p<.001$ (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.

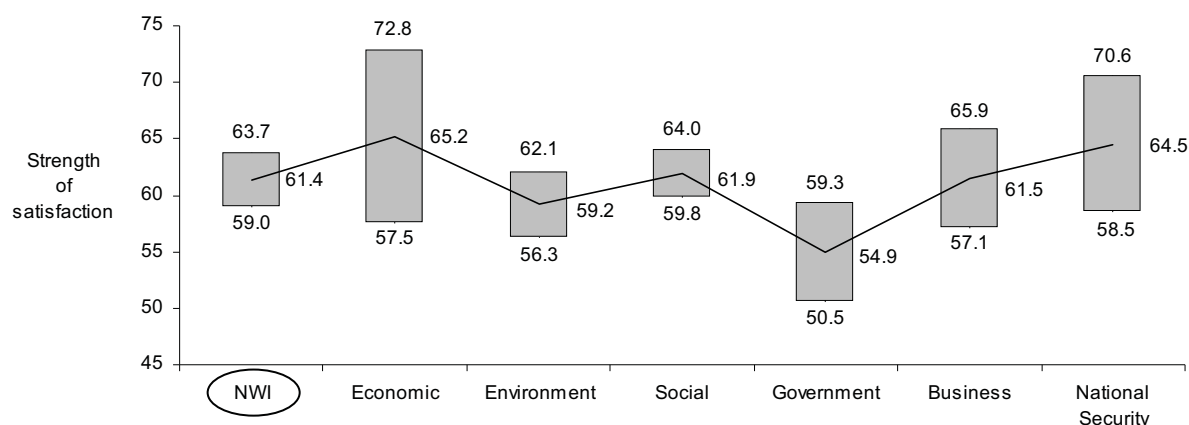
2.10.2. Normative Data using Survey Mean Scores as Data (N=20)

Personal Wellbeing Index and Domains (mean scores as data: N=20)Figure 2.32: Normative Range for Group Data: **Personal Wellbeing** Mean Scores (N=20)

As can be seen from Figure 2.32 and Table A2.22, the ranges show modest variation with a 13.4% difference between the top of the highest range (Relationships: 81.5) to the bottom of the lowest range (Future Security: 68.1). The ranges also differ in magnitude, from the largest (Safety: 6.1 points) to the smallest (Health : 2.4 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.

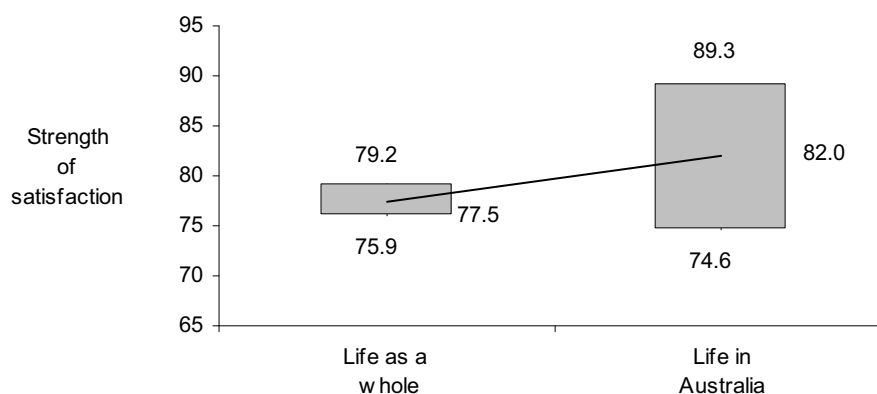
Of particular importance in this regard are the values for the Personal Wellbeing Index. The overall mean (75.03) is remarkably close to the predicted mean for Western populations (75.0). However, the range of 73.6 to 76.5 is just 3.1 percentage points, which is far smaller than the 70 to 80 range that has been previously estimated from the data reported from general reviews of the literature. This figure of 3.1 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 3.1 percentage points.

National Wellbeing Index and Domains (mean scores as data N=19)Figure 2.33: Normative Range: **National Wellbeing** Mean Scores (N=19)

The normative range for the National Wellbeing Index (Table A2.22) calculated from survey mean scores is 4.7 percentage points. This is higher than the range for the Personal Wellbeing Index (3.1 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 15.3 percentage points. The smallest are Environment (5.8) and Social Condition (4.2), which makes sense since these two domains represent highly stable entities over most of the temporal range of the surveys. However, over the past two surveys both of these ranges have started to expand due to the changes that have been discussed.

Life as a Whole and Life in Australia (mean scores as data: N=15)Figure 2.34: Normative Range of **Life as a Whole** and **Life in Australia**

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 14.7 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 following observations pertain:

1. Most significant correlations are positive, as expected, but there are exceptions. One is the -.47 correlation between Satisfaction with Government and Satisfaction with Life in Australia. The relationship is only marginally significant ($p < .05$) and so may be a random result.
2. Two others are the relationships between Achieving and both Business (-.57, $p < .05$) and National Security (-.55, $p < .05$). Again, there is no obvious explanation for these inverse links.

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.

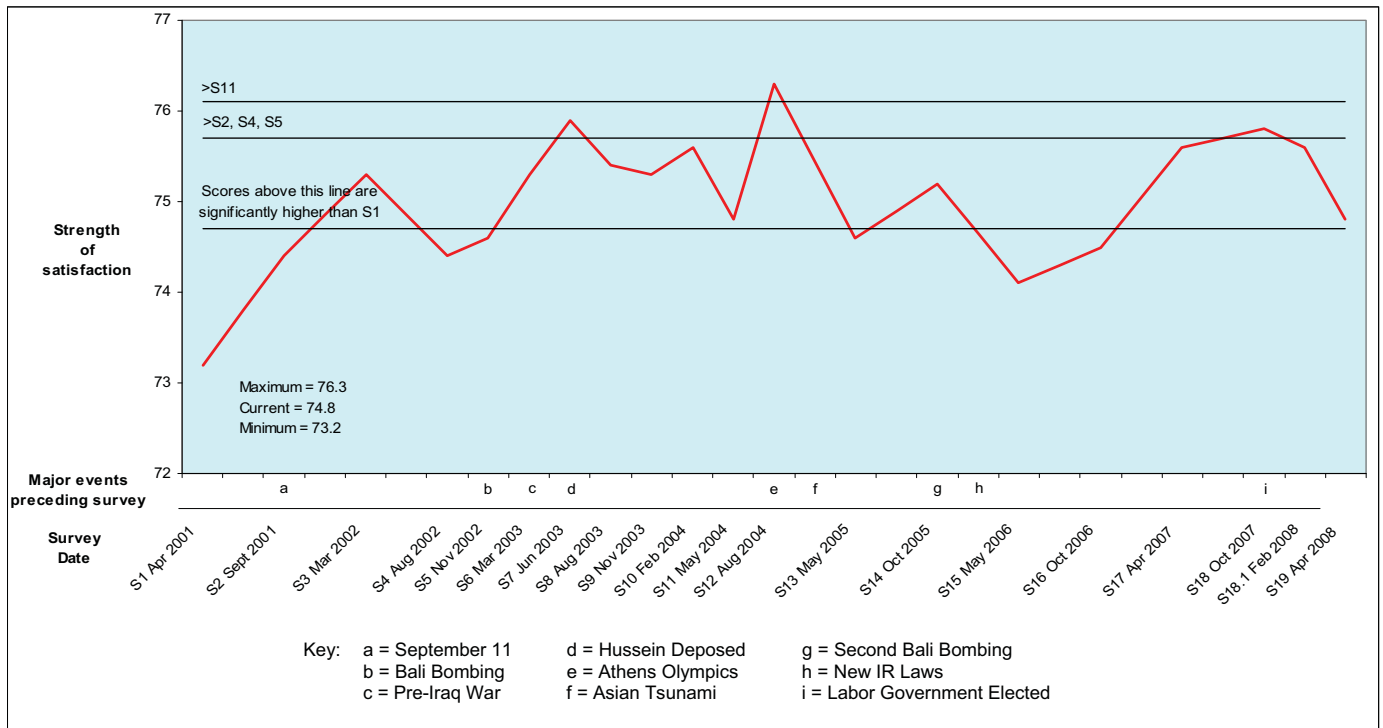
It can be seen that, as usual, the domain of safety makes no significant contribution. It is retained because it does meet this criterion in other cultures.

The new domain of Spiritual/Religious also fails to meet to criterion which, again, is normal for samples in Australia.

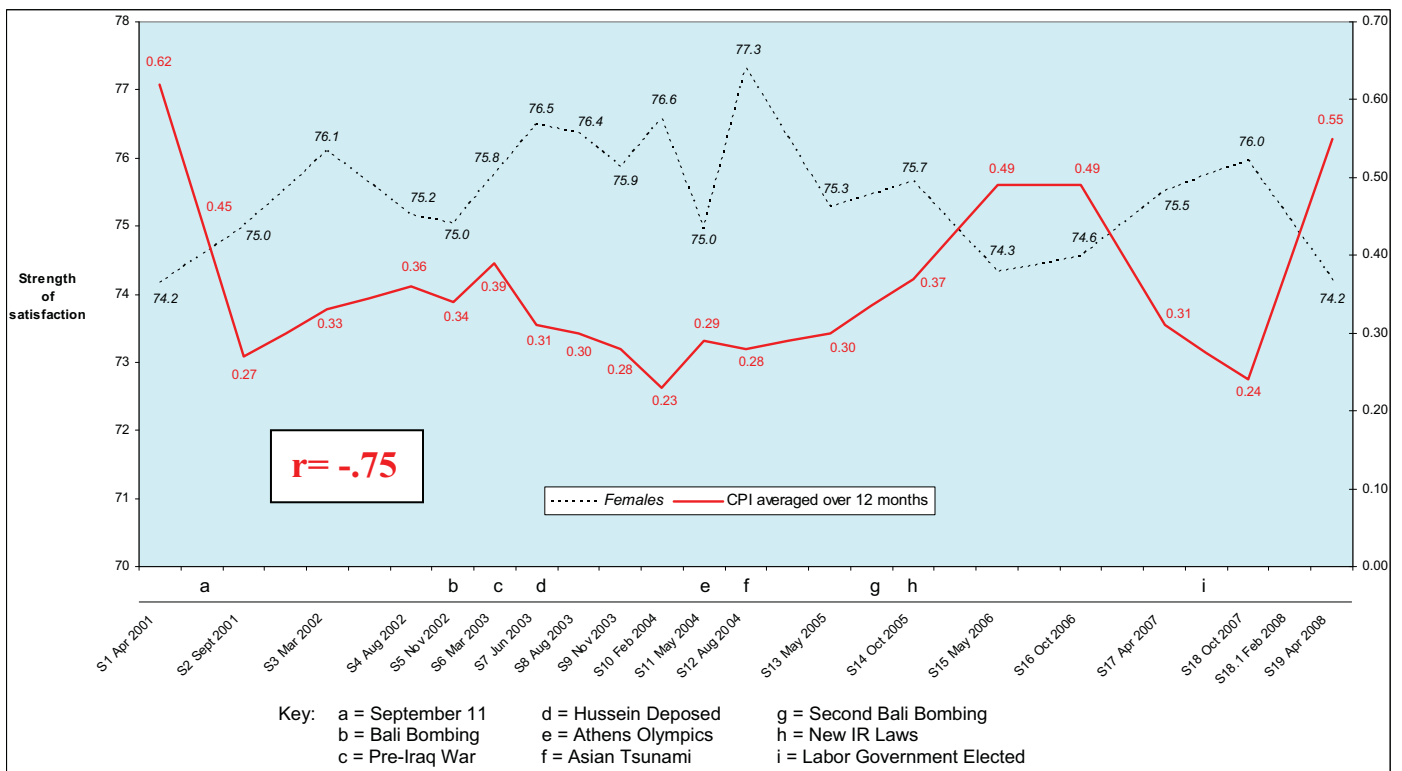
In order to determine whether strong satisfaction with the Spiritual/Religious domain causes it to make a stronger contribution, the combined surveys have been split as 0-6 (Table A2.19) and 7-10 (Table A2.20). Indeed, contribution for both Spiritual/Religious and Safety are significant in the 7-10 group.

Dot Point Summary for the Wellbeing of Australians

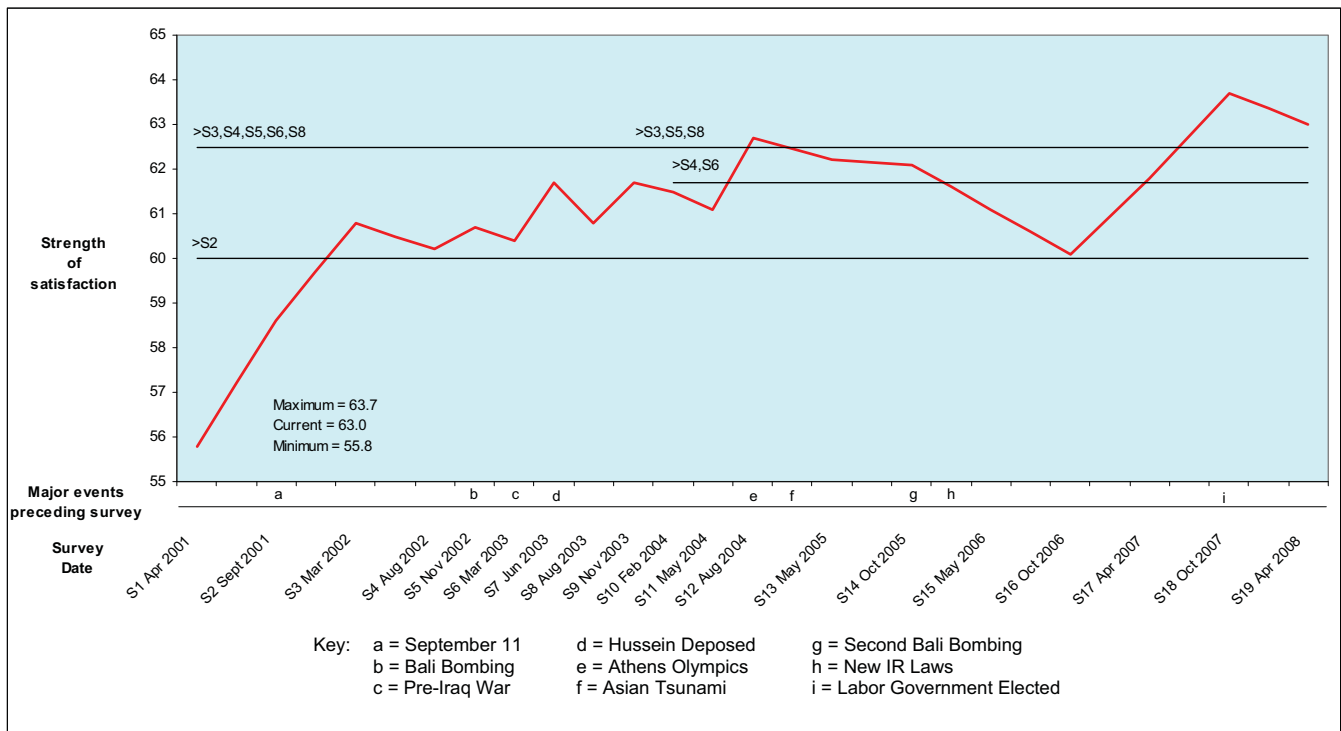
1. The Personal Wellbeing Index has fallen by a significant 1.0 percentage point since October 2007. It remains higher than it was in the first survey in April 2001.



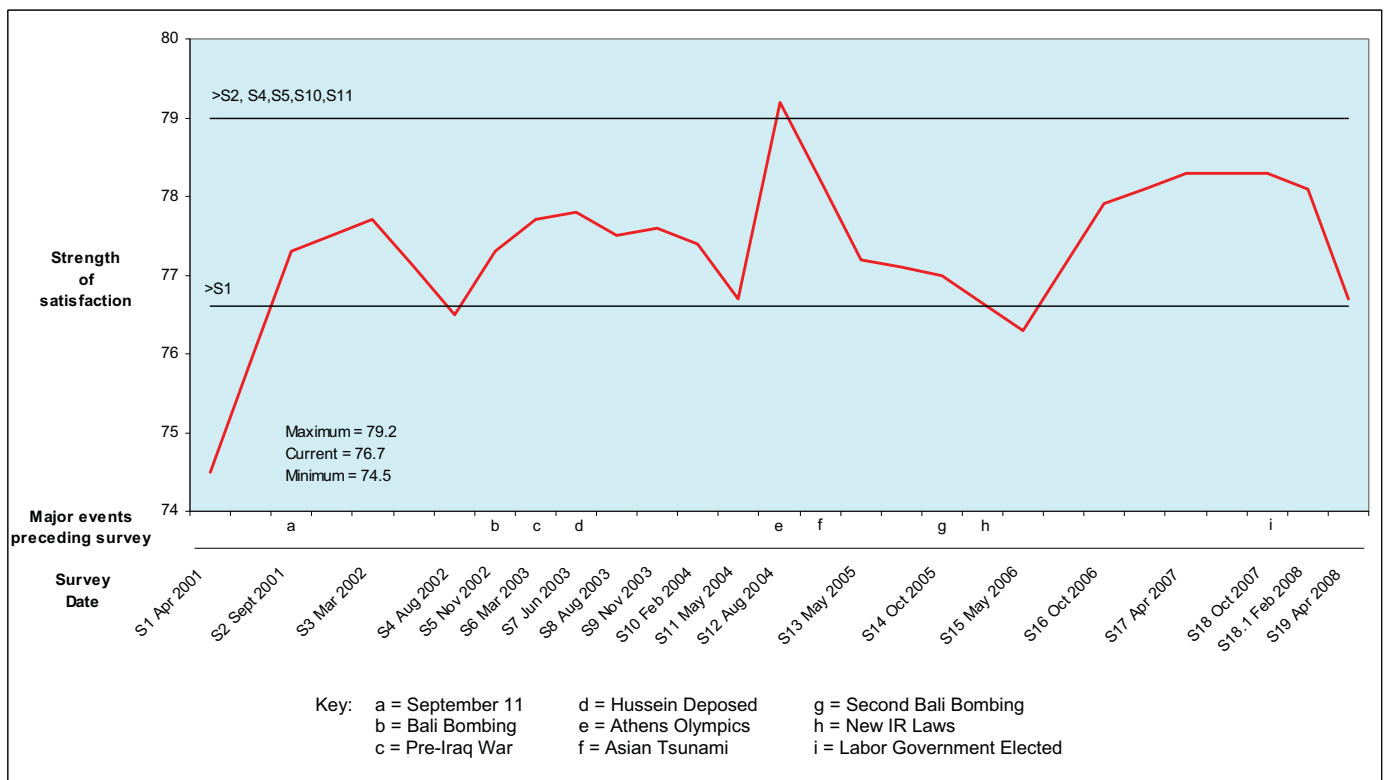
2. When the CPI is averaged over the past 12 months, it explains 56.3% of the variation in the Personal Wellbeing Index across surveys for females. Male wellbeing is also sensitive to the Personal Wellbeing Index, but less so than for females.



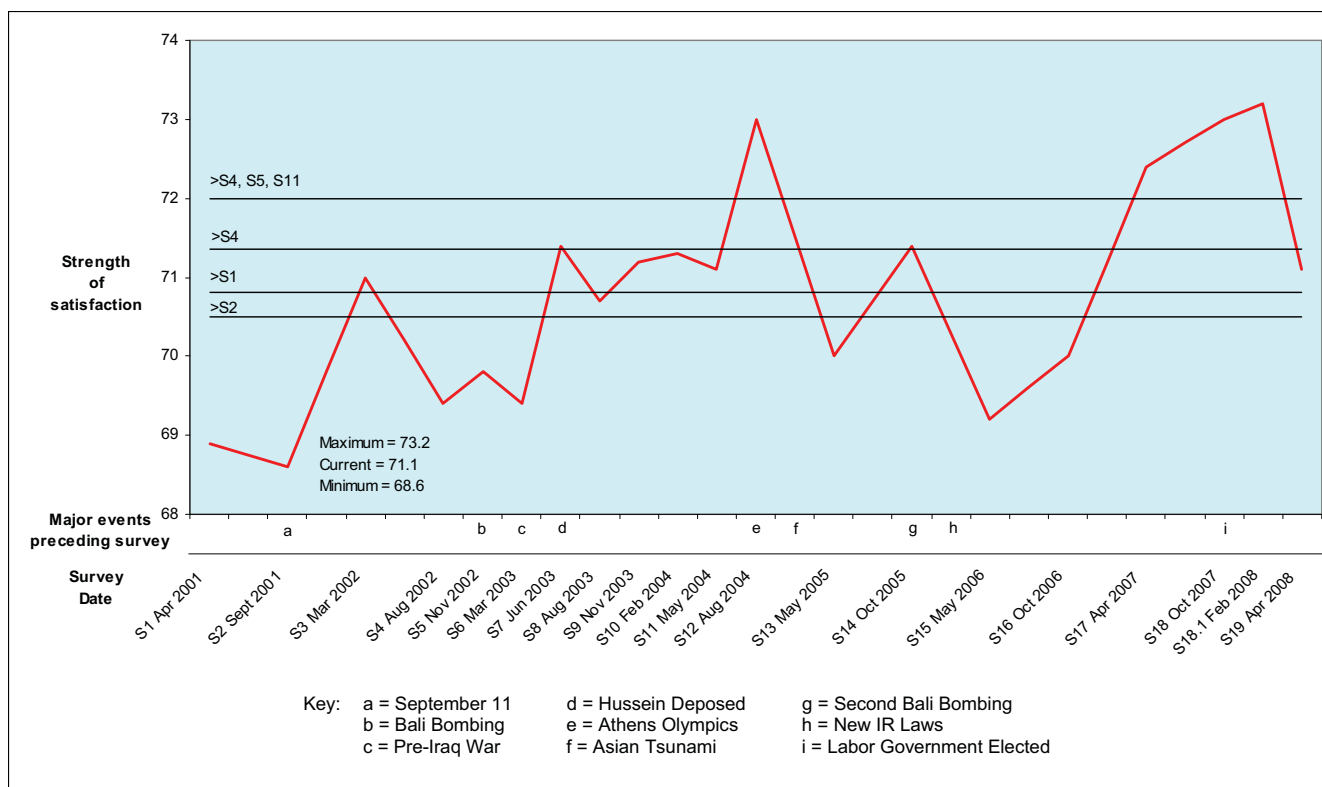
3. The National Wellbeing Index has fallen by a non-significant 0.7 points since October 2007, slightly down from its highest level yet recorded.



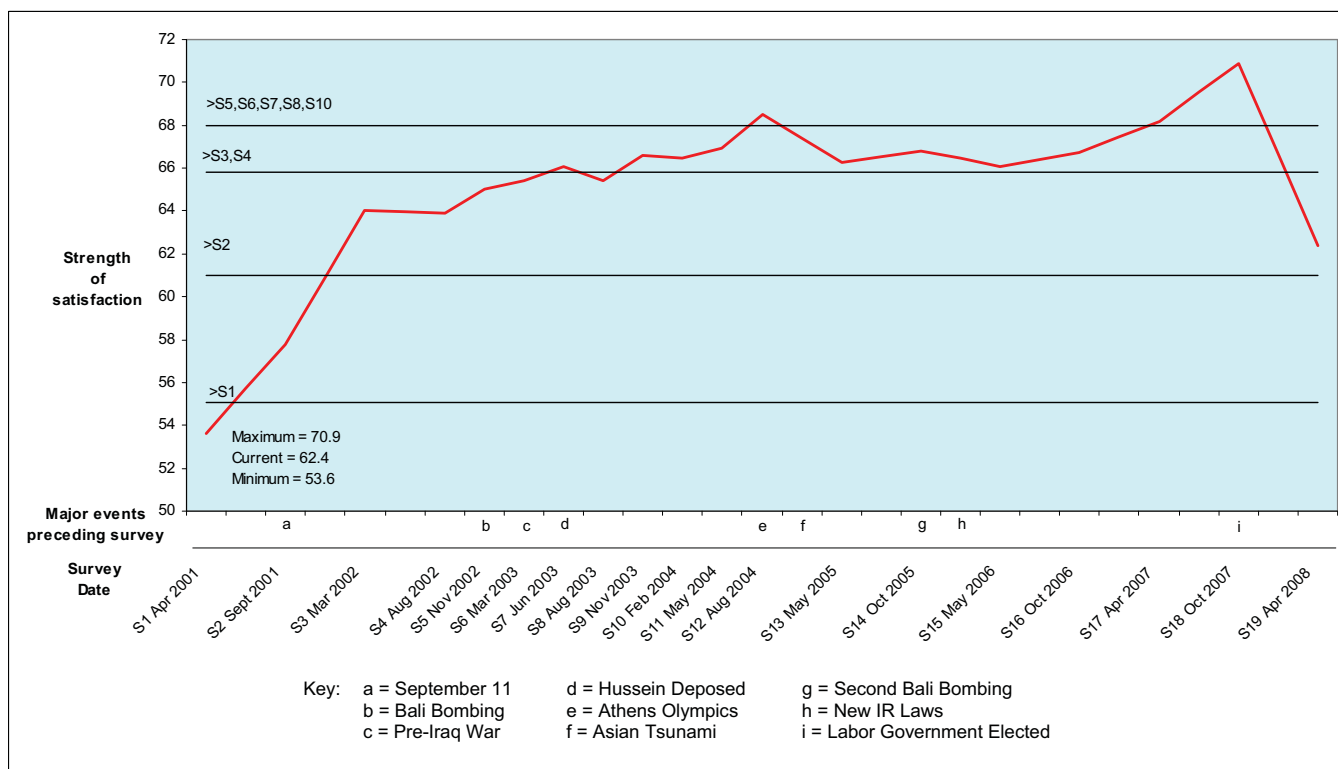
4. Satisfaction with Standard of Living has fallen by a significant 1.6 points since October 2007. It remains marginally higher than it was at Survey 1.



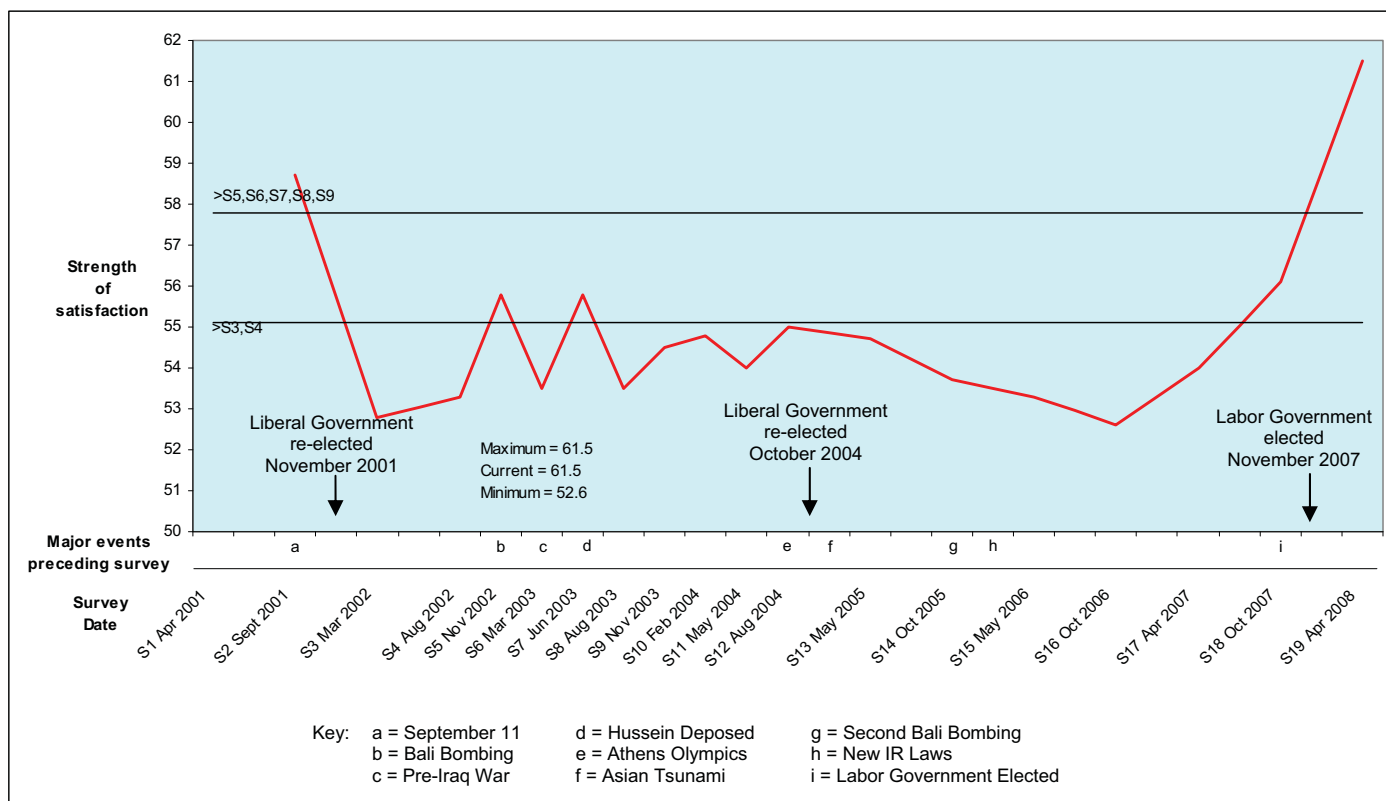
5. Satisfaction with Future Security has fallen by a significant 1.9 points since October 2007. It remains higher than it was at Survey 1.



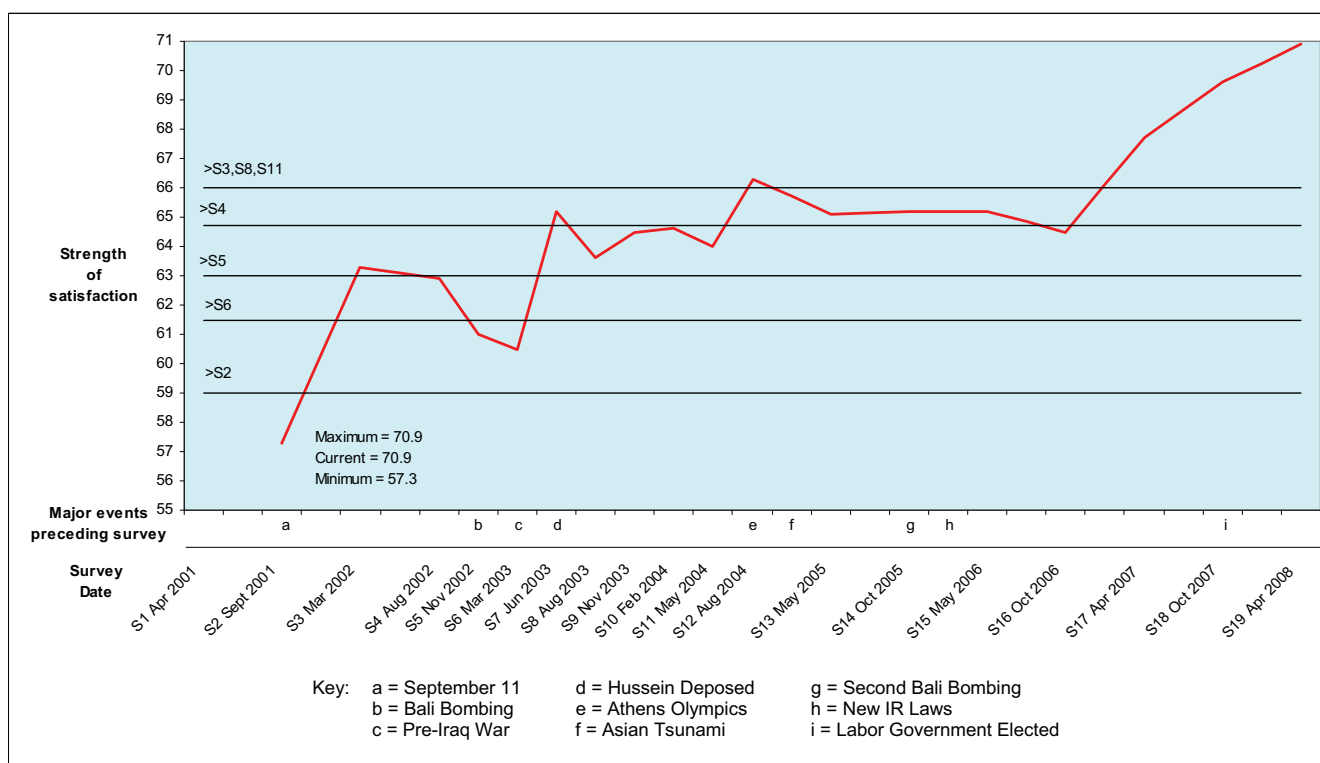
6. Satisfaction with the Economic Situation in Australia has fallen a massive 8.5 points since October 2007 and is now at one of its lowest levels. It is possible that this fall represents a lack of public confidence in the economic management ability of Labor governments.



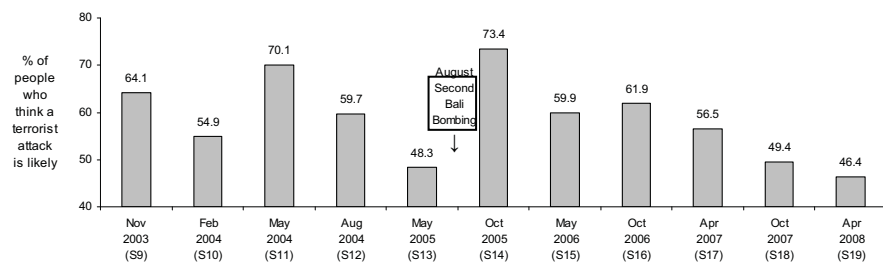
7. Satisfaction with Government in Australia has reached an all-time high. It has risen a significant 5.4 points since October 2007 and is now numerically higher than the level of satisfaction with the Liberal government immediately following September 11.



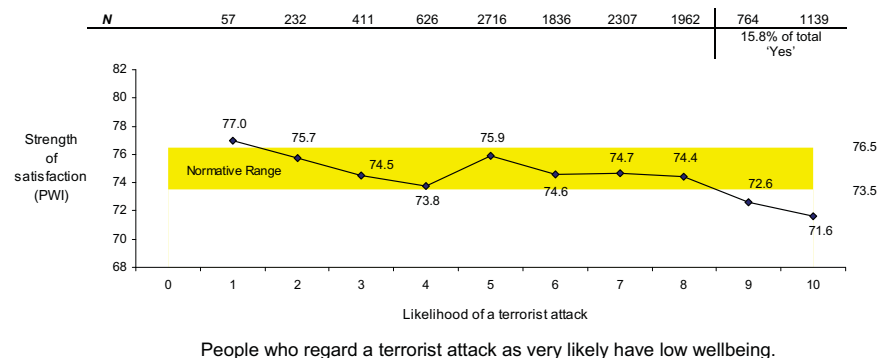
8. Satisfaction with National Security has reached an all-time high. It has risen a significant 1.3 points since October 2007. It is notable that the proportion of the population who think a terrorist attack likely in the near future has fallen to its lowest level (46.4%) in 4.5 years.



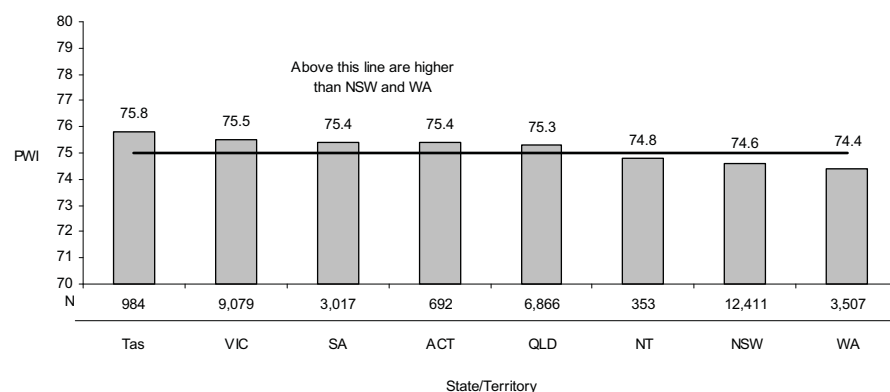
9. The percentage of people who consider that there will be a terrorist attack 'in the near future' has fallen by 3.0% since October 2007.



10. People who regard the probability of a terrorist attack as 9 or 10/10 (15.8% of the total sample) have lower than normal wellbeing).



11. 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 19)

	Cumulative		Survey 19	
	Cumulative (Survey 7-19)	% of respondents to this question	N	% of respondents to this question
Less than \$15,000	2694	12.6	199	11.4
\$15,000 to \$30,000	4002	18.7	288	16.5
\$31,000 to \$60,000	6100	28.5	400	23.0
\$61,000 to \$100,000	4630	21.7	438	25.2
\$101,000 to \$150,000	3421	16.0	273	15.7
\$151,000 to \$250,000	398	1.9	109	6.3
\$251,000 to \$500,000	95	0.4	27	1.6
\$500,000 or more	33	0.2	7	0.4
Total	21,373	80.5%	1,741	88.0% of respondents answered this question

The data in Table 3.1 are derived from Table A3.1 and 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 19 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. However, it will 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:

Category		<\$15,000	\$15,000-\$30,000	\$31,000-\$60,000
Age pension	- single	14,217		
	- couple		23,754	
Youth allowance	- Single, away from home	9,240		
	- Single with children	12,106		
	- Partnered with children		20,290	
Unemployment ('New Start')	- Single 18-21y	11,365		
	- Single with children	12,293		
	- Partnered		20,509	
Minimum full-time wage (January 2008)			27,152	
Median full-time wage (July 2006)				36,400
Average full-time adult ordinary earnings (February 2008)				58,490
Average full-time adult total earnings				61,100

From the above it is notable that the only people 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 11, Report 14.0). 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. 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 as the combined data-set becomes large enough to support the reliable analysis of these sub-groups.

3.1. **Income and Wellbeing**

3.1.1. *Personal Wellbeing Index*

The relationship between income and the Personal Wellbeing Index is given in Table A3.1 for Survey 19, 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).

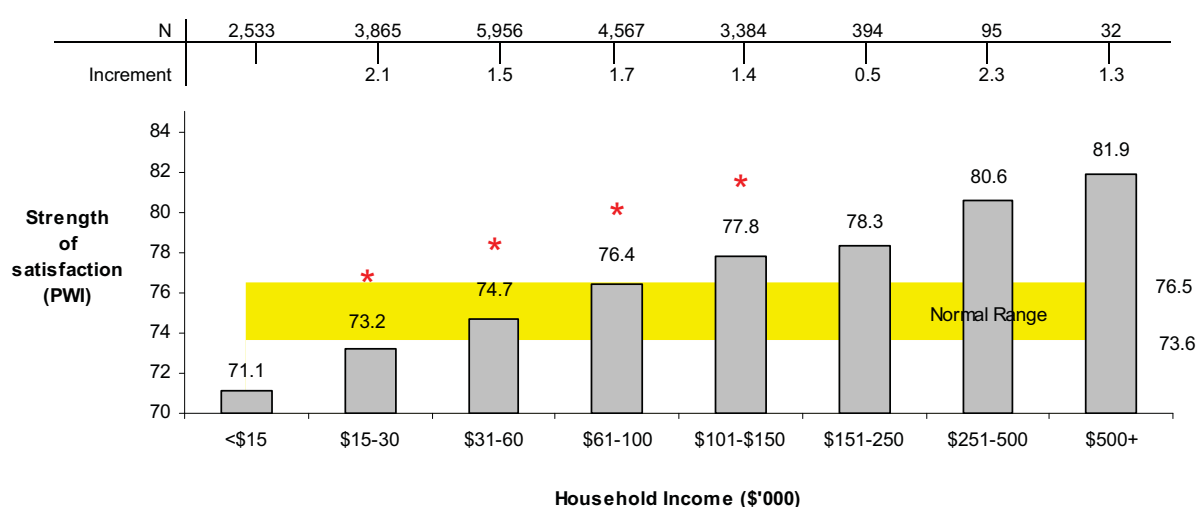


Figure 3.1: Income and the **Personal Wellbeing Index** (combined surveys)

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 0.5 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, 24.0% 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 2.1 percentage points of wellbeing, or \$7,143 per point. From the \$15-30K baseline, it takes an additional \$30,000 (\$31-\$60K) to buy 1.5 percentage points, or \$20,000 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

Income (\$)	\$ increment	Points gained	\$ per point
<15 to 15-30	15,000	2.1	7,143
15-30 to 31-60	30,000	1.5	20,000
31-60 to 61-100	40,000	1.7	23,529
61-100 to 101-150	50,000	1.4	35,714
101-150 to 151-250	100,000	0.5	200,000
151-250 to 251-500	250,000	2.3	108,695

The relationship between income and wellbeing shows the strongest connection at the lowest levels of income. Thus, a rise of \$7,143 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 exponential. However, these high-income figures remain approximations due to the small number of values in these analytic cells.

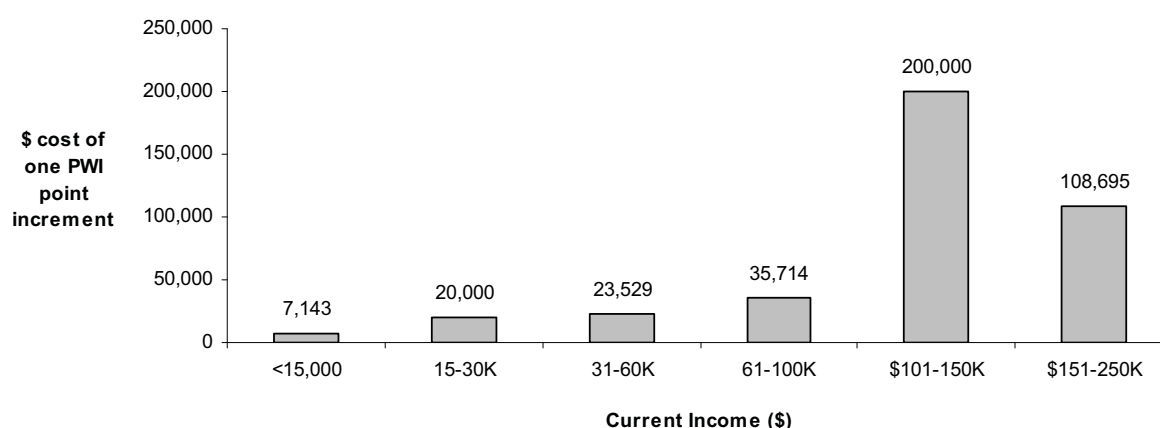


Figure 3.2: The cost of purchasing a percentage point of personal wellbeing

There are two further observations on these data. 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=95). 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 previous calculations based on other data.

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.

3.1.2. *Personal Domains*

Statistical comparisons between income levels for all Personal Wellbeing Index and National Wellbeing Index variables using the combined data set of Surveys 7-19 are provided in Tables A3.4 and A3.5 respectively.

1. While Table A3.4 shows that the personal domains in Survey 19 generally follow the pattern of 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 (proximal) domains and, so, are likely the domains least affected by personal demographics.

It is notable that only two 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 relationships described in Section 2.5 below.

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 In terms of income increments, satisfaction with health is sensitive to income. With the single exception of the current 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 hardly any differences in health satisfaction between the groups with a household income >\$60,000 in the surveys.

This pattern likely 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.

- 2.2 The domain that shows the greatest sensitivity at high levels of household income is Standard of Living. The data show incremented levels of rising satisfaction up to \$91-120K in Surveys 7, 8 and 9, and many other instances where \$150+ > \$60-90K. This degree of enhanced sensitivity reflects the degree of match between the dependent and the independent variable. These differences have disappeared in Survey 17 and above due to the new income categories and small Ns.
- 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:

	Number of significant income-group comparisons with domains	% of total
Standard	- 147	32.5
Health	- 97	21.4
Achieve	- 64	14.1
Relationships	- 56	12.4
Future Security	- 55	12.1
Safety	- 34	7.5
Community	- 0	0.0
Total	- 453	100.0

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 (53.9%) 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.

2.4 It is notable that 'community' is insensitive to income.

2.5 Relationships.

3.1.3. Domain Discrimination with 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.

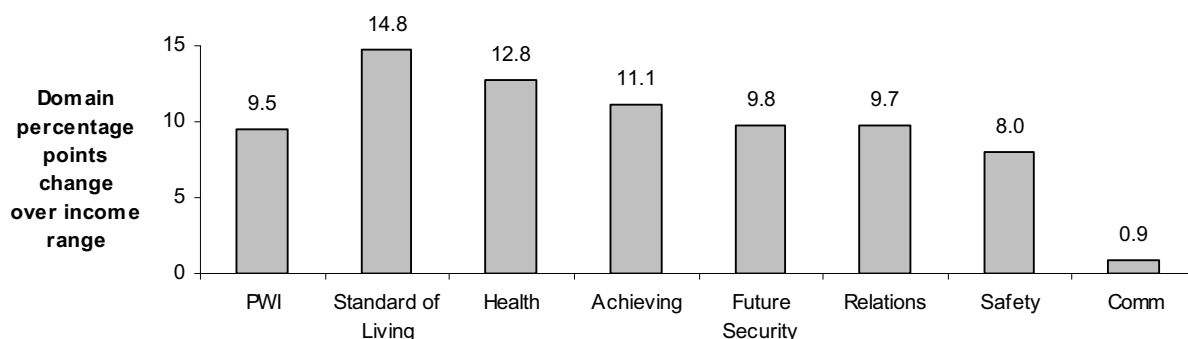


Figure 3.3: The Influence of Household Income to create differences within the Personal Domains

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 achievement 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

	Points change with income	Rank	Predicting Life as a Whole Survey 4	
			β	Rank
Standard	12.7	1	.28	1
Health	12.3	2	.04	6
Achieving	11.1	3	.27	2
Relationships	8.8	4.5	.16	3
Safety	7.3	6	.03	7
Community	0.0	7	.05	5
Future	8.8	4.5	.06	4

The Spearman Rank Order coefficient between these two rankings is .679, which falls just short of significance (critical value .714). 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’.

3.1.4. *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 8 significant post-hocs and in each case the Personal Wellbeing Index in the earlier survey is higher. This is a clear indication that the relative value of the money represented by these fixed-income categories is decreasing over time.

Of these changes, 7/8 are in the income groups <\$60K, showing the higher vulnerability of low-income households to the rising cost of living.

3.1.5. *National Wellbeing Index*

The National Wellbeing Index is relatively insensitive to income within each survey. In Survey 19 there are two significant differences between the income brackets (Table A3.1). By comparison, the Personal Wellbeing Index shows 10 such differences.

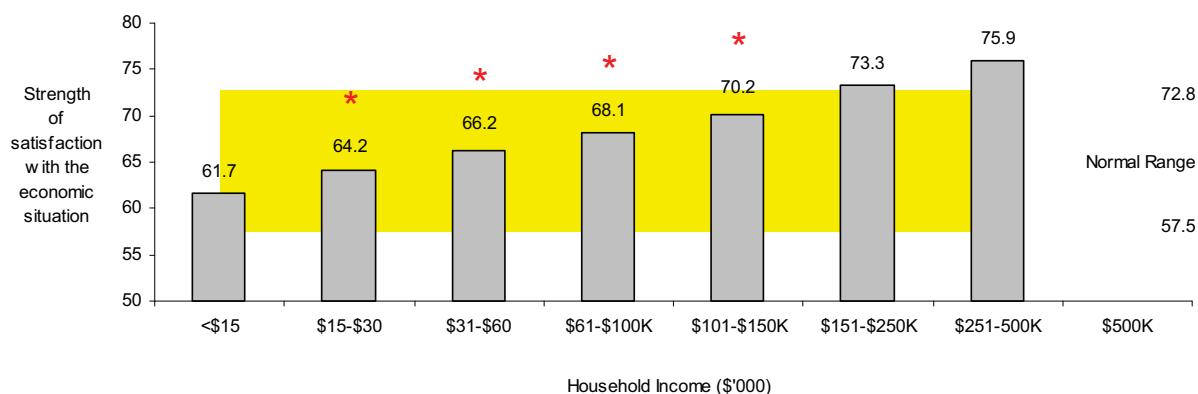
When the sample sizes are increased by combining data across surveys (Table A3.5) then differences emerge between income brackets in a predictable manner, with higher incomes producing significantly higher National Wellbeing Index. However, the National Wellbeing Index remains less sensitive to income change than the Personal Wellbeing Index, with their respective number of differences between categories being 14 vs 20.

3.1.6. *National Wellbeing Domains*

In terms of Survey 19 data alone, the majority of differences concern Government, where all other income categories are significantly higher than the >\$500K group. Presumably this shows that these very wealthy people felt that the new Labor government policies were going to disadvantage their personal interests. This is also good validity data to verify that the respondents in this highest income category are genuine. This is the only domain in which they collectively made such a low evaluation of satisfaction.

Three of the other domains (Economic Situation, Environment and Business) show some low-level sensitivity to income, with higher income yielding higher satisfaction.

When the combined data are analysed (Table A3.5) Economic Situation shows the greatest income sensitivity as shown in Figure 3.4.



Key: * denotes that the level of satisfaction is higher than for the previous income bracket

Figure 3.4: Income x National Economic Situation (combined data)

The pattern of change is the same level of sensitivity to income as the Personal Wellbeing Index in that satisfaction rises at least up to \$101-150K.

3.1.7. 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 19 the proportion of people who think an attack is likely significantly rises with income. The strength of belief, however, shows no significant change.

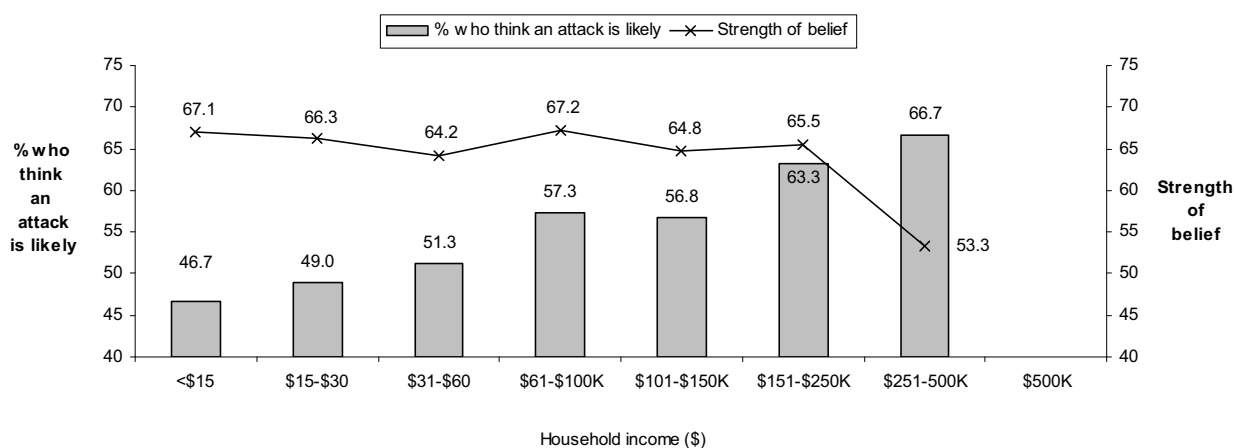


Figure 3.5: Income x Terrorist attack beliefs (Survey 19)

3.2. 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 19, the wellbeing of females has fallen more than males since Survey 18, and this difference is shown in Figure 3.6 below (Table A3.8 in both reports).

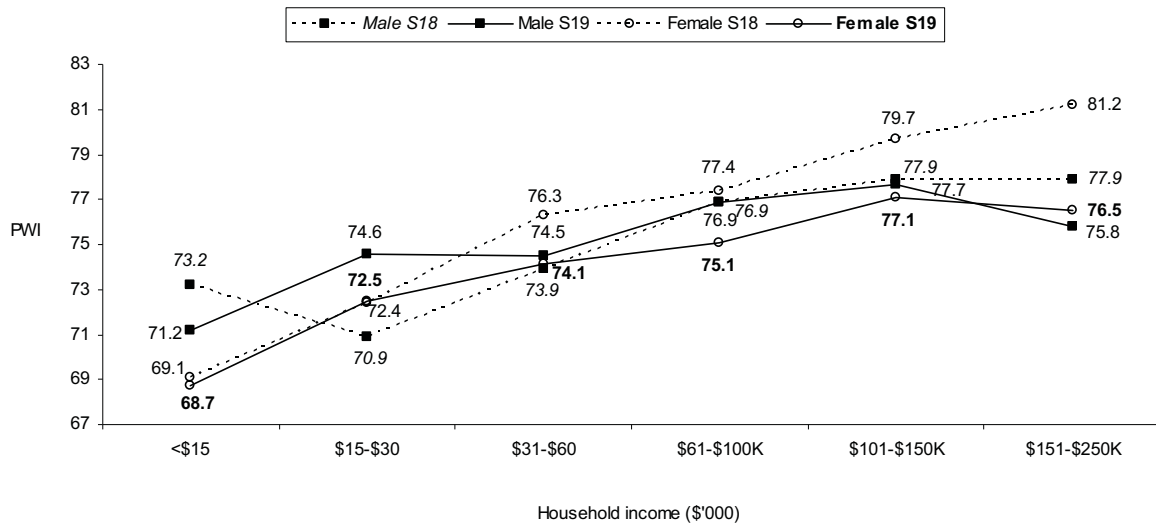


Figure 3.6: Gender x Income x Survey 18 and 19

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

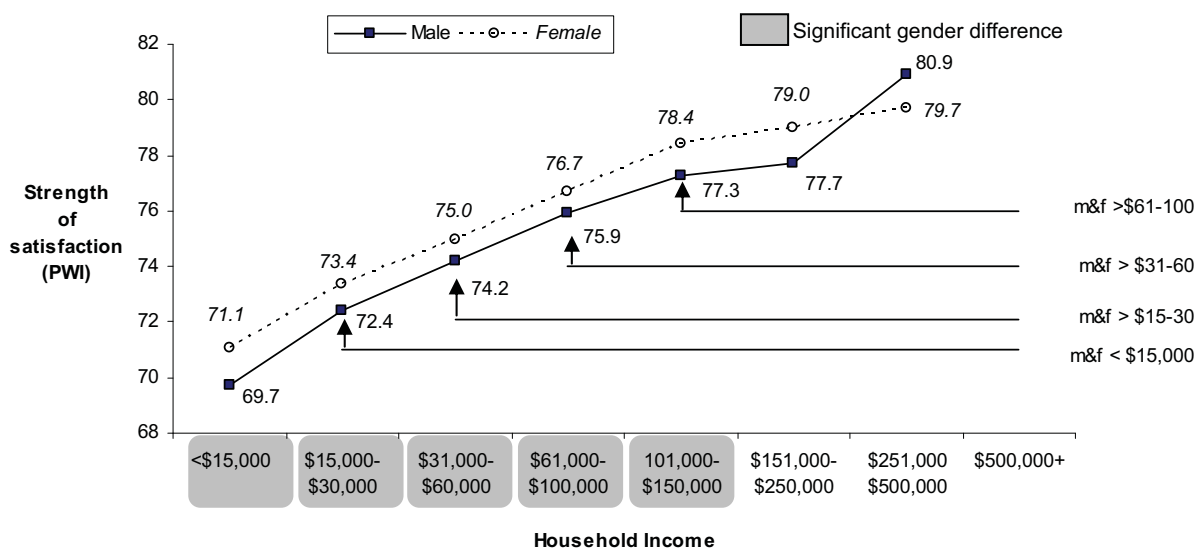


Figure 3.7: Gender x Household Income (combined data)

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.

3.3. 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 3.23). 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.

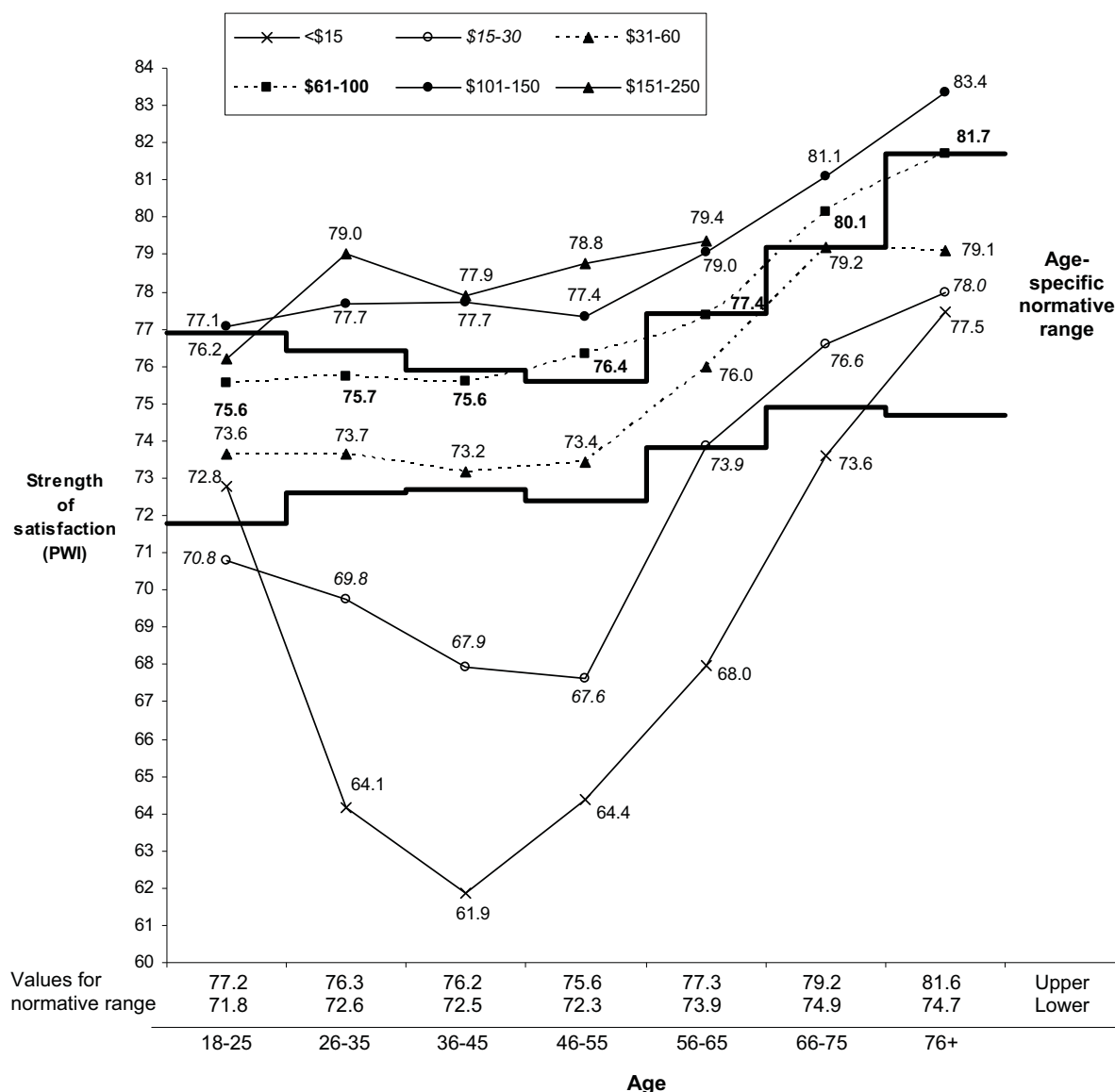


Figure 3.8: Income x Age (combined data)

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 62.3 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.

3.3.1. Income x Age x Gender

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

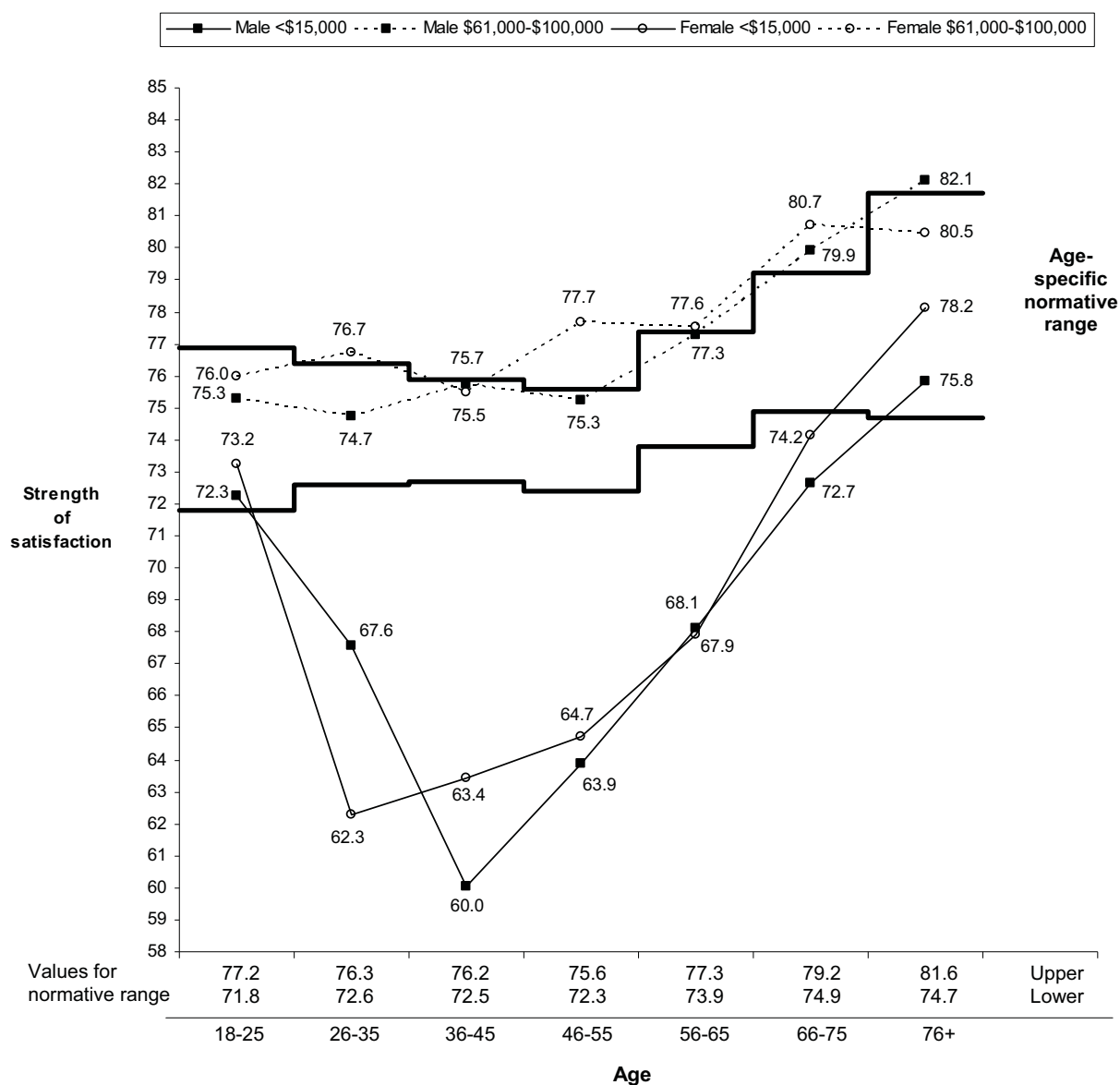


Figure 3.9: Income x Age x Gender (combined data)

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. This requires further investigation.

3.4. Income and Household Composition

Table A3.13 shows the results for Survey 19 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.

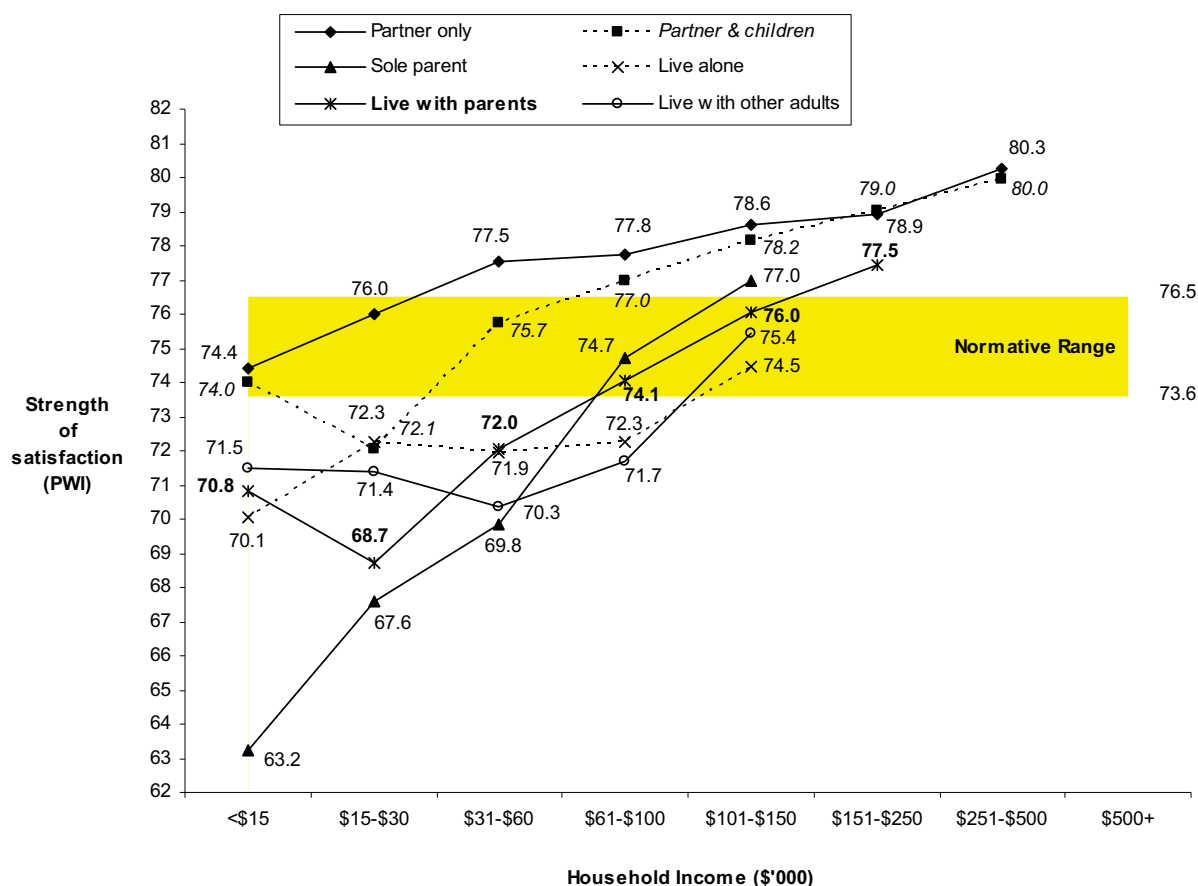


Figure 3.10: Income x Household Composition: **Personal Wellbeing Index** (combined Surveys 9-12)

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

1. Living with 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 (N=98), 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).

3.4.1. Income x Household Composition x Gender

These data are shown for Survey 19 (Tables A3.15 and A3.16) and for combined surveys in these same tables.

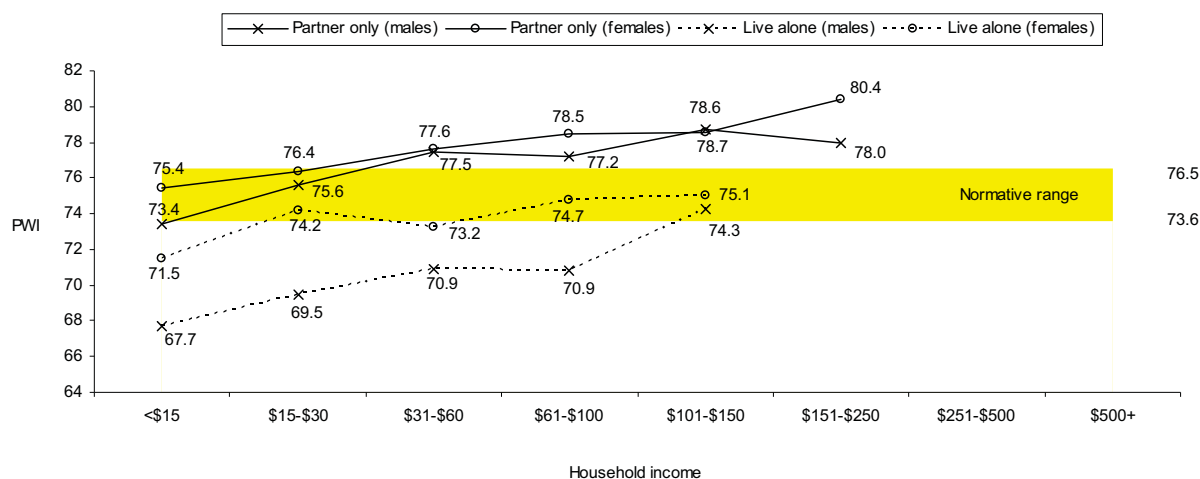


Figure 3.11: Income x Household Composition x Gender: **Personal Wellbeing Index** (combined Surveys 9-12)

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 partners, 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 of \$15-30, 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.

3.4.2. 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 (60.8) and those with a partner (72.7) is 11.9 points. This is remarkable testimony to the power of relationships over wealth.

3.5. Income and Relationship Status

From Table A3.18 it can be seen that defacto 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.

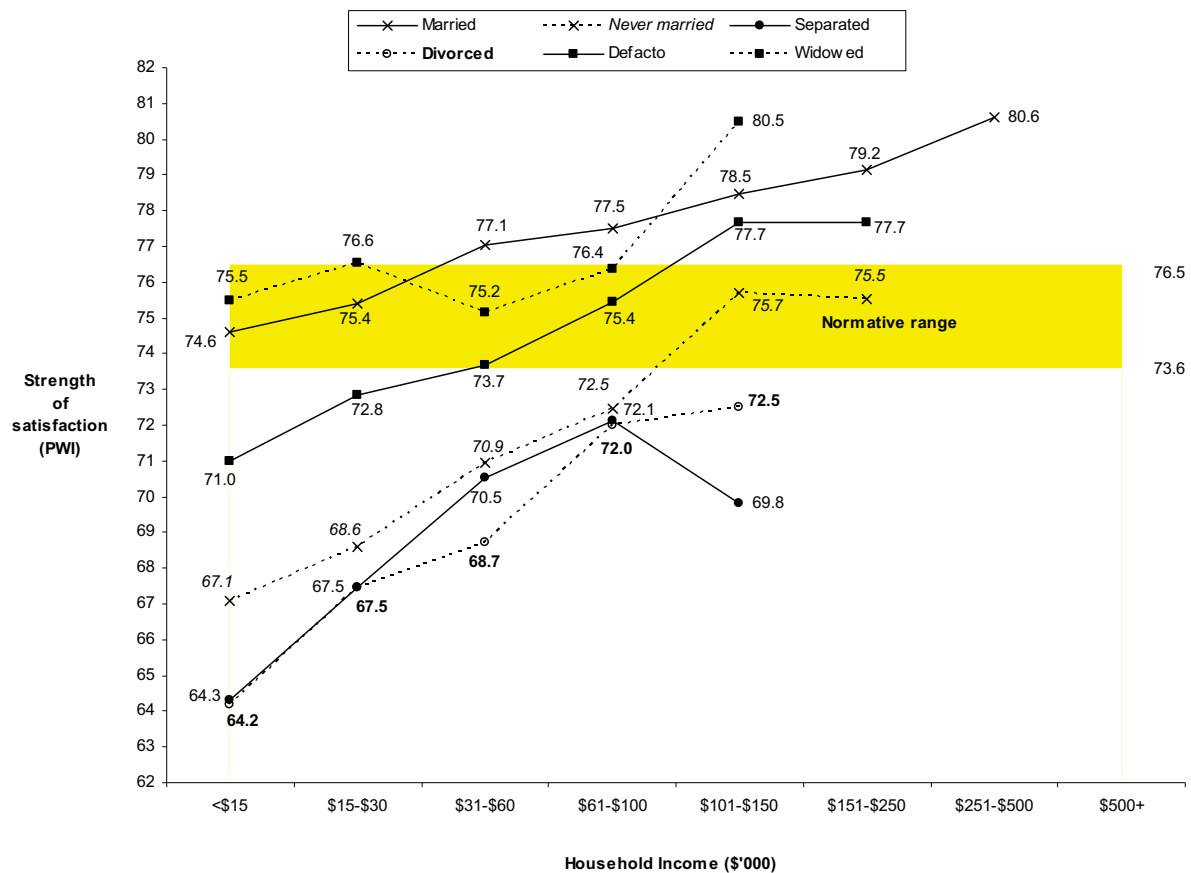


Figure 3.12: Income x Relationship Status

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.

3.5.1. Income x Relationship Status x Gender

These data are available for both Survey 19 and in combined form in Tables A3.19 and A3.20. Figure 3.13 below shows the combined data.

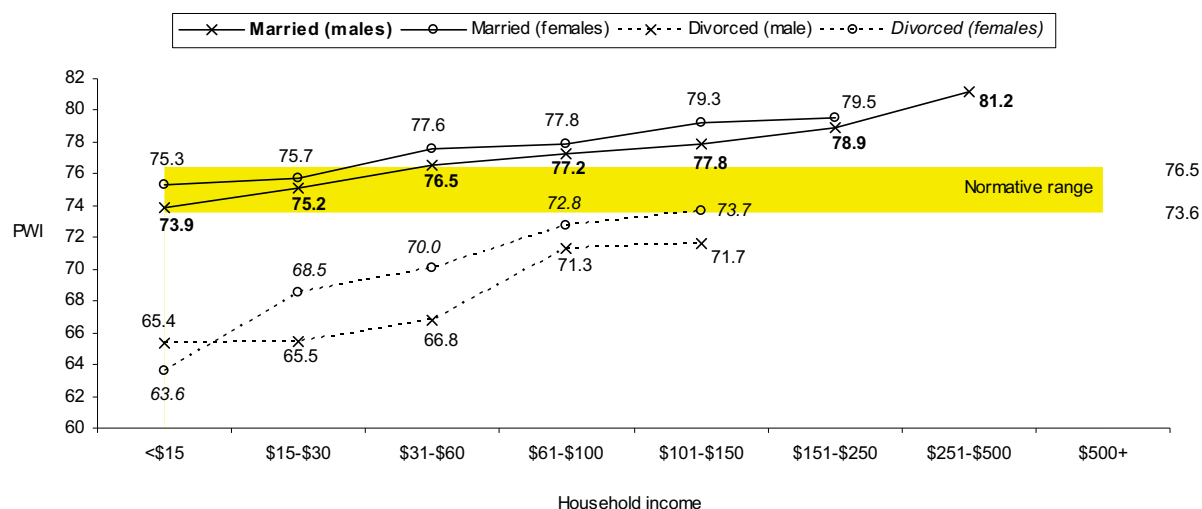


Figure 3.13: Income x Relationship Status x Gender

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

For the people who have divorced, those with the lowest income (Male = 118; female = 240) both genders have equivalently depressed wellbeing. However, the rising income advantages females far more than males. AT \$61-100K females have entered the normal range while males still have not done so at \$101-150K.

3.5.2. 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 (N=111). A pension should take these people above the <\$15K range (see Table 3.1). However, their wellbeing is generally in the normal range, in sharp contrast to the other (few) reliable values in this table that are all very low.

3.6. Income and Work Status

These data are found in Table A3.22 for both Survey 19 and the combined results.

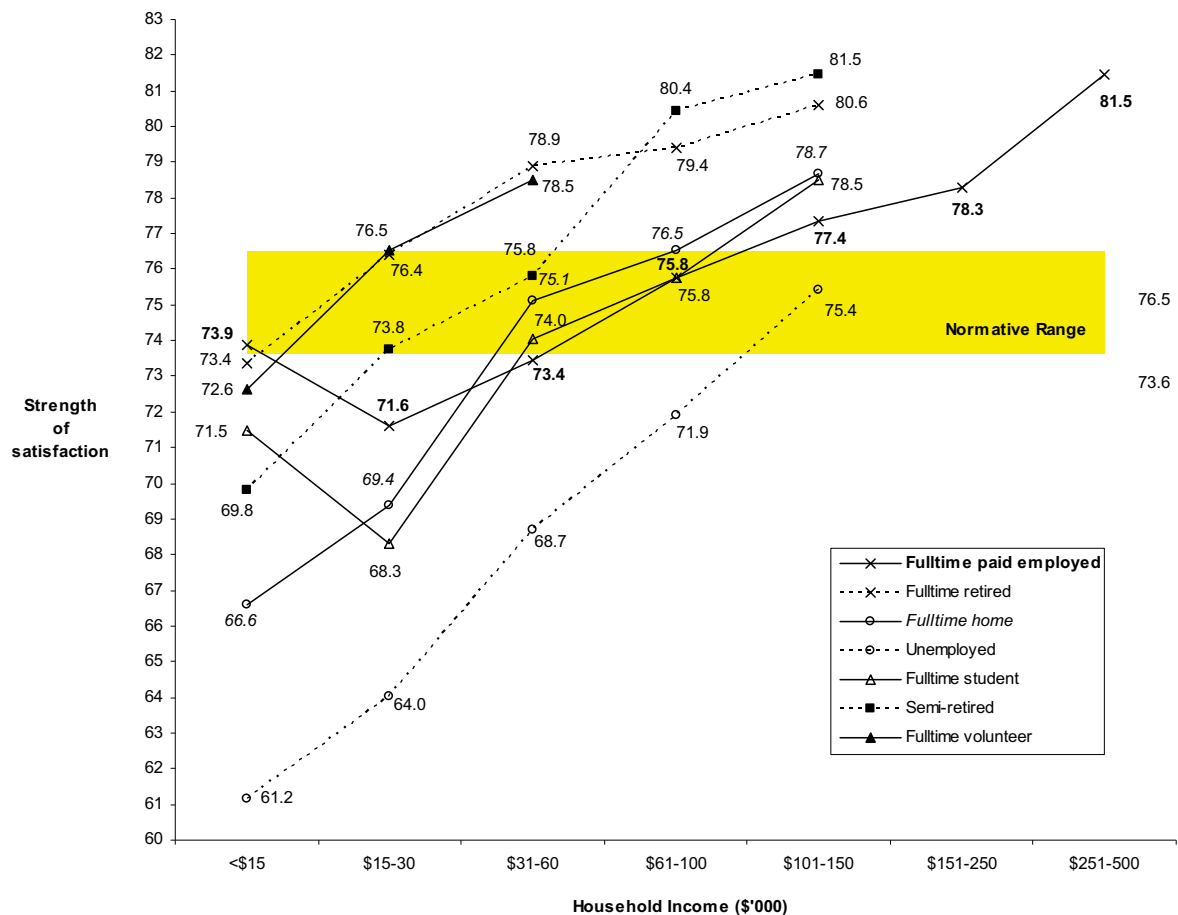


Figure 3.14: Income x **Work Status** (combined data)

Figure 3.14 show that the most spectacular rise in wellbeing through income is for people who are unemployed. This wellbeing rises by 13.0 points from 61.0 at <\$15K to 74.0 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.

3.6.1. Income x Work Status x Gender

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

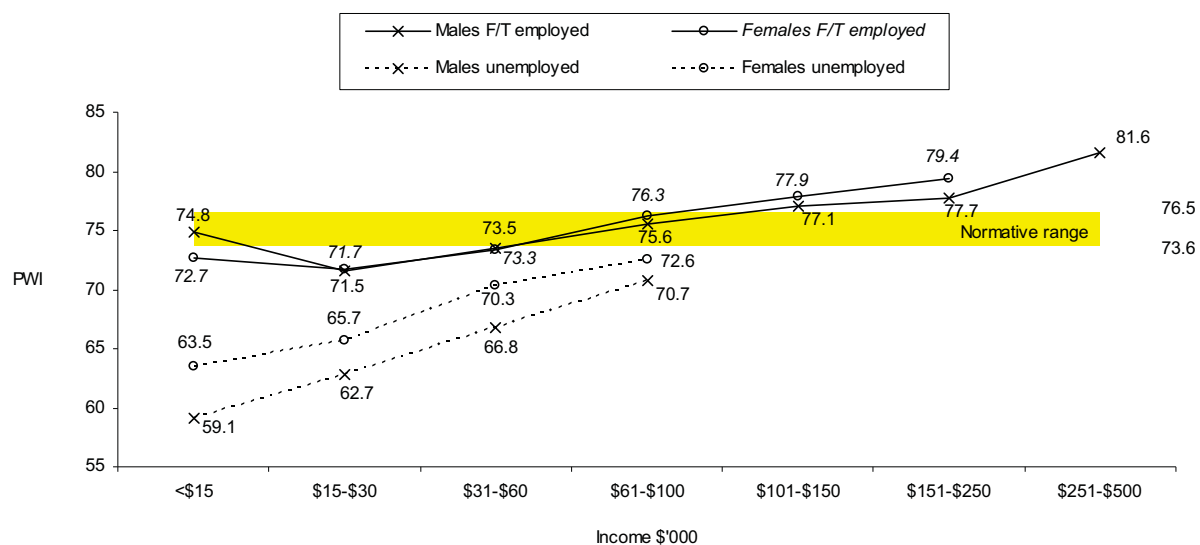


Figure 3.15: Income x Work Status x Gender

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.

3.6.2. 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.

3.7. 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:

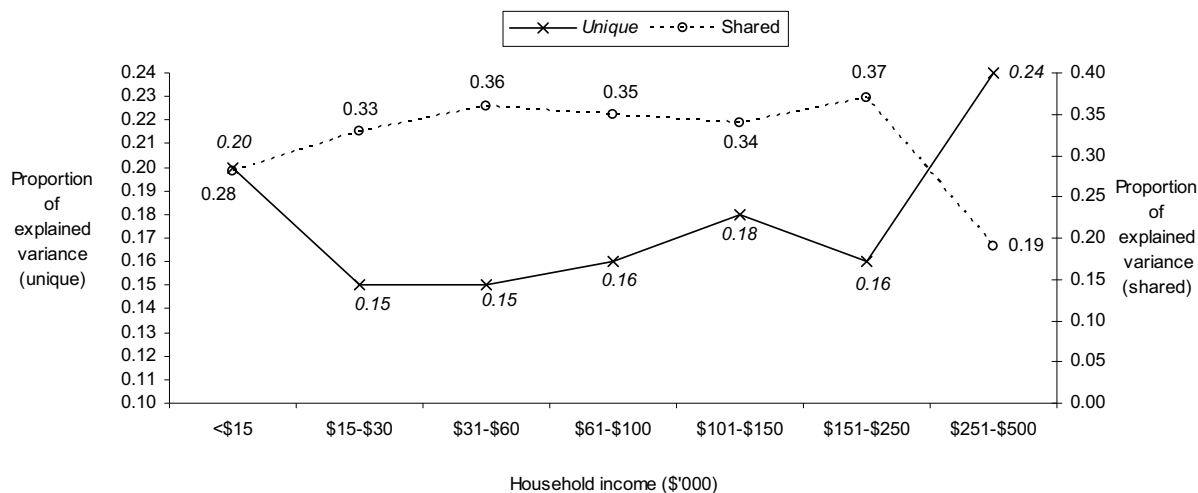
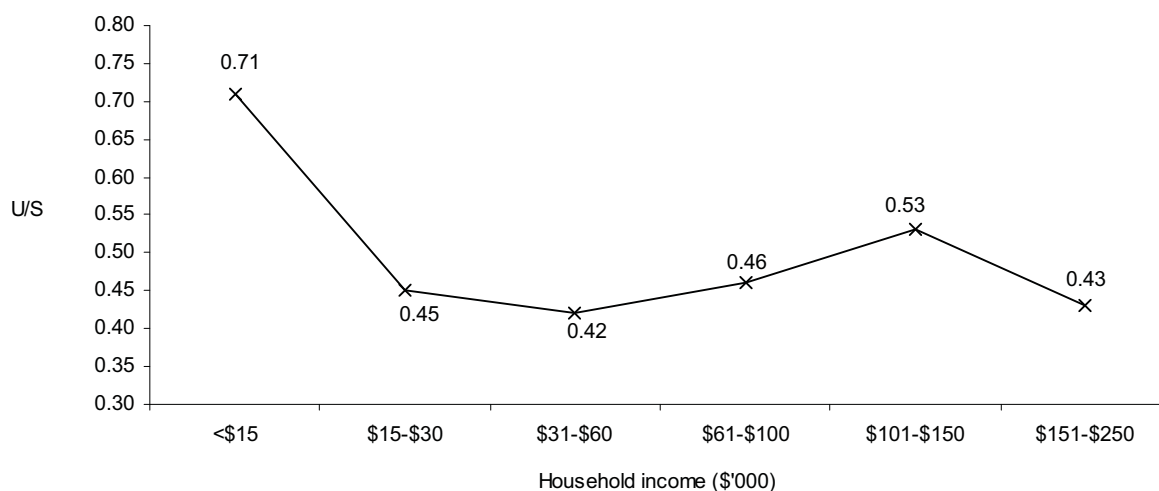


Figure 3.16: The Proportion of Unique and Shared Variance by Income

As can be seen, while there is little variation in both sources of variance, they both seem to show systematic trends. The variation in the shared variance component is 17 percent (from 19% to 36%) and its trend-line is down. The variation in the unique variance is much less at 9 percent points (from 15% to 24%) and its trend-line is rising up to \$121-150K, after which it falls. The total R^2 also ranges over 10 percent points (from 43-53%).

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 more unique than shared variance as household income rises. This is shown below.



Key: U/S = Unique variance divided by shared variance

Figure 3.17: The Proportion of Unique/Shared Variance by Household Income

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 these are plotted below:

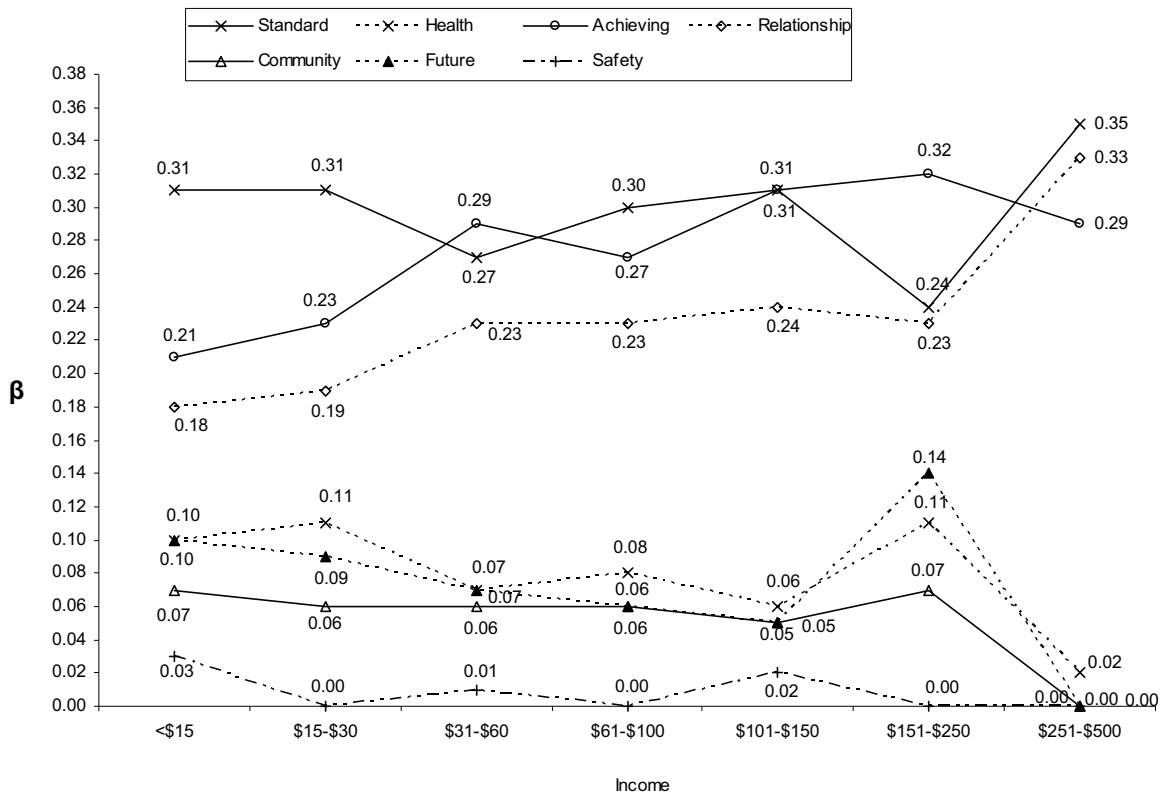


Figure 3.18: Domain Variance Contributions x Income (combined data)

These results are drawn from Tables A3.26 to A3.32.

3.8. Testing Homeostasis

3.8.1. 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:

- The range of genetic 'set-point' of subjective wellbeing for each person. This should be constant across the income groups.
- 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=95.

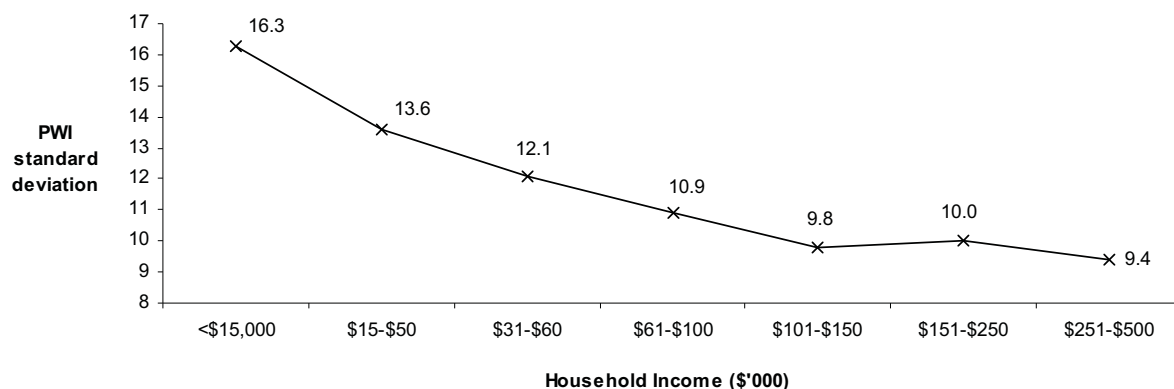


Figure 3.19: Variation in **Personal Wellbeing Index** Within Income Groups Using Individual Scores (S9-S16)

As shown in Figure 3.19 above, the prediction matches the data. The highest standard deviation (16.3) is found within the lowest income group. This value declines with increasing income until it bottoms-out at \$251-500 where it reaches a value of 9.4. 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 incomes 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 3.19 is 9.4 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 3 points at the most. This would leave a 'natural' standard deviation of 6 points.

The maximum reliable level of wellbeing is probably about 82 points. Thus, two SDs around this defines a normal range for set-points at about 70-94 points.

3.8.2. *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)

		<\$15		\$15-\$30		\$31-\$60		\$61-\$90		\$91-\$120		\$121-\$150		\$151+	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
PWI		71.4	15.7	73.5	13.3	74.6	11.8	76.3	10.7	77.6	9.6	78.1	9.5	78.6	10.3
Increment				+2.1	-2.4	+2.1	-1.5	+1.7	-1.1	+1.3	-1.1	+0.5	+0.1	+0.5	+0.8
NWI		59.3	17.4	60.2	15.6	61.2	14.2	62.0	13.9	63.3	13.0	62.1	14.0	64.5	14.1
64.5				+0.9	-1.8	+1.0	-1.4	+0.8	-0.3	+1.3	-0.9	-1.2	+0.4	+2.4	+0.1
PWI minus NWI	Mean	12.1		13.3		13.4		14.3		14.3		16.0		14.1	
	SD	-1.7		-2.3		-2.4		-3.2		-3.4		-4.5		-3.8	

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.

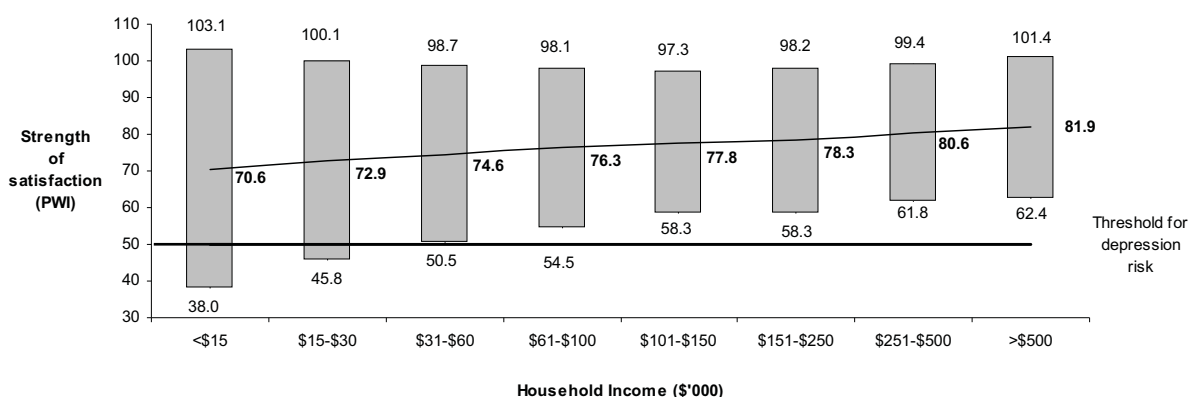
It is interesting to note how this Personal Wellbeing Index range has changed. Using two standard deviations around the mean (Table A3.32), at <\$15,000 it is 38.9 to 102.9 points, while at \$151,000+ it is 57.9 to 99.3 points. It is notable that the reliable change has occurred at the bottom of the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

NORMATIVE DATA FOR INCOME

3.9. Normative Values

3.9.1. 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 3.20: **Personal Wellbeing Index** Range Calculated from Individual Scores

It can be seen that there is very little change at the top of each range (5.8 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 24.4 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 (12.1 points). Income increments from \$61-\$50K add another 11.6 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.

3.9.2. 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 3.21.

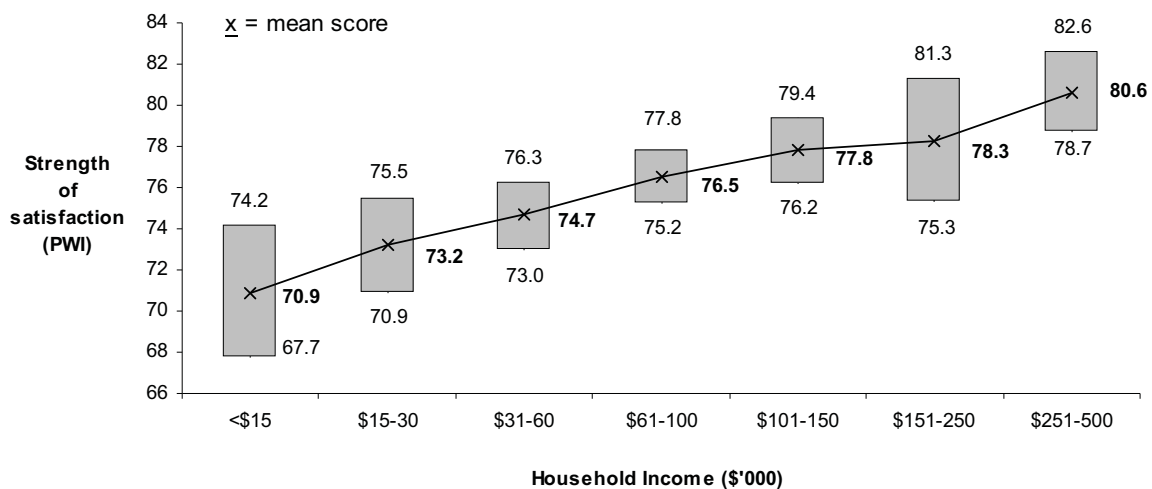


Figure 3.21: **Personal Wellbeing Index** Range Calculated from Survey Mean Scores

The bars in Figure 3.21 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.

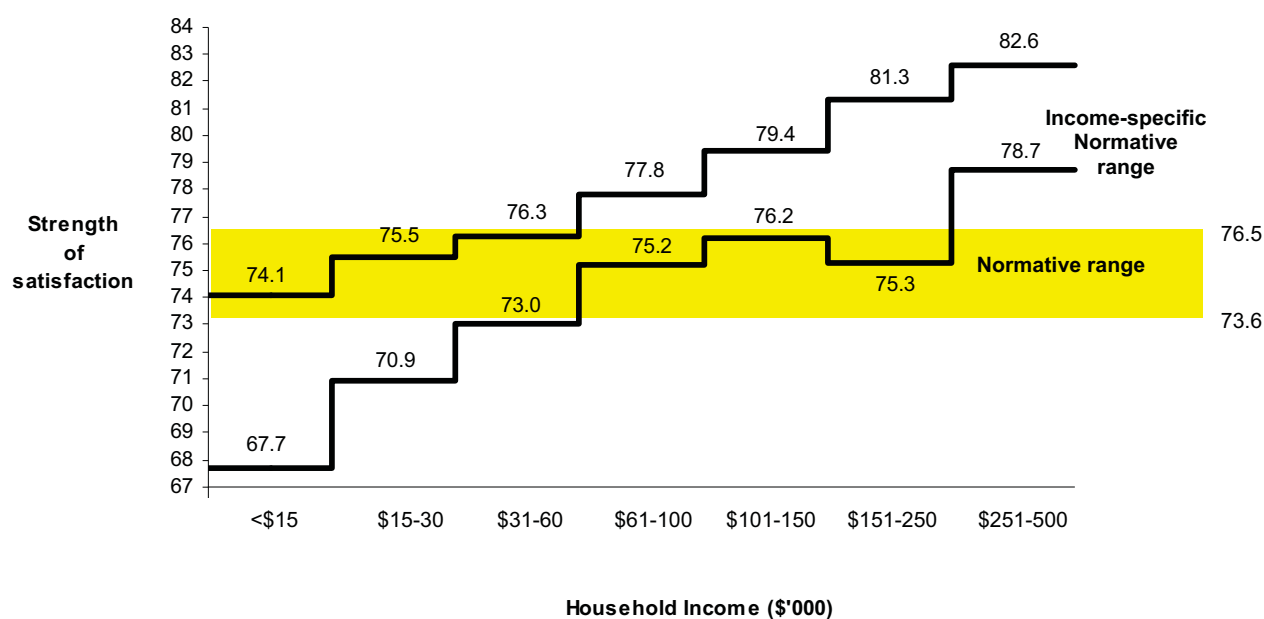


Figure 3.22: Correspondence Between the Whole Sample Normative Range and the Income Specific Normative Range (Combined surveys)

The data for Figure 3.22 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.

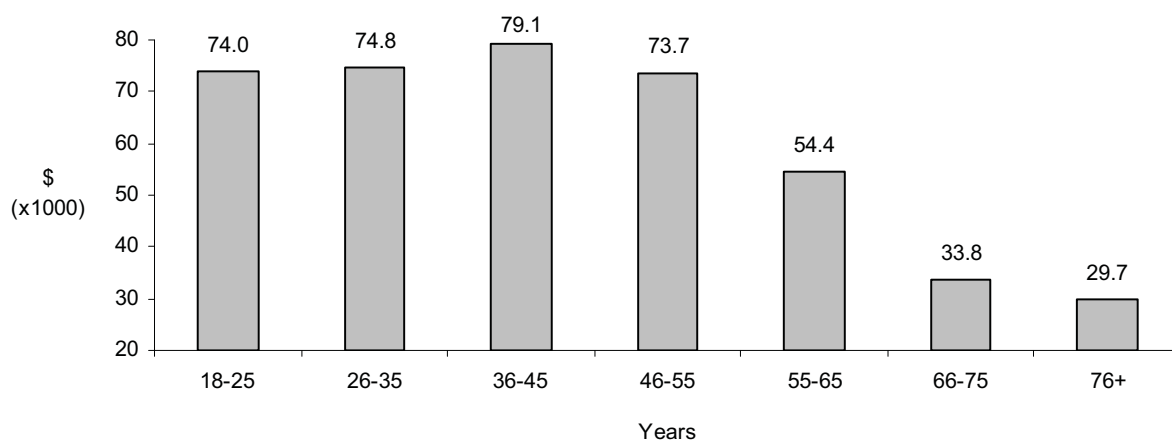


Figure 3.23: Age

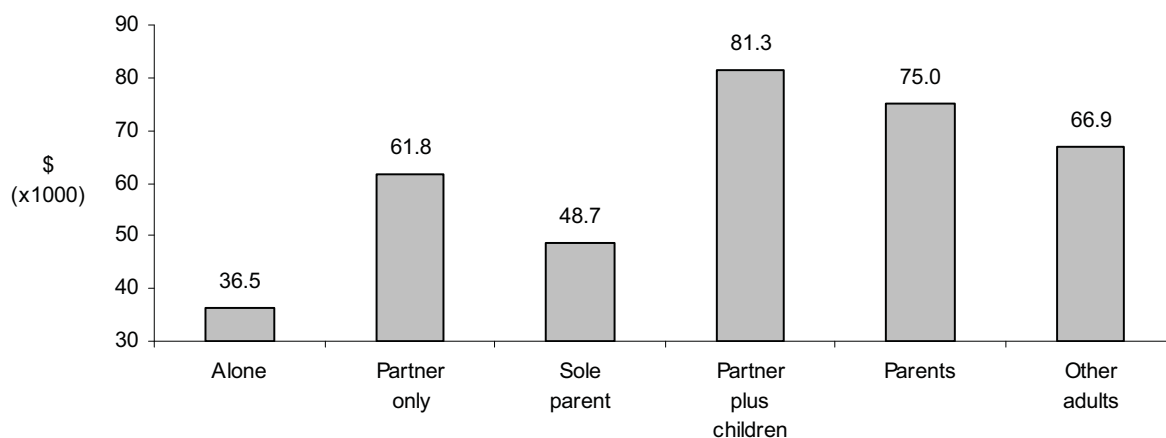


Figure 3.24: Household Structure

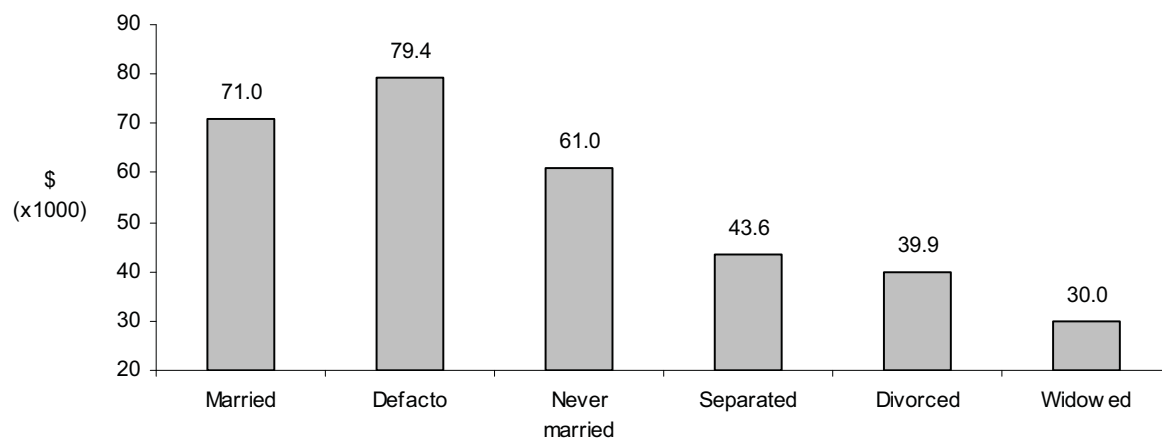


Figure 3.25: Relationship Status

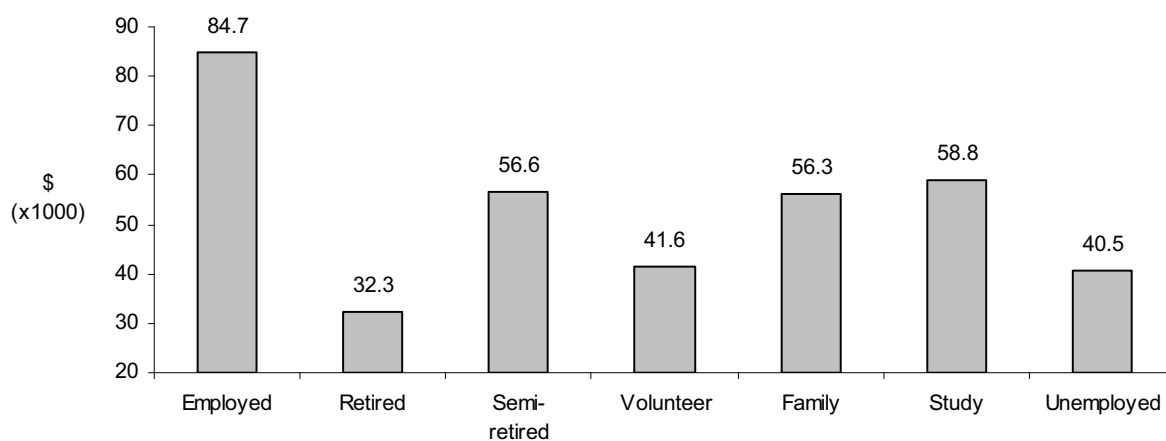
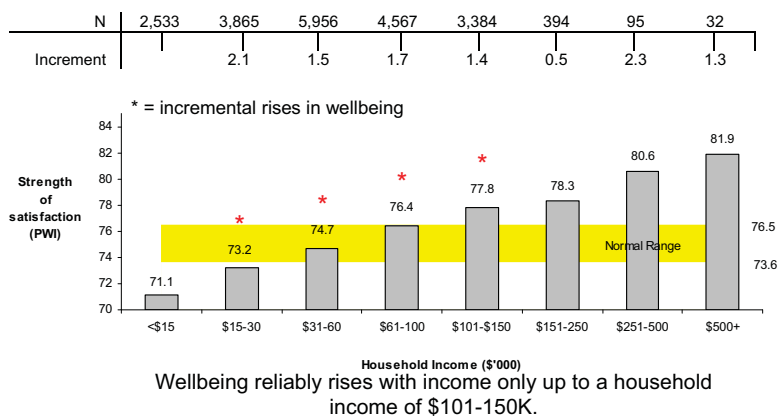


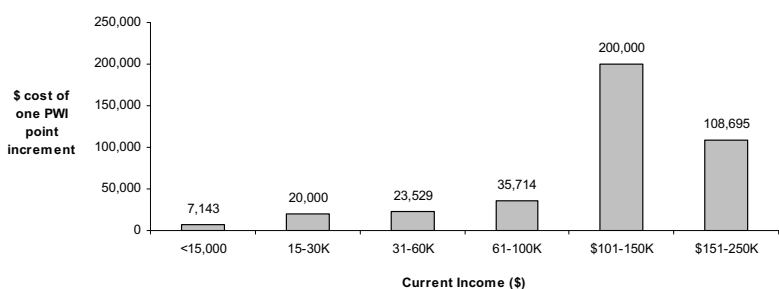
Figure 3.26: Work Status (Full-time)

Dot Summary Points for Household Income:

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.

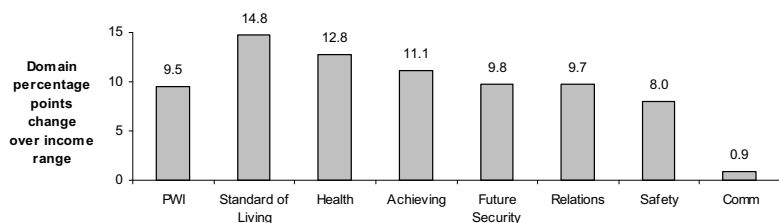


2. The cost of increasing happiness increases with income. One additional percentage point of wellbeing for someone with a household income of \$151-250K is an additional \$108,695.



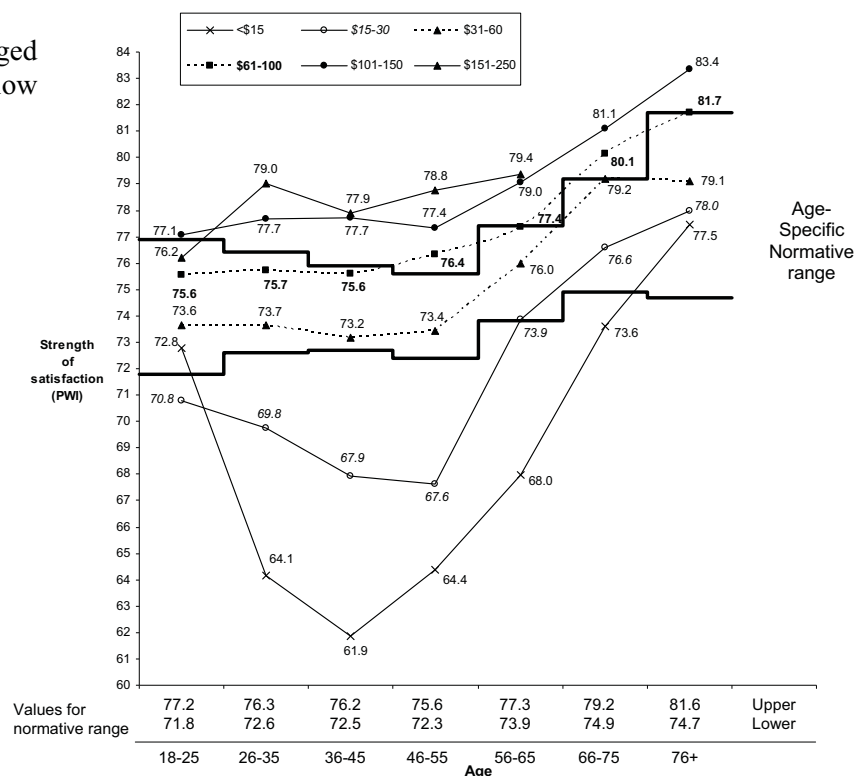
As household income rises it becomes much more expensive to buy an extra point of wellbeing.

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.



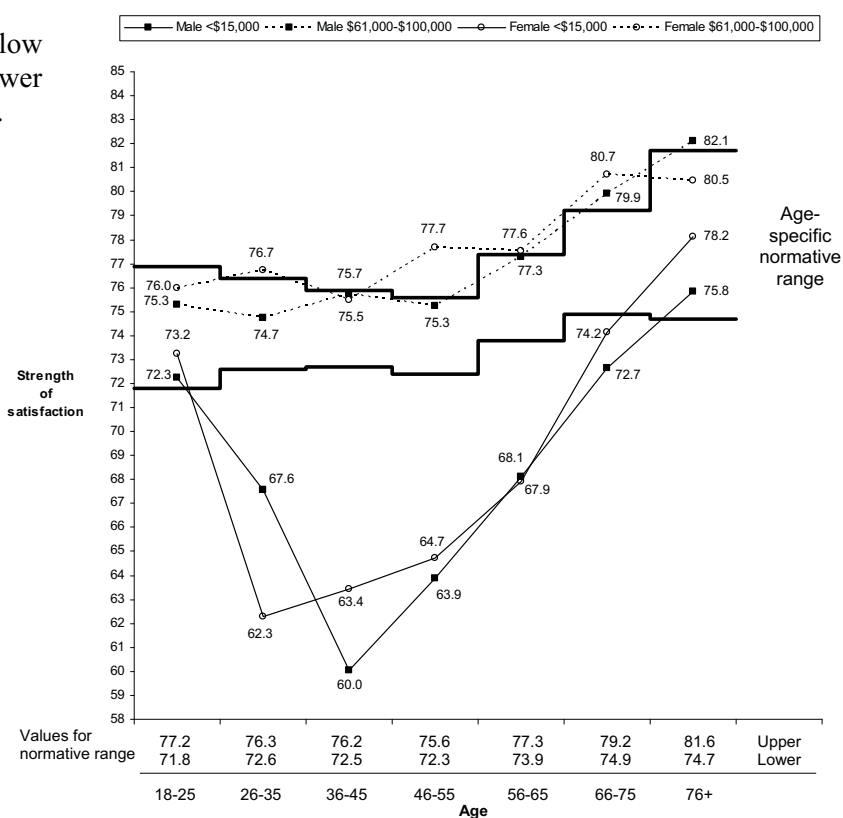
Income has no reliable influence on feeling connected to the community.

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



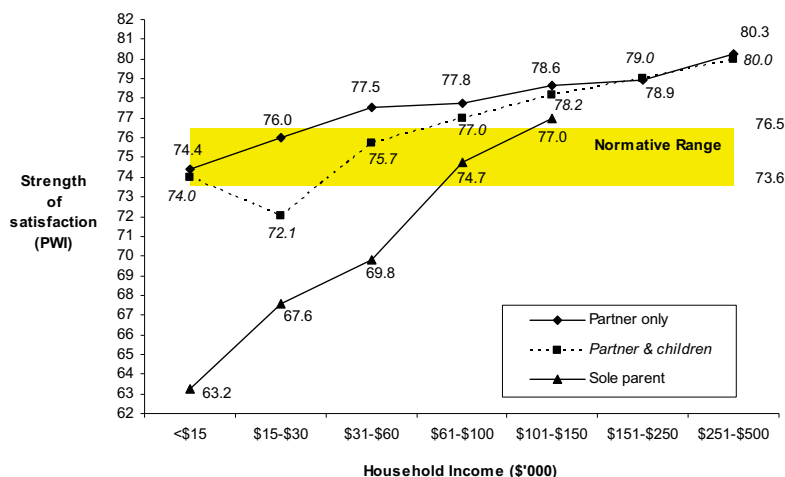
People are most affected by low income between 26-55 years of age.

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



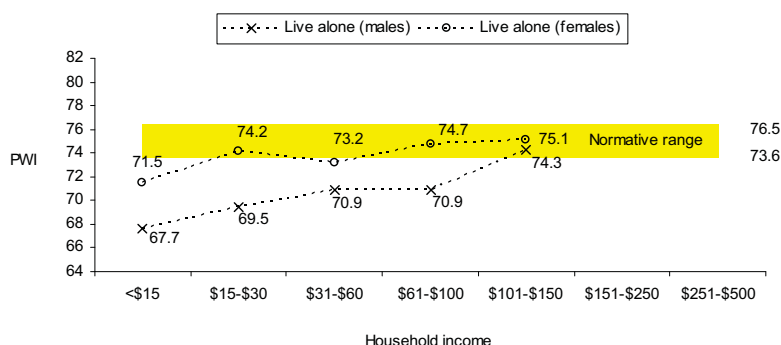
Being in the lowest income group affects middle-age males more than females.

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.



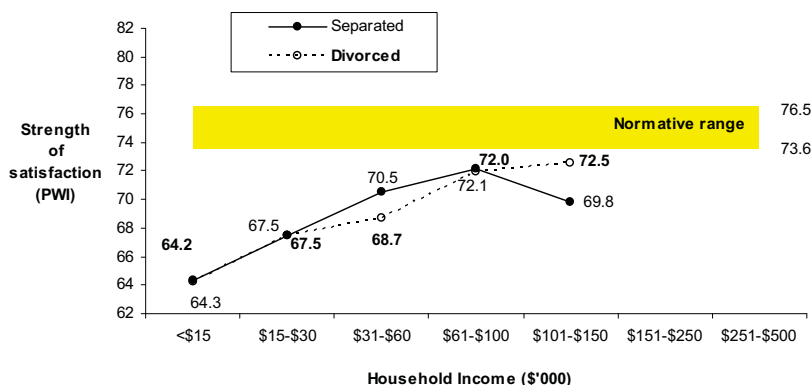
The wellbeing of people without a partner is highly dependent on income.

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)



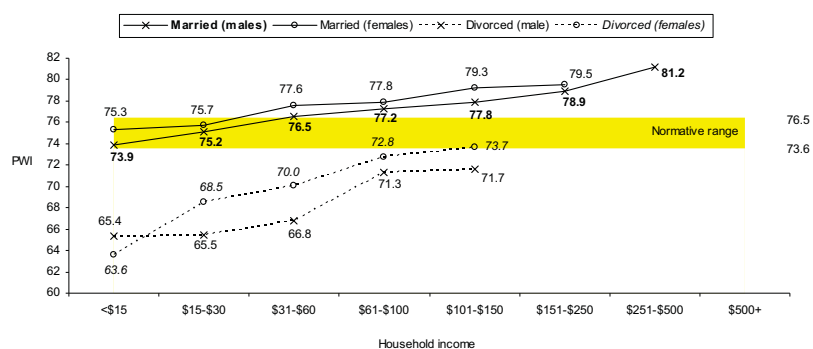
Males who live alone have lower wellbeing than females at all levels of income

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.



The wellbeing of people separated or divorced is enhanced by higher income.

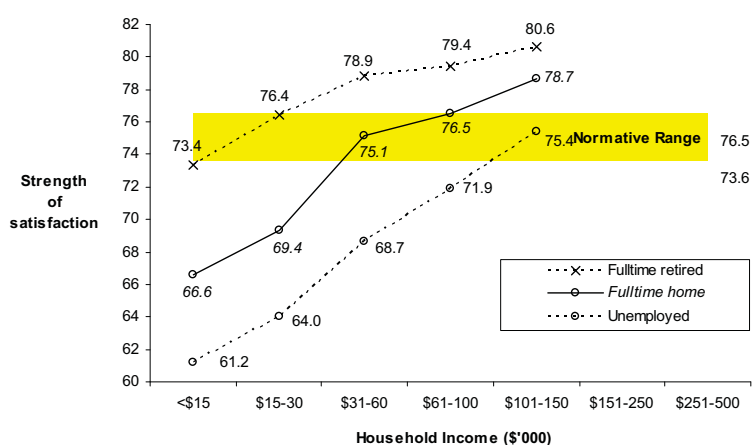
9. Married males and females have a very similar level of wellbeing. However, divorced males have lower wellbeing than divorced females at all incomes except the lowest.



The wellbeing of people who are fulltime home/family care is highly income dependent.

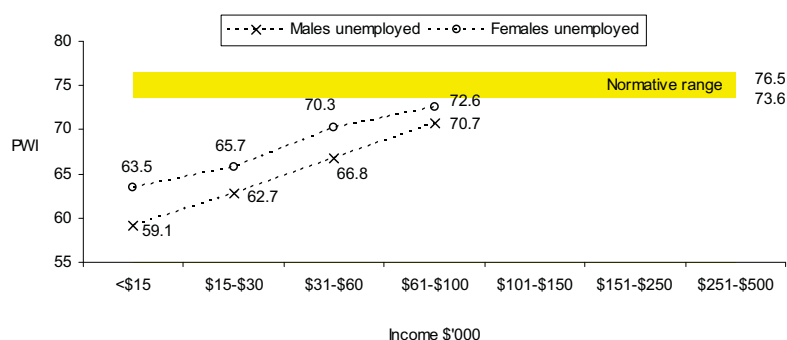
10. The wellbeing of people engaged in Fulltime home/family care is highly income dependent, from below normal at less than \$30,000 to above normal at more than \$60,000.

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



People who are full-time home care enters the normal-range at \$31-60K while for people who are unemployed it requires \$101-\$150K.

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



Unemployment with low household income is worse for males than for females.

4. Gender

4.1. Overall Distribution

The sample comprised 987 males (49.9%) and 992 females (50.1%) (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

On average, across all surveys, females rate themselves 1.0 percentage points higher than males on the PWI (Table A4.2; Figure 4.1). This margin has been progressively decreasing since October 2005, as can be seen.

The shaded surveys in this figure indicate those surveys with a significant gender difference. The gender x survey interaction is significant. In this current Survey 19 the gender difference is significant with males > females. This is the first time this result has appeared over the past seven years.

Over the first 13 surveys, females tended to have higher wellbeing than males. Then, over the next five surveys (14-18) there was no gender difference. Now the pattern is reversed, with male wellbeing higher than female wellbeing. While the level of significance ($p < .05$) is marginal for Survey 19, it looks more credible when seen against the trends shown in Figure 4.1.

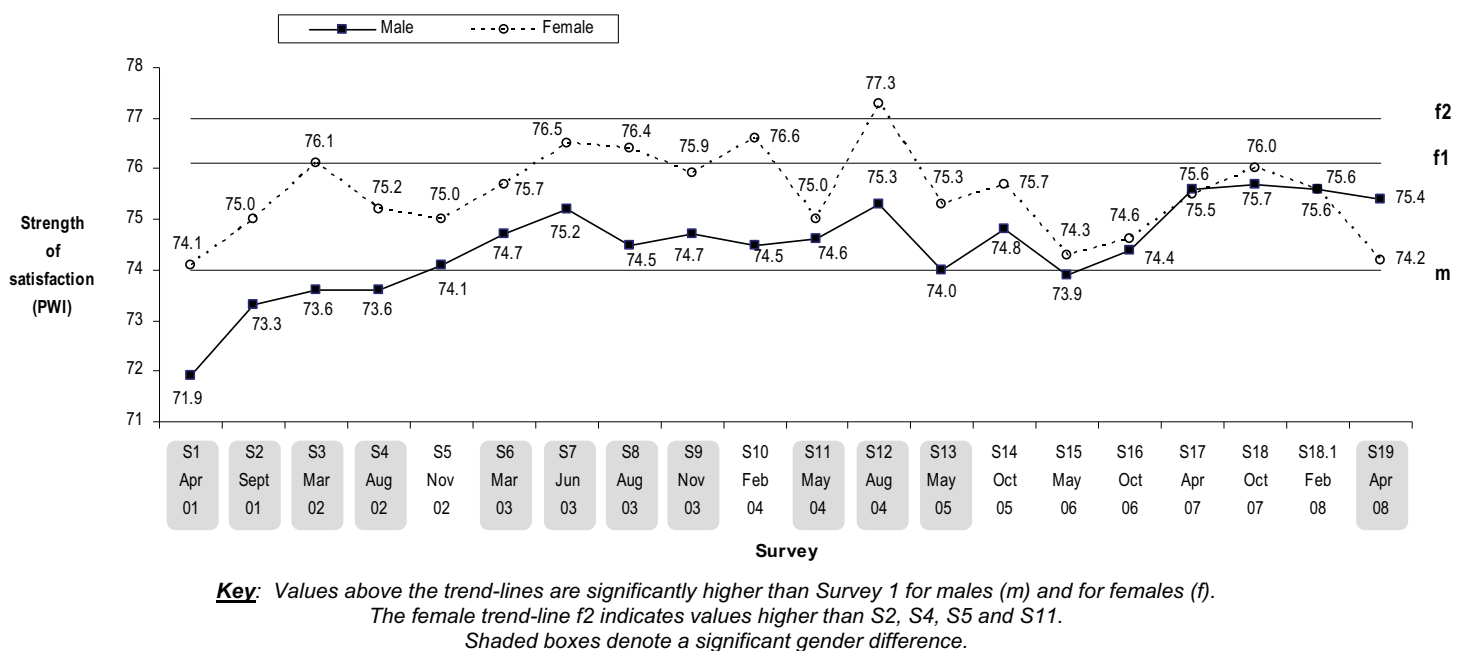


Figure 4.1: Gender x Survey: **Personal Wellbeing Index**

The gender difference in Survey 17 of 0.1 points was the first time that the male Personal Wellbeing Index had numerically (but not significantly) exceeded the female score and the current male value of 75.4 points is one of the highest yet recorded, being 3.5 points higher than it was at Survey 1. The female value of 74.2 points is the second lowest on record, being a mere 0.1 points higher than it was at Survey 1.

The surveys since October 2005 (S14) seem to herald a new era for gender differences in the Personal Wellbeing Index. 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 between the genders has been caused by an increase in male wellbeing. The male levels of Personal Wellbeing Index are currently 3.5 points above the male level at Survey 1 and this difference is significant (Table A4.2). The Personal Wellbeing Index for the females is a non-significant 0.1 points higher than Survey 1. The reason for this gender difference will be examined further in Section 4.2.3.

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 not be due to a rise in the top values of the male range. Rather, it should reflect a rise in the bottom of the range and this should be associated with a reduced within-sample variance as the range constricts. This proposition is tested in Figure 4.2 below with data drawn from Table A4.15.

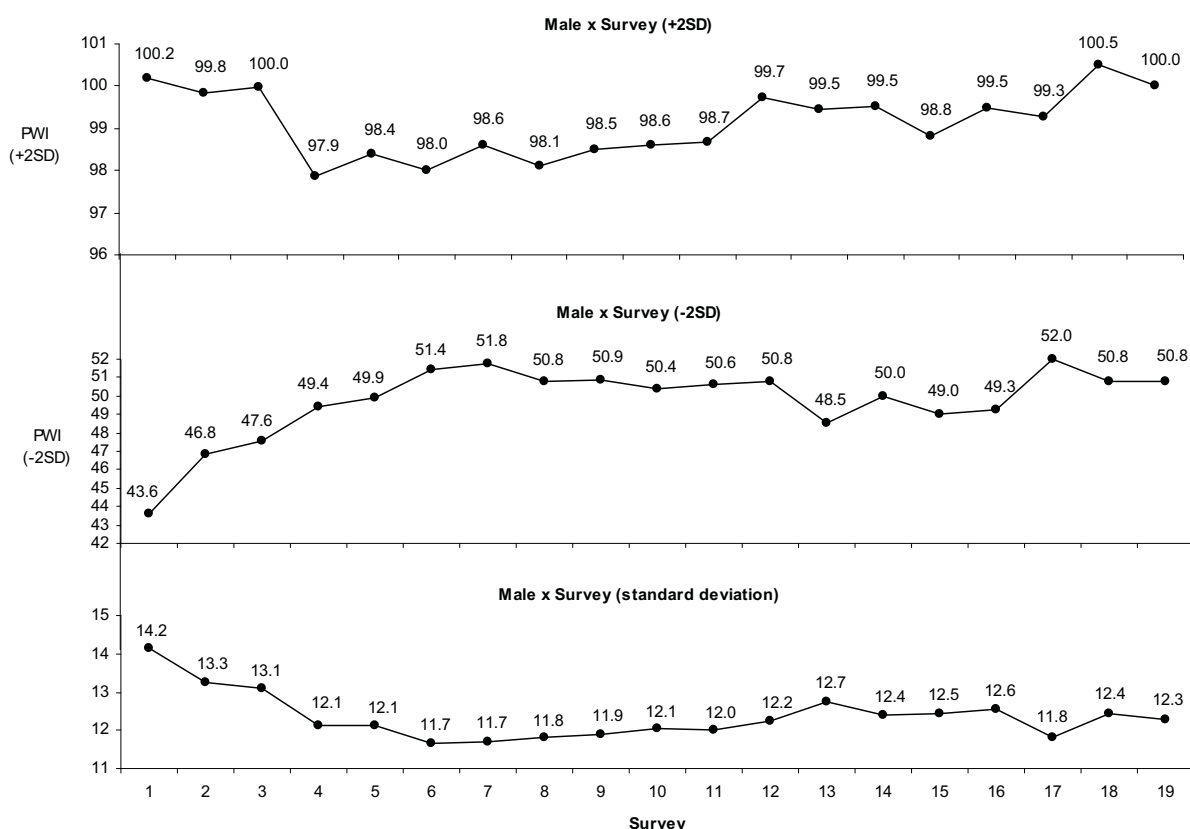


Figure 4.2: Male x Survey Margins of Distributions and Variances

The following results pertain:

1. The +2SD mean across all 20 surveys is 99.09 points with a SD = 0.79. Thus, the top of the normal male range of values lies very close to the top of the scale (100 points).
2. The -2SD range across all 18 surveys is 49.64 points with a SD = 2.05. Thus, the base of the normal male range of values lies very close to the scale mid-point (SD) and it is far more variable (SD = 2.05 vs. SD 0.79) than the top of the range measures.

From this it can be concluded that the normal male range approximates the neutral-to-positive spectrum of the response scale (50-100 points). This is consistent with the view of negative values (0-49 points) as being outside the normal range and possibly pathological.

3. According to homeostasis theory, any change in the population mean score should reflect the distribution of scores around the lower margin of the normative range. Thus, if the population mean score rises, this should indicate an elevation of the lower margin of the normal range (-2SD) and no change in the upper margin (+2SD) due to ceiling effects. This prediction is supported. The correlation between the mean Personal Wellbeing Index score and the +2SD range is -.12, while the correlation with the -2SD range is +.92.
4. Due to this reduction in the variance due to ceiling effects and a rising (-2SD) range, the survey mean score should also correlate with the survey SD. The prediction, is supported with a correlation of +.79.

In summary, all of these results support the predictions of homeostasis theory.

4.2.3. Personal Wellbeing Domains

4.2.3.1. Standard of Living

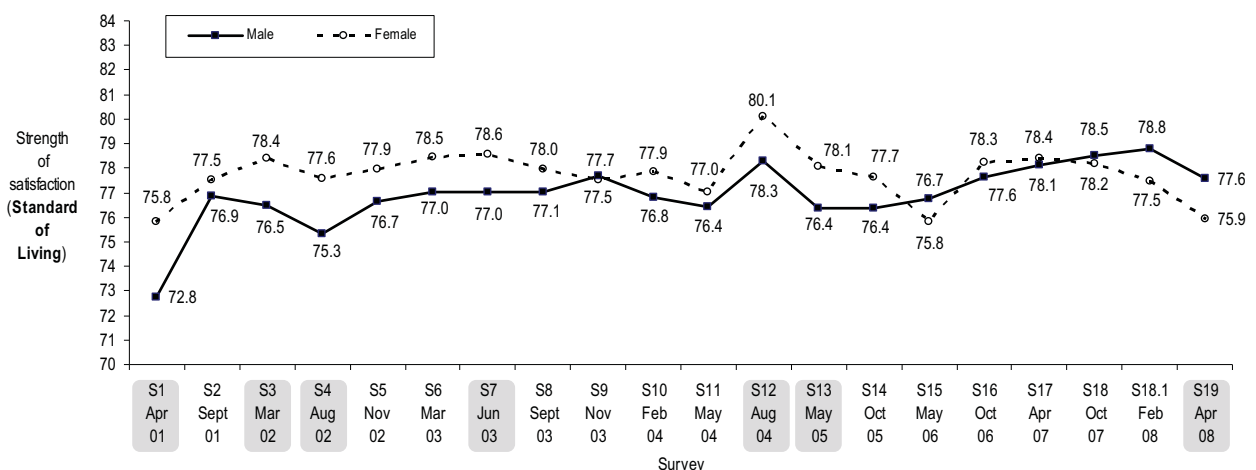


Figure 4.3: Satisfaction with Standard of Living across all Surveys

These results come from Table A4.2. On six previous occasions there has been a gender difference with females > males. In Survey 19 this has reversed for the first time, with males > females. The interaction is significant. It shows that there has been no systematic trend over time for females. While female Surveys 3, 7 and 12 are higher than Survey 1, the remaining 16 surveys do not differ from Survey 1.

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

4.2.3.2. Health

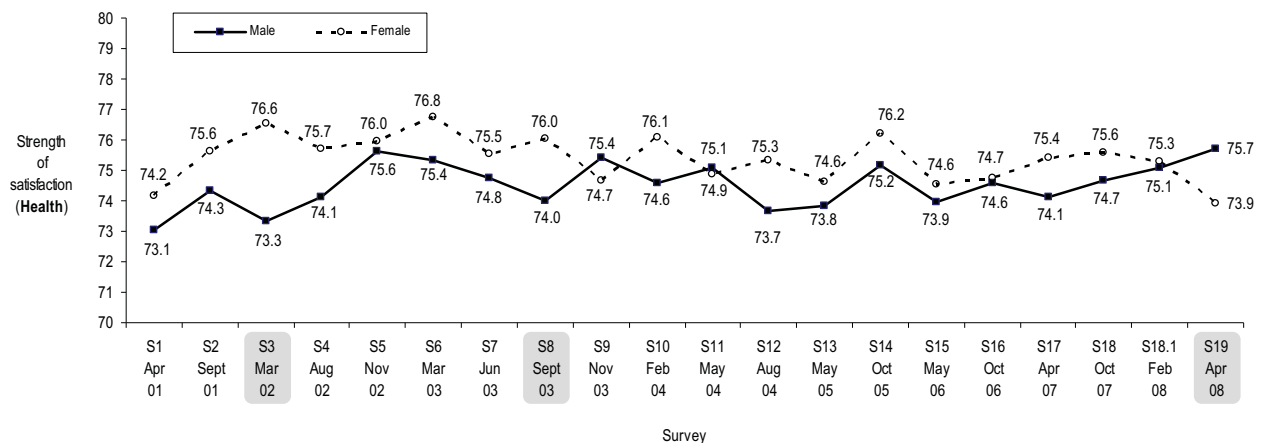


Figure 4.4: Satisfaction with Health across all Surveys

These results come from Table A4.2. This is the most stable domain, with no trend over surveys 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). For the first time in Survey 19, males > females.

4.2.3.3. Community

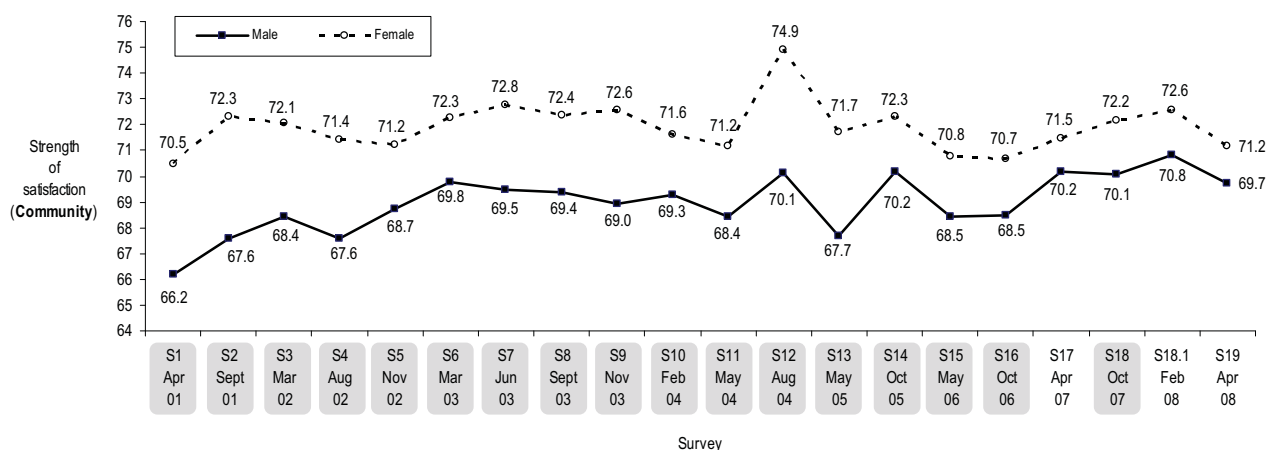


Figure 4.5: Satisfaction with Community across all Surveys

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 6, and this rise has been more or less maintained.

These trend differences mean that the genders are gradually converging and at Survey 19 they are separated by only 1.5 points (N.S.).

4.2.3.4. Achieving in Life

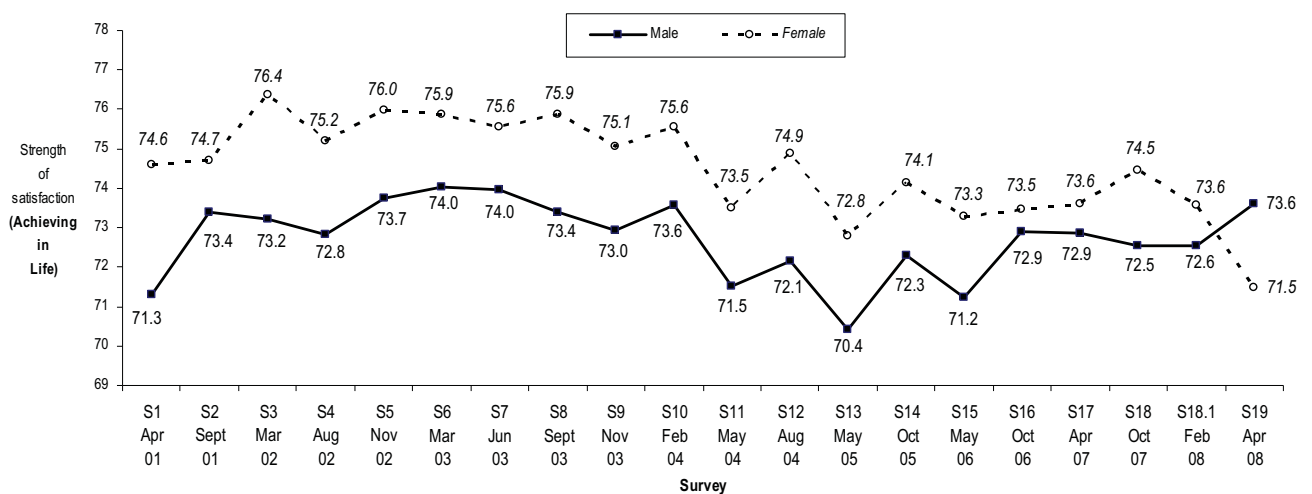
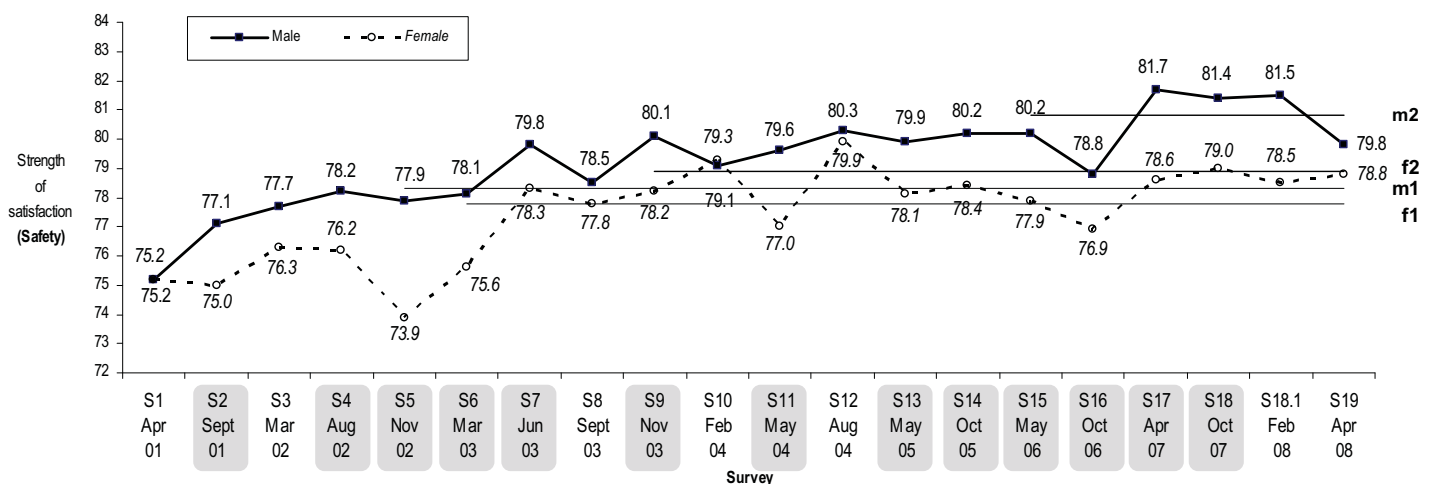


Figure 4.6: Satisfaction with Safety across all Surveys: Achieving in Life

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

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 trend line f1 and m1 denotes values higher than S1, S2
 The trend line f2 and m2 denotes values higher than S3, S4, S6
 Shaded boxes denote a significant between-group difference.

Figure 4.7: Satisfaction with Safety across all Surveys

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

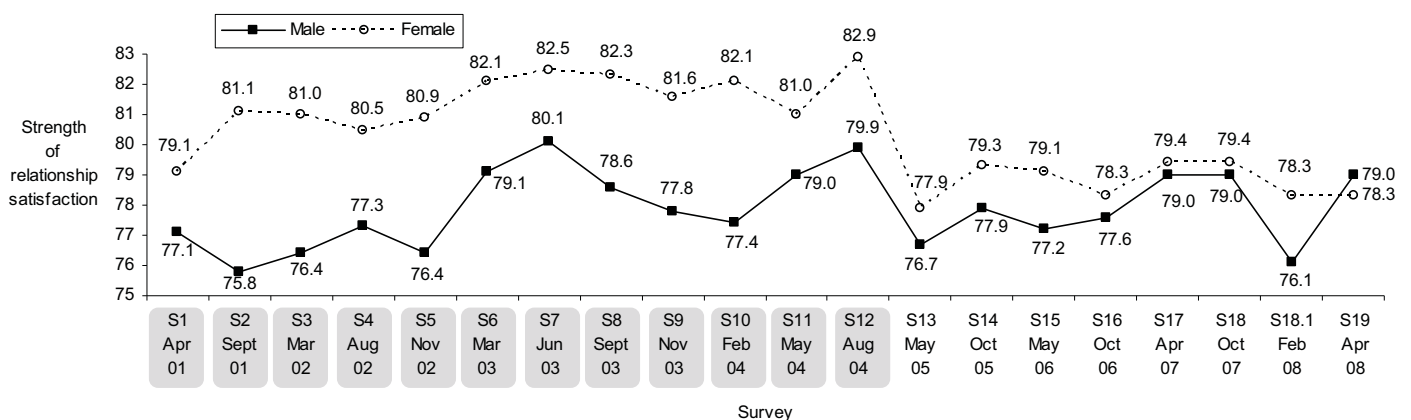
- It is the only domain to be generally statistically higher in males. This has occurred on 13/19 occasions (shaded).
- The satisfaction with safety for males has fallen back from its level at the two previous surveys which were the highest levels recorded. It remains significantly higher than four previous

surveys. It 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 4.7) generate 66 significant differences within gender across the surveys (Table A4.2). The next highest is Future Security with 42 significant differences. The maximum 'safety' value for females occurred at Survey 12 (Olympics). 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 (79.9 points) is 4.7 points higher than at Survey 1. This is a remarkable degree of correspondence.
- (d) Safety does not show a survey x gender interaction, attesting to the stability of the gender difference over time.
- (e) Safety is the only domain that 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. Thus, it may be regarded as a 'sleeper' domain in Australia.

4.2.3.6. Relationships

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



Key: Shaded boxes denote a significant gender difference.

Figure 4.8: Gender x Survey (Relationship Satisfaction)

Over the first 12 surveys, females had higher relationship satisfaction than males. However, following Survey 12 (Olympics) the pattern has dramatically changed, with none of the next seven surveys showing a significant 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 have returned to be no different from Survey 1. However, the current gender difference of 0.7 points is the first time that the value for males numerically (but not statistically) exceeds that of females.

The cause of the interaction appears to be 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

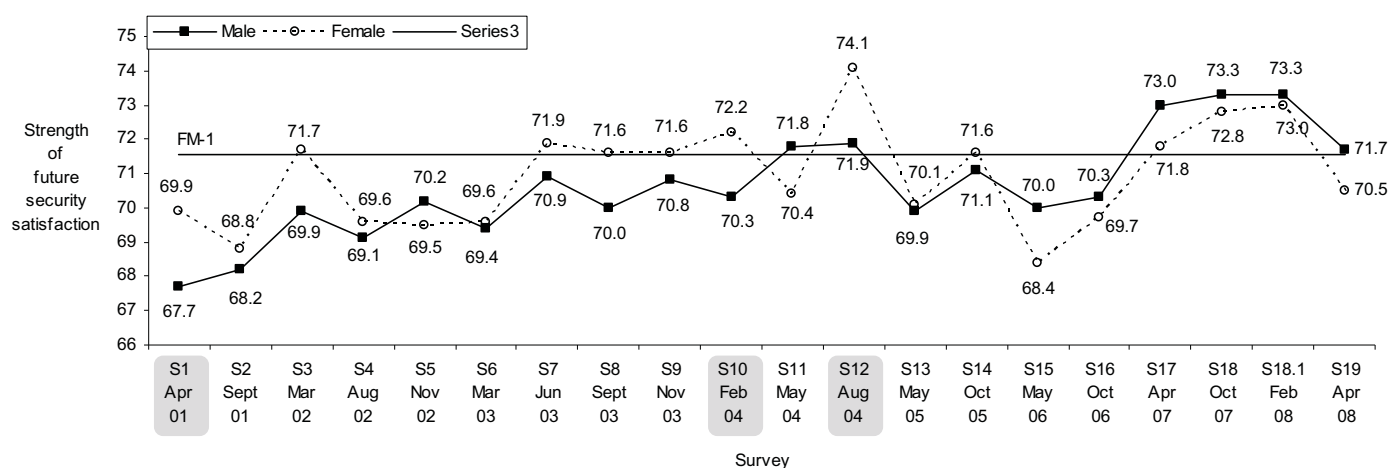
not true for females. Here the fall signalled an end to the elevated levels of satisfaction that had occurred from Survey 2 to Survey 12. The new level was no different from Survey 1 and it has remained at this lower level over the next three years.

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 3 years, relationship satisfaction has returned to normal.

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.



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 4.9: Gender x Survey (Future Security Satisfaction)

The two genders have tended not to differ from one another over this series of measures, with just 3/19 comparisons being significantly different, in each case favouring females.

However, since Survey 15 male satisfaction has been numerically (but not statistically) higher than female satisfaction, and this reflects the 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 10 surveys have yielded 6/10 higher than Survey 1. This is the cause of the significant interaction.

The persistent rise in male satisfaction with future security is hard to understand. It may be related to consistently good economic conditions and the continued presence of terrorist attacks and armed conflict outside Australia.

4.2.4. Conceptualizing the Fall in the Personal Wellbeing Index by Gender

As shown by Figure 4.1, the recent fall in wellbeing is confined to females. Male wellbeing has not changed since Survey 18 (-0.3 points) while female wellbeing has fallen by a significant 1.8 points.

The domain changes over this period as follows:

Table 4.1: Domain Changes Survey 18–Survey 19

Domain	Male	Female
Standard	-0.9	-2.3*
Health	+1.0	-1.7
Achieving	+1.1	-3.0*
Relationships	0.0	-1.2
Safety	-1.6	-0.2
Community	-0.4	-1.0
Future Security	-1.7	-2.3*
Average	-0.3	-1.8

None of the male domain changes between Surveys 18 and 19 are significant. By contrast, three of the female domains are significant as Standard of Living, Achieving in Life, and Future Security.

Future Security: see Figure 4.9. While satisfaction with Future Security has fallen considerably for both males and females since Survey 18, the fall has been greater for females and causes their value to no longer be higher than any other survey. Males, on the other hand, remain higher than Survey 1.

4.2.5. Domain Stability Across Surveys x Gender

Major shifts in domain satisfaction, defined as a change of greater than 2.0% 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 4.2: Domain Changes >2.0% Between Adjacent Surveys within each Gender

Domain	Surveys	Male	Female	Event
Standard of Living	1-2	+4.18	+1.72	September 11
	11-12	+1.90	+3.08	Olympics
	12-13	-1.94	-2.06	-
	15-16	+0.89	+2.42	-
	18-19	-0.95	-2.25	Labor election
Achieving	1-2	+2.08	+0.12	September 11
	10-11	-2.06	-2.07	-
	12-13	-1.72	-2.09	-
	18-19	+1.07	-2.99	Labor election
Relationships	5-6	+2.69	-1.03	First Bali Bombing
	12-13	-3.15	-4.95	-
Safety	4-5	-0.35	-2.32	-
	10-11	+0.53	-2.24	-
	11-12	+0.75	+2.88	Olympics
	12-13	-2.04	-3.97	-
	14-15	-1.13	-3.21	-
	16-17	+2.89	+1.69	-
Future Security	6-7	+1.51	+2.43	Begin Iraq War
	11-12	+0.17	+3.64	Olympics
	12-13	-2.04	-3.97	-
	16-17	+2.65	+2.11	-
	18-19	-1.60	-2.24	Labor election
Community	11-12	+1.07	+3.75	Olympics
	12-13	-2.42	-3.21	-
	13-14	+2.46	+0.62	-

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 252 comparisons, (2 genders x 18 adjacent survey comparisons x 7 domains) only 25 (9.9%) 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, 11/25 (44.0%) are temporally linked to the period immediately following one of the five major events: September 11 (S1-S2), Bali (S5-S6), the Iraq War (S6-S7), the Olympics (S11-S12), and the Labor election (S18-S19). Since these events only constitute $2 \times 5 \times 7 = 70$ (27.8%) of the number of adjacent survey comparisons, this is further evidence that the Index changes are more likely as a consequence of these international events.
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 no change >2 points between adjacent surveys for either gender. This confirms its status as the most stable domain.

4.2.6. New Domain of Spiritual/Religious Satisfaction

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

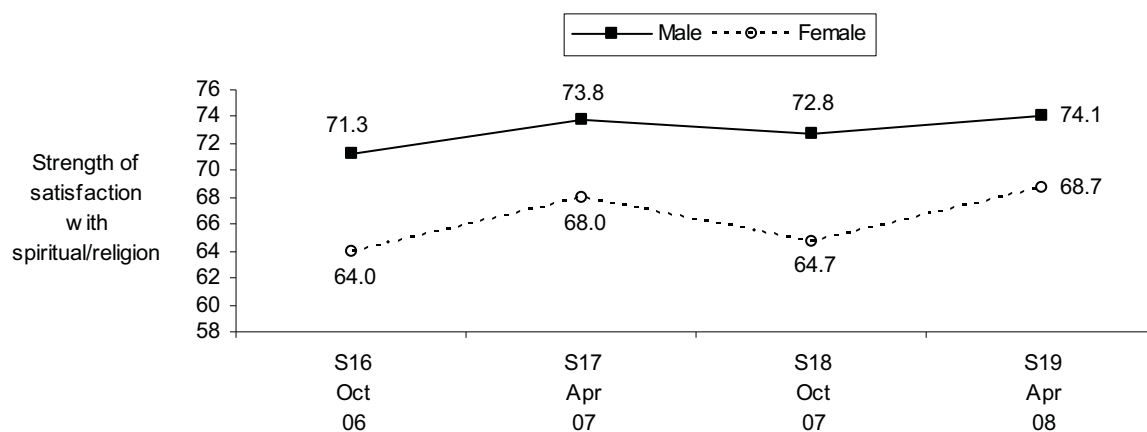
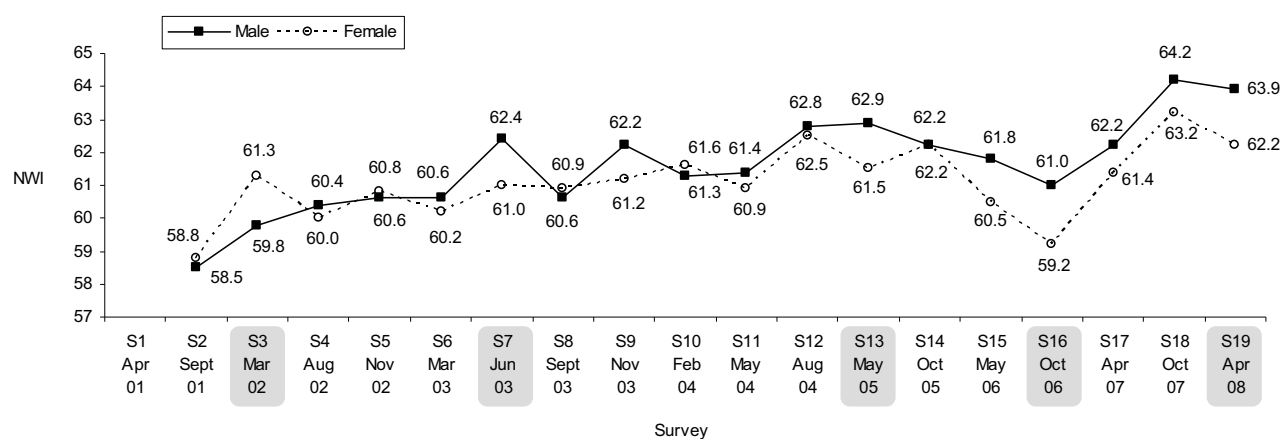


Figure 4.10: Gender difference in Spiritual/Religious Satisfaction

4.2.7. National Wellbeing Index



Key: There are no values for Survey 1.
Shaded boxes indicate a gender difference

Figure 4.11: Gender x National Wellbeing Index x Survey

Both genders have shown rising satisfaction over the course of these surveys, with both genders being some 4-5 points above their levels at Survey 1.

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 5/19 surveys showing a gender difference. However, unlike the personal index, these differences tend to favour males (4/5).

The value of the National Wellbeing Index remains statistically unchanged for both genders since Survey 18 and higher for Survey 2.

Both genders have shown a fall in the National Wellbeing Index. It remains higher than Survey 2 and a number of other domains (Table A4.2). The value for both genders remains high.

4.3. National Wellbeing Domains

4.3.1. Economic Situation

Two national domains show an interaction with gender across surveys. Satisfaction with economic situation is shown below.

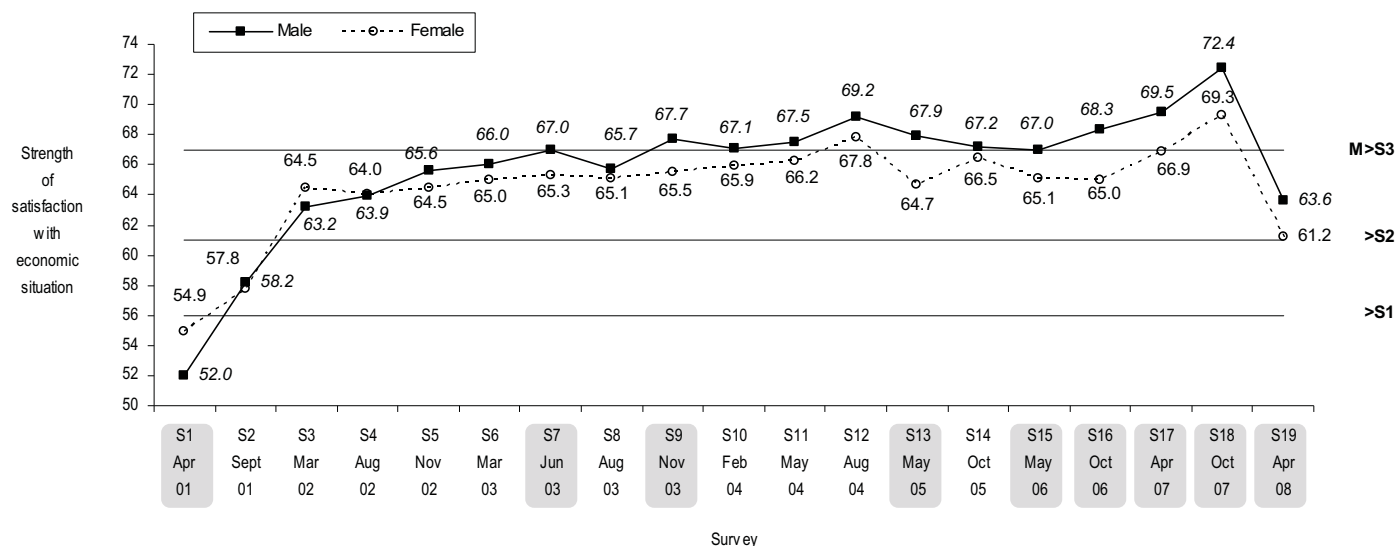


Figure 4.12: Gender x Survey (Economic Situation)

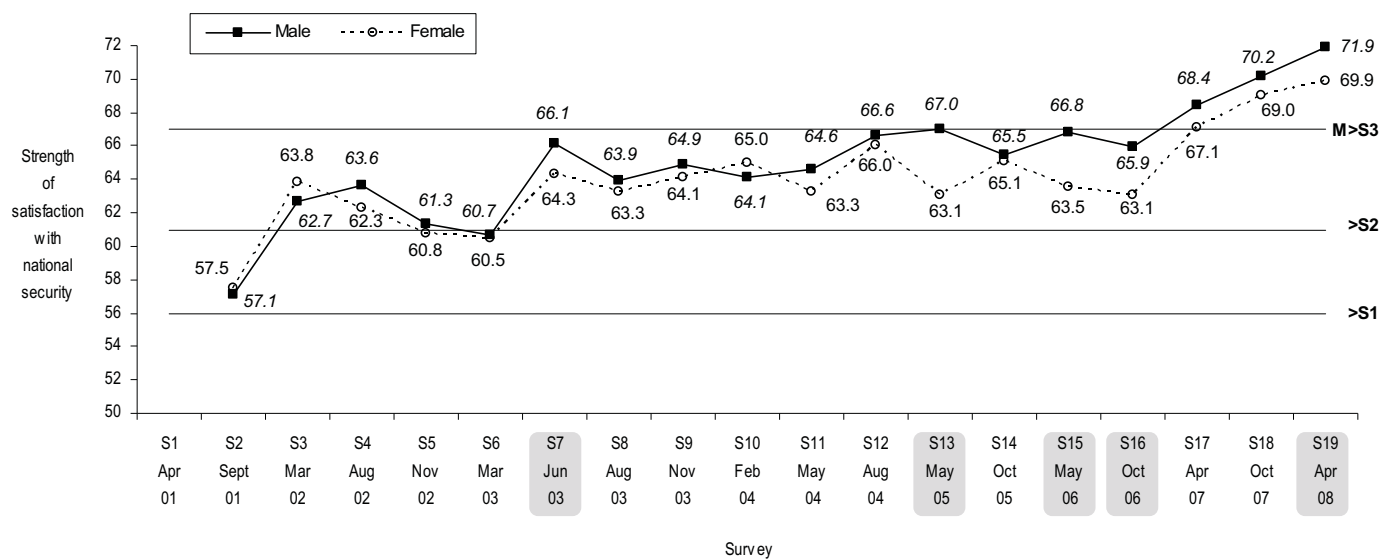
Following the remarkable rise in satisfaction with the Economic Situation over the period between Survey 1 and Survey 3, and the slow but steady rise over the next 5.5 years, satisfaction has now plummeted for both genders. It has fallen by 8.8 points for males and 8.1 points for females.

The reason for this 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 past 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.



Key: There are no values for Survey 1.
Shaded boxes indicate a gender difference

Figure 4.13: Gender x Survey (National Security)

Following the initial dramatic rise from Survey 2 to Survey 3 of some 5-6 points, both genders have trended upwards together. From Survey 13 to Survey 16 female satisfaction with national security fell while male satisfaction remained stable, causing a gender difference. Since Survey 16, satisfaction has risen for both genders and now they are once again significantly different from one another. Both genders are now at their highest levels yet recorded and 12-13 points higher than they were at Survey 2.

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 (Table A4.2).

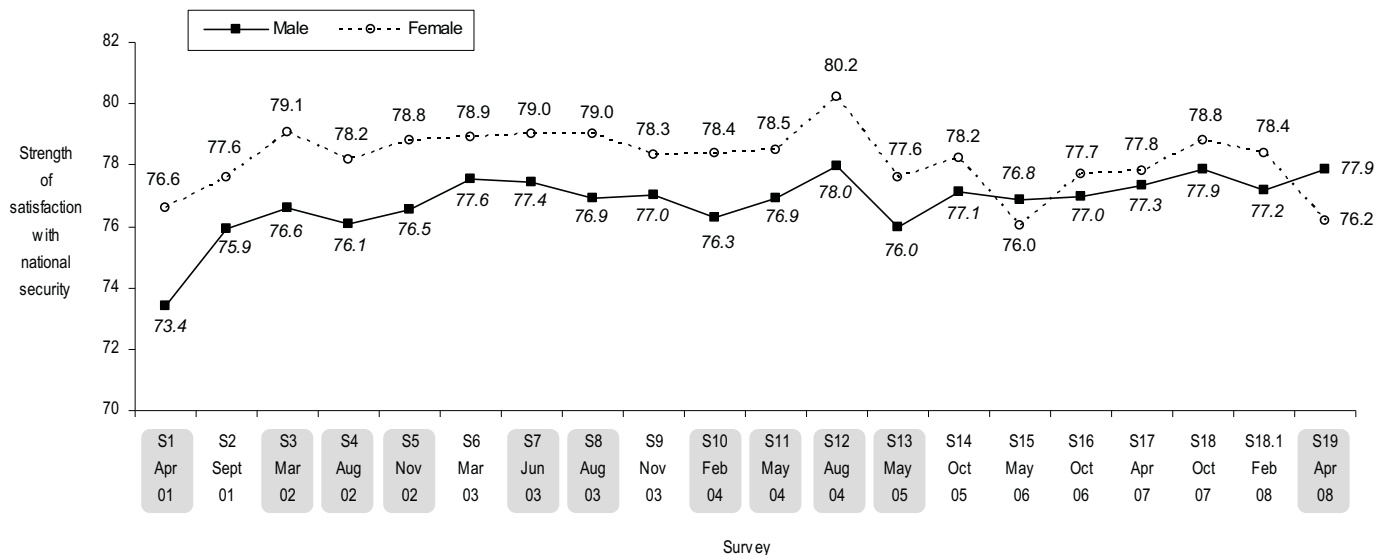


Figure 4.14: Gender x Survey (Life as a Whole)

For the second time (see also S15) the value for females has fallen numerically (but not significantly) below its level at Survey 1.

The male values, on the other hand, are being maintained at their elevated level compared with Survey 1. The value at Survey 19 (77.9 points) is the second highest on record.

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.

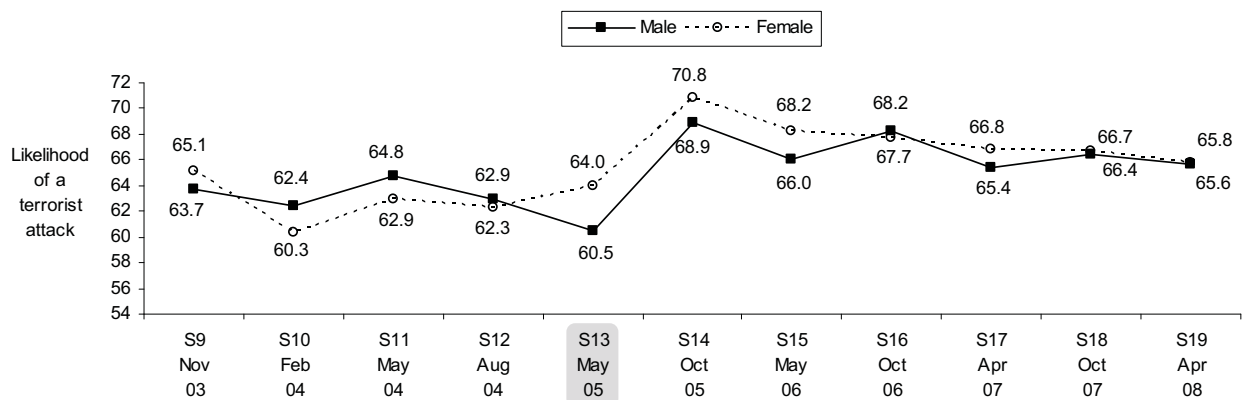


Figure 4.15: Perceived Likelihood of a Terrorist Attack and Gender

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 no age related differences between Surveys 18 and 19 for females, while for males the two oldest groups have changed in opposite directions.

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=1,073 for Male 76+y).

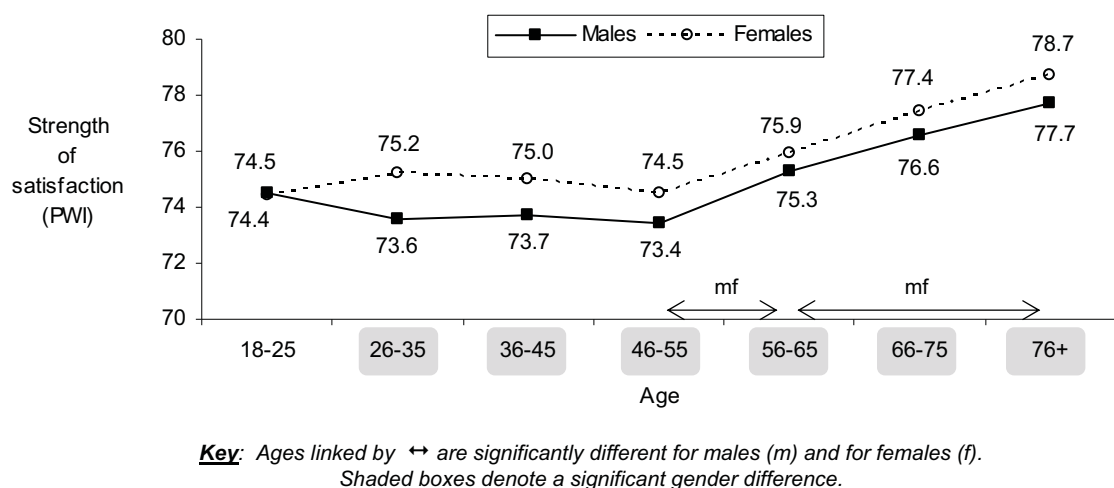
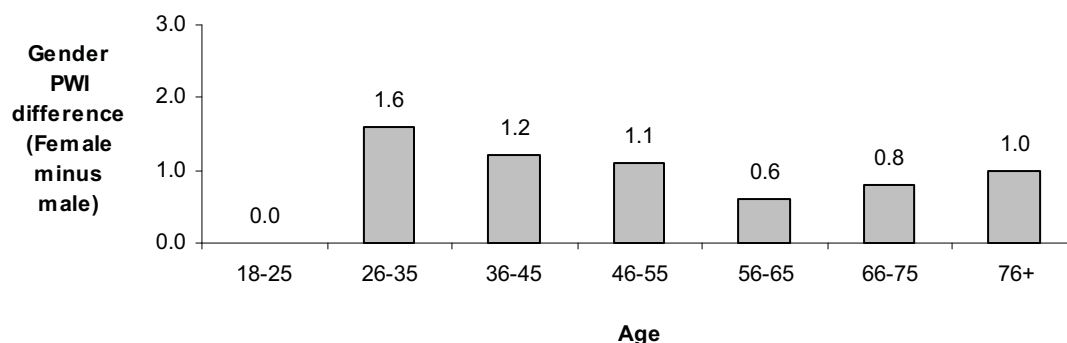


Figure 4.16: Gender x Age: **Personal Wellbeing Index** (combined surveys)

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. 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 ($p = .04$) (Table A4.4). As can be seen from Figure 4.16 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 4.17.

Figure 4.17: Gender x Age: **Female PWI minus Male PWI (combined data)**

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.

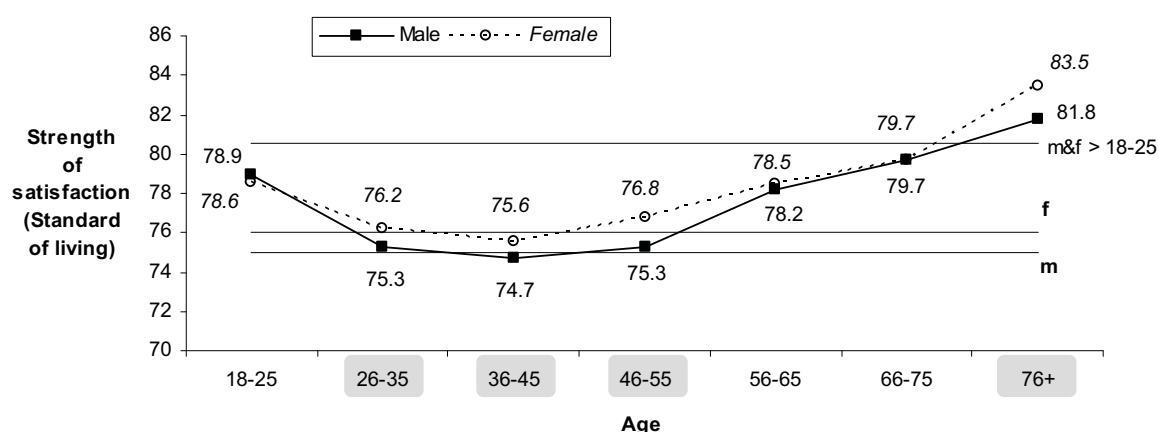
This lack of a gender difference at 18-25y is so anomalous that Table 4.5 presents these data across all surveys for verification. As can be seen, not one survey has produced a significant gender difference at this age.

Report 11.0 investigated whether this marked gender difference for the two youngest groups applies to the individual domains. Figure 4.18 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

4.6.2.1. Standard of Living



Key: Values above the trend-lines are significantly higher than 36-45 for males (m) and for females (f). Shaded boxes denote a significant between-group difference.

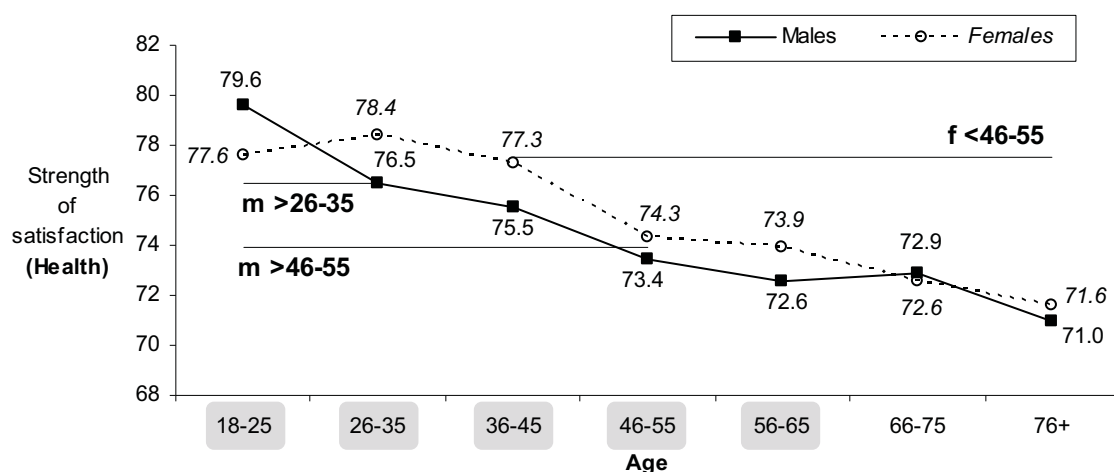
Figure 4.18: Gender x Age: **Standard of Living (combined data)**

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 there is no gender x age interaction. From an initial value of 78.6 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 4.18 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:



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

Figure 4.19: Gender x Age: **Health** (combined surveys)

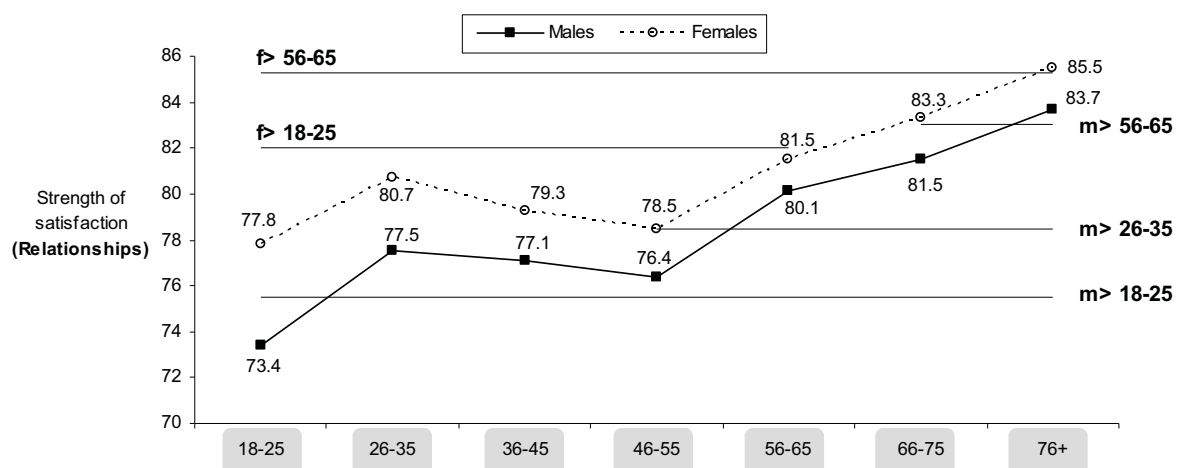
Satisfaction with health shows a significant gender x age interaction ($p=.000$). At 18-25 years satisfaction with health is higher for males (Table A4.4 : $p=.002$ Minimum $N=1,685$). Thereafter the two genders show a very different pattern of change.

Male health satisfaction shows an immediate drop of 3.1 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 is probably 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

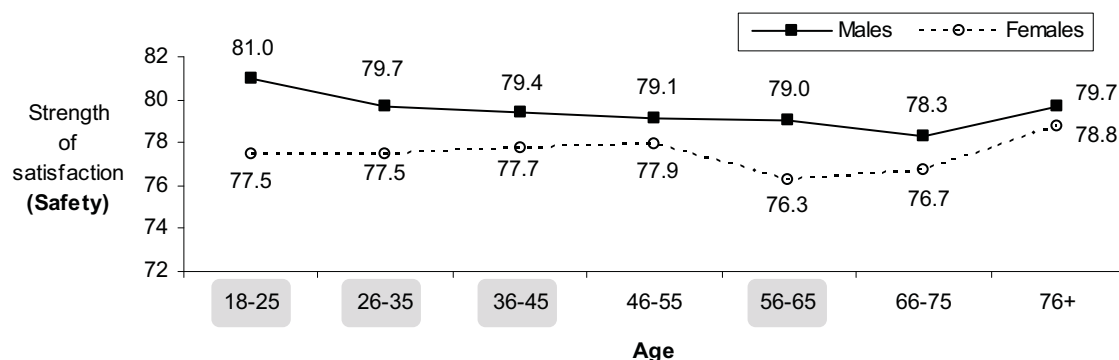


Key: Values above the trend-lines are significantly higher than the designated age groups for males (m) and for females (f). Shaded boxes denote a significant between-group difference.

Figure 4.20: Gender x Age: **Relationships** (combined surveys)

Even though the gender difference is significant at each age group (minimum N = 1,039), there is also a significant interaction. It is apparent that the gender difference diminishes with age.

4.6.2.3. Safety

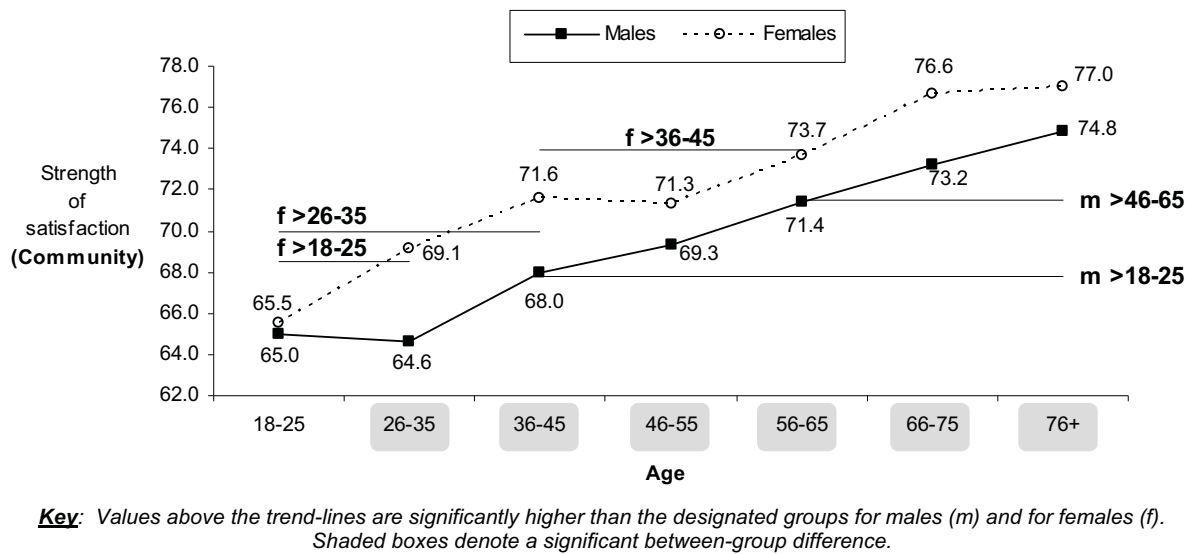
Figure 4.21: Gender x Age: **Safety** (combined surveys)

There is a significant gender x age interaction ($p=.019$) reflecting convergence between the genders with increasing age. Gender difference in satisfaction with safety does not occur beyond 66 years (Minimum N=1,149).

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 ($p=.001$) and is shown in Figure 4.22 below (minimum cell size = 1,040).

Figure 4.22: Gender x Age: **Community Connection** (combined surveys)

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 3.6 point increase in satisfaction from 18-25 to 26-35, males show no change (-0.2 points). Over the following decade, however, male satisfaction increases by 3.0 points.

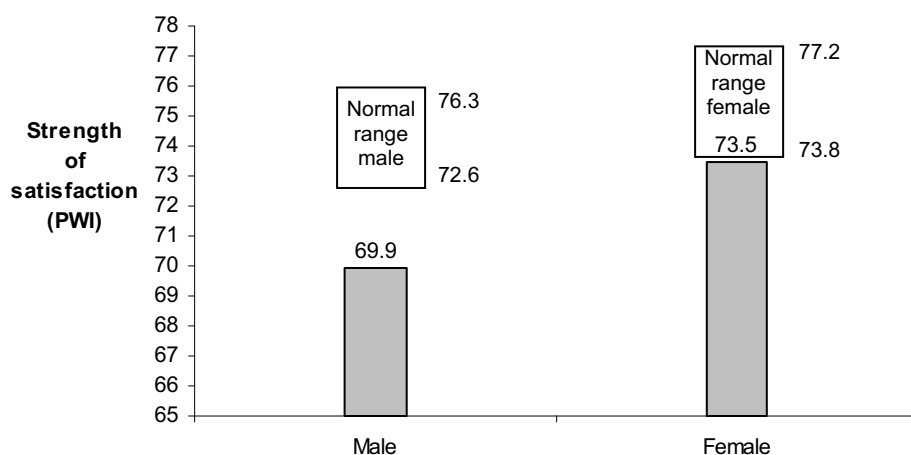
In sociobiological terms, it is possible that the 18-35y period covers the ‘breeding years’ during which men are more concerned with providing for their immediate family while females are more concerned with creating mutually supportive ties with other mothers for the purpose of joint child care and 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.

4.7. **Gender and Household Composition**

Table A4.6 indicates 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 (69.3 points) or with other adults (72.9 points) lie below the normative range. This also applies for males (71.7 and 71.7 points respectively). The type of household composition that has the strongest differential gender effect is living alone, as shown below.

Figure 4.23: Gender x Living Alone: **Personal Wellbeing Index (combined)**

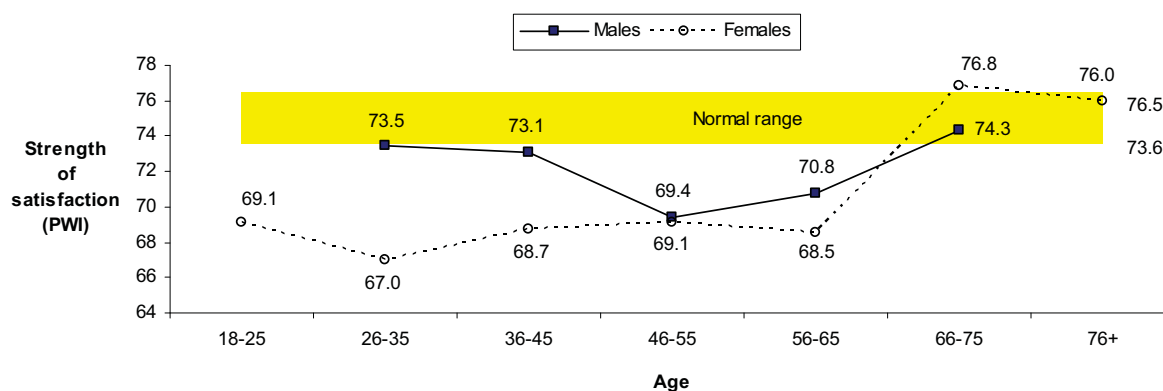
While both males and females who live alone experience a relatively low level of wellbeing, the level for females lies almost within their normal range. This is not so for males who live alone. Their Personal Wellbeing Index value is 2.7 points below their normal range and 3.7 points below the level 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.

Figure 4.24: Age x **Sole Parent** x Gender (PWI)

While there are more female than male sole parents in each age grouping, the highest disparity in wellbeing (6.5 points) occurs in the 26-35y group. It is possible that the males have higher household income.

4.7.1.2. Lives Alone

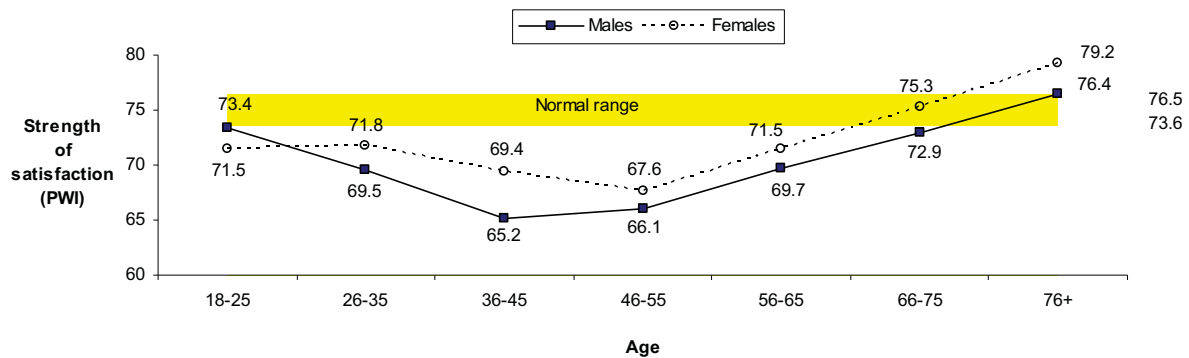


Figure 4.25: Age x Lives Alone x Gender (Personal Wellbeing Index)

The only age at which males have a wellbeing advantage (1.9 points) is at the youngest age. This trend then progressively reverses until at 36-45 years it is the females who have a 4.2 point advantage. Thereafter the females continue to be most advantaged.

4.7.1.3. Other Adults

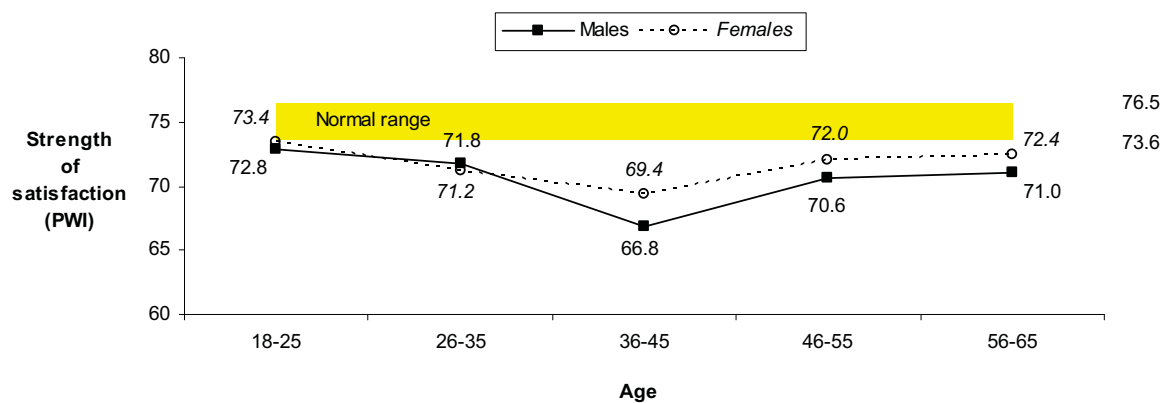


Figure 4.26: Age x Lives with Other Adults x Gender (Personal Wellbeing Index)

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.

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).

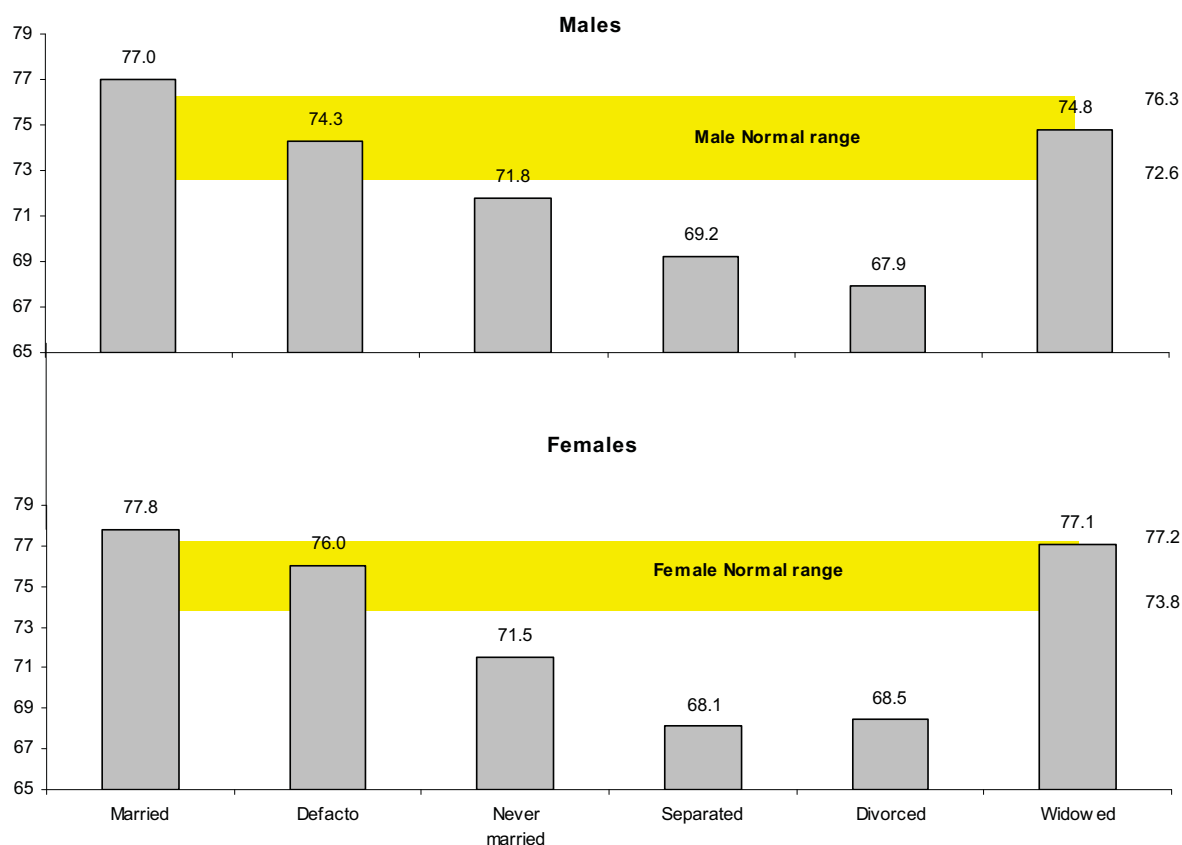


Figure 4.27: Gender x Relationship Status (Personal Wellbeing Index)

Relative to their normative range, married males have a non-significant 0.1 point advantage over females. Thus, males and females benefit equally from living with their partner in marriage.

It is notable that people in defacto relationships have somewhat lower personal wellbeing than do people who are married (males -2.7 points; females -1.8 points). This difference from married is significant for both genders

There is no gender difference in the wellbeing of people who have never married or are separated or divorced (Table A4.9). However, relative to their gender-specific normative ranges, females tend to do less well than males as Never Married (male -0.6, female -2.3) and separated (male -3.4, female -5.7). There is no gender difference relative to the gender-specific normative range for people who are divorced (male -4.7, female -5.3).

Widowhood shows a distinct advantage to females. The direct gender comparison is significant (+2.3 points) and female widows actually lie at the top of the female normative range, whereas males lie -1.5

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

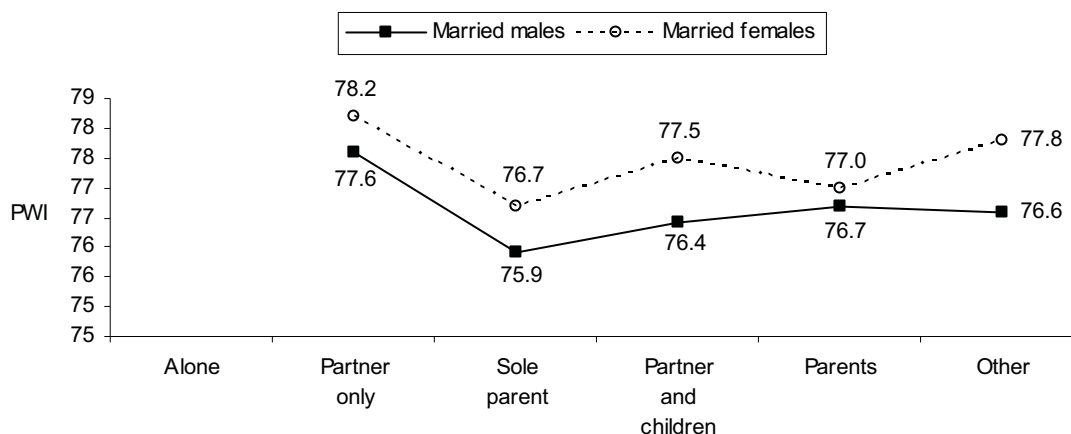


Figure 4.28: Gender x Married x Household Composition

None of these gender differences are significant, being no greater than 1.2 points.

4.8.1.2. Divorced

The comparisons for people who are divorced are shown below:

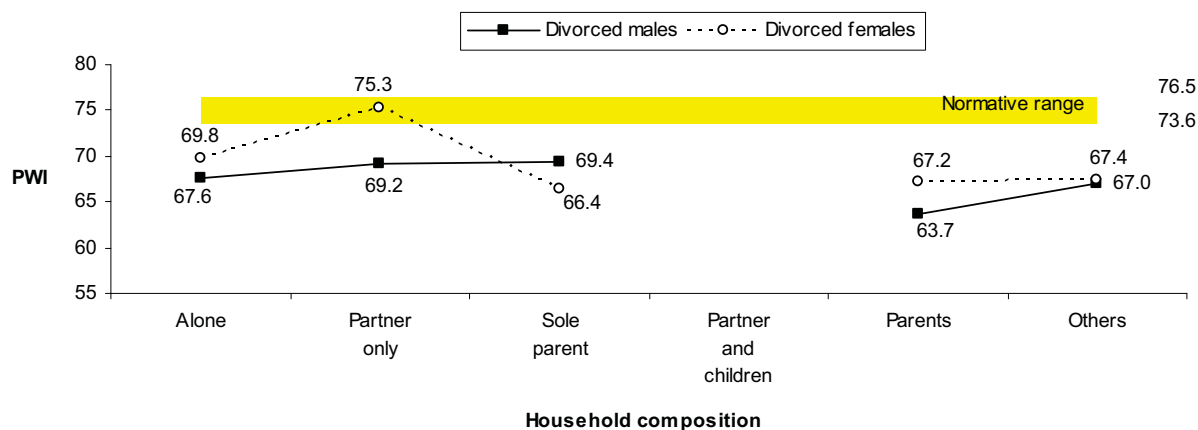


Figure 4.29: Gender x Divorced x Household Composition

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 6.2% of males and 3.7% of females. This is an unexpected finding.

The lowest wellbeing for divorcees is suffered by males living with their parents (63.7 points).

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:

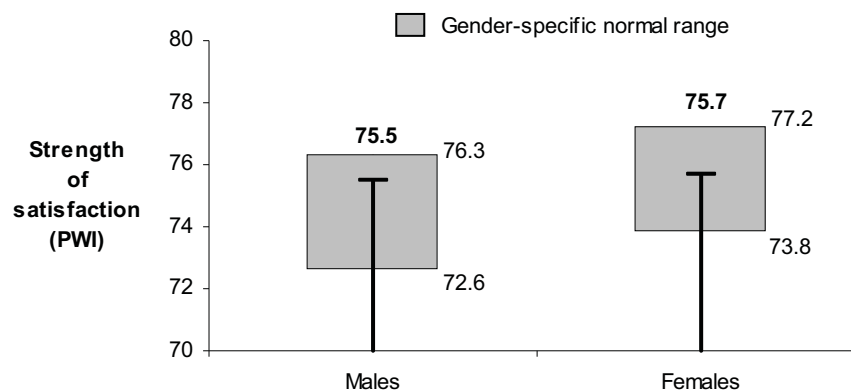


Figure 4.30: Fulltime employed x Gender: Personal Wellbeing Index (combined data)

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 1.5 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 slightly higher wellbeing for males also applies to the full-time employed for Survey 19, 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=112) greatly favours females (73% vs. 27%).
- (b) Males (N=189) who are engaged in full-time home or family care are in the minority of all home carers (12% male : 88% female). They have a level of wellbeing that lies just below the normal range (72.3) and it is 3.2 points below the level for those who are employed (75.5). In contrast, females in fulltime home care have a level of wellbeing (74.9) that is well within the female normal range and only -0.8 points lower than females in fulltime employment.

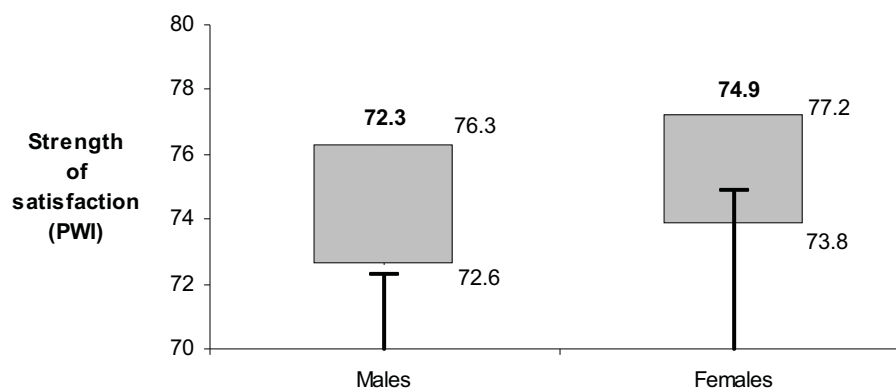


Figure 4.31: Fulltime Home or Family Care x Gender: Personal Wellbeing Index

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.

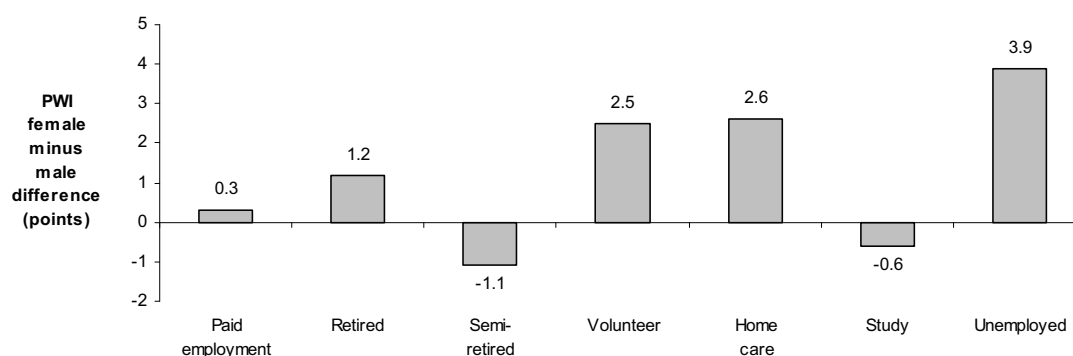


Figure 4.32: Work status (F/T) x Gender Differences (Personal Wellbeing Index)

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, or studying. The other groups show a female advantage of at least 1.8 points (volunteer, 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 volunteers, full-time home or family care, or unemployed. Together, these people constitute 14.3% of the total sample; but 6.4% of the total males and 23.3% of the females. Thus, the overall gender advantage to females rests largely on their higher proportional representation within these three groups.

4.9.1. Gender x Age x Work Status

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

These results come from Table A4.13.

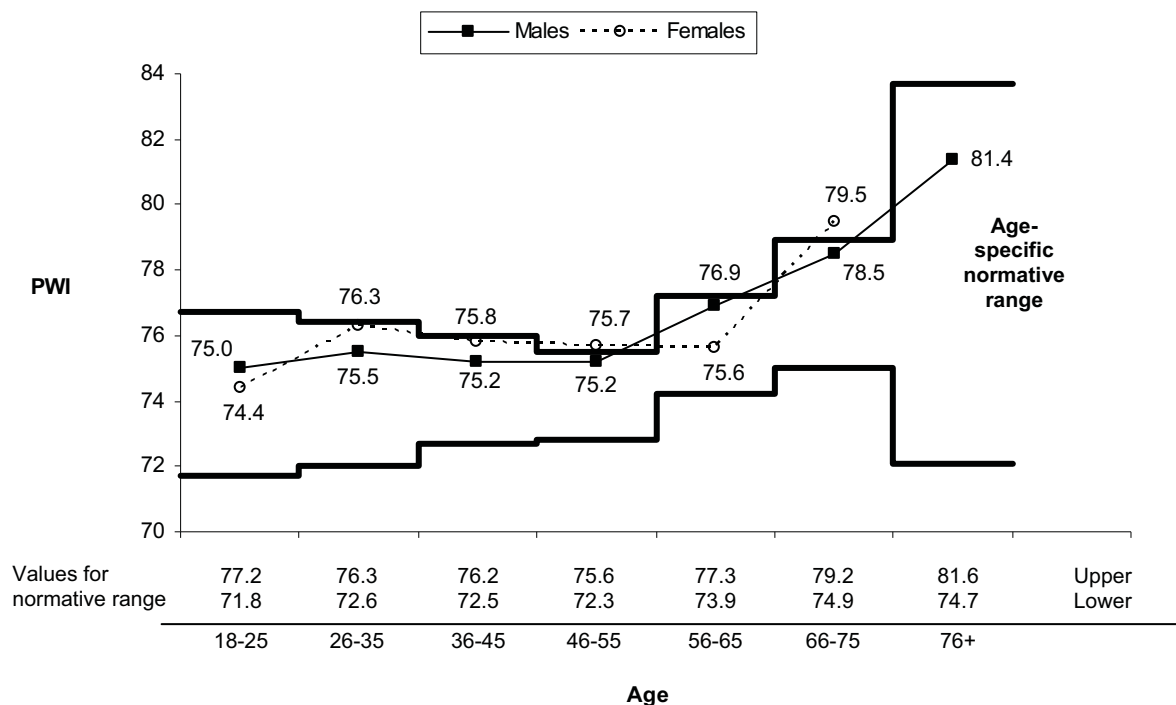


Figure 4.33: Gender x Age x Work Status (Full-time)

None of these gender differences achieves significance (Table A4.13).

NORMATIVE DATA

4.10. Normative Data Based on Individual Scores

These results come from Table A4.15.

4.10.1. 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.

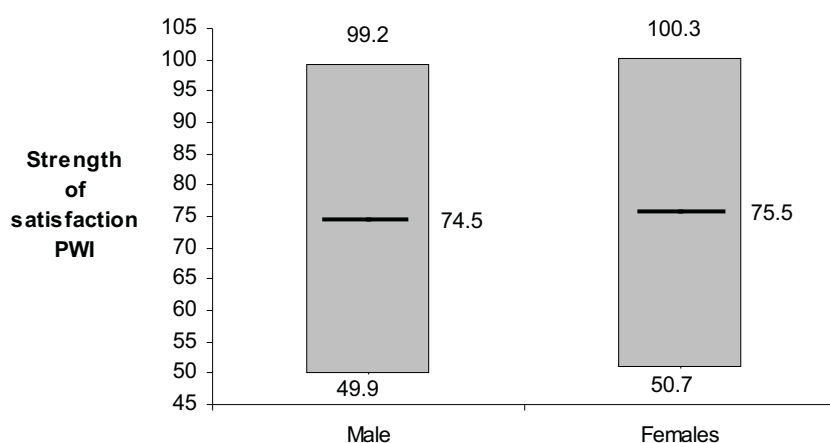


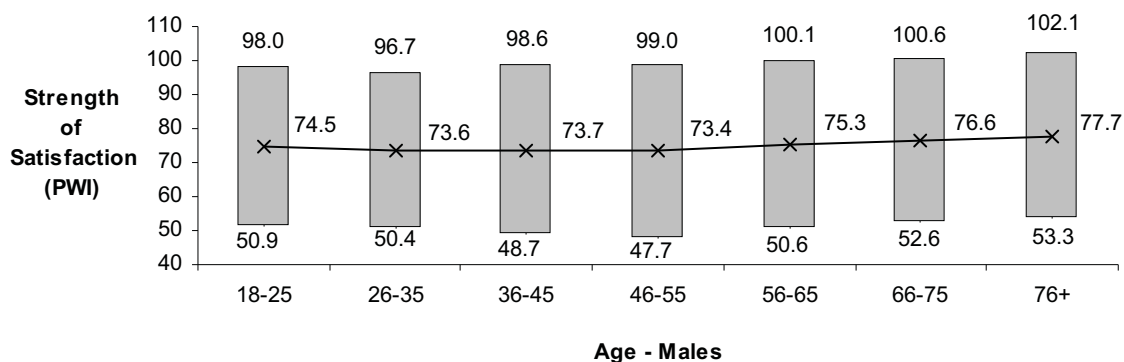
Figure 4.34: Gender Normative Data for Individuals: **Personal Wellbeing Index**

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 (1.1 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.

4.10.2. Age Norms (individual scores)

These normative data are taken from Table A4.4.

4.10.2.1. Male Norms x Age



4.10.2.2. Female Norms x Age

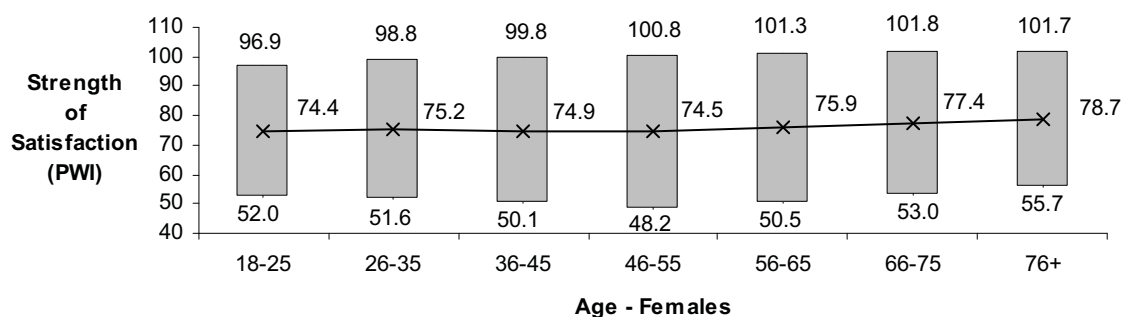


Figure 4.35: Gender x Age: Normative Data for Individuals: **Personal Wellbeing Index**

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.

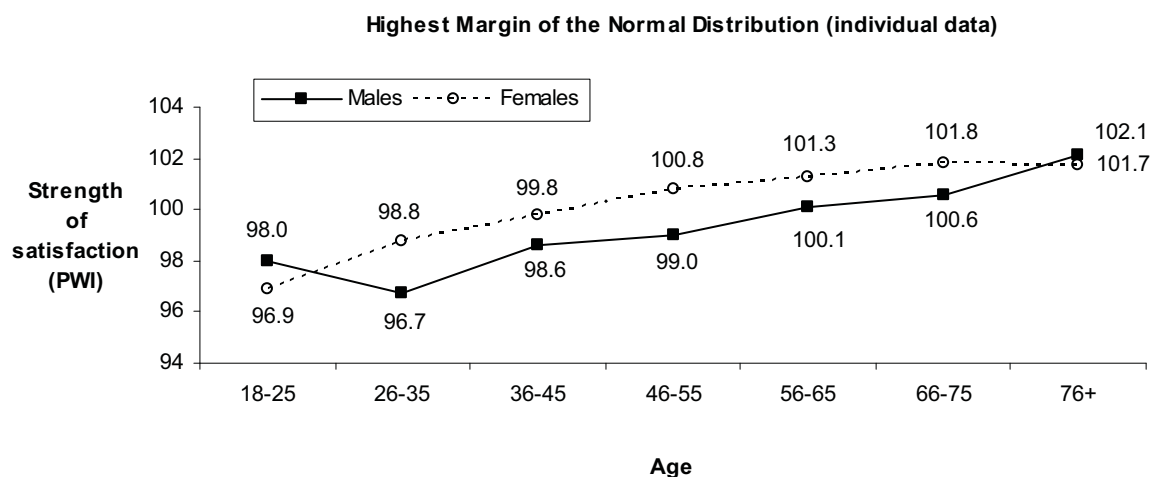


Figure 4.36: Gender x Age: **Highest Margins of the Normal Range Calculated from Individuals**

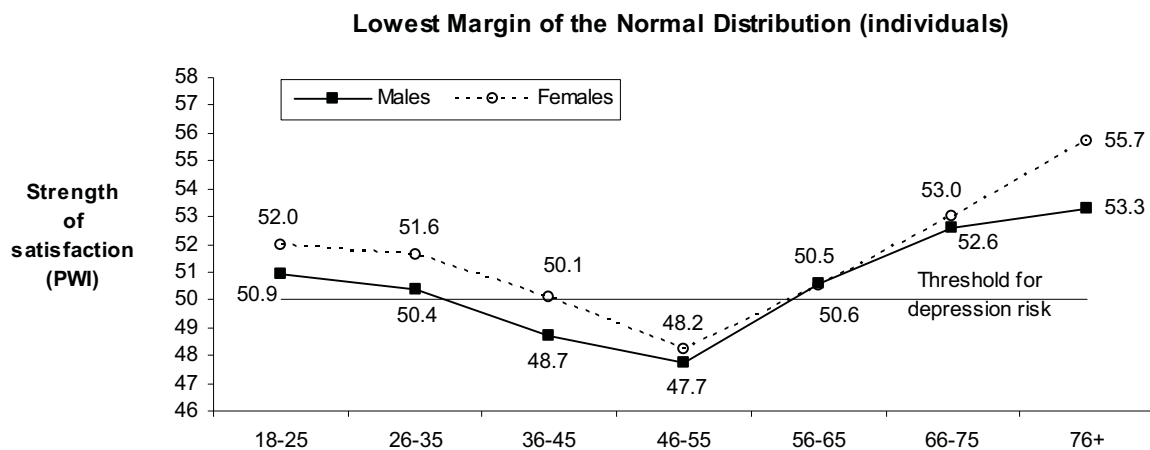


Figure 4.37: Gender x Age: **Lowest Extent of the Normative Range Calculated from Individuals**

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 4.36). The bottom of the ranges shows a bi-phasic pattern, where the range extends downward to 46-55 years, after which it rises (Figure 4.37).
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 4.16. In general, the top of the female range is higher (Figure 4.36) and the bottom of the female range is higher (Figure 4.37). 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 advantage to females (Figure 4.37). However, at the top of the ranges, the youngest group shows a marginally higher level for males than for females (Figure 4.36).
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.

It can be seen that the Personal Wellbeing Index values are more consistently higher for females when comparing the bottoms of the gender-specific normative ranges than the tops. The bottom scores average to a 1.44 point advantage to the females, whereas the top scores advantage females by an average of just 0.90 points.

These results are consistent with the idea that the gender difference is not the product of a differential response bias, but rather due to a higher proportion of vulnerable people within the male group. Moreover, it appears this vulnerability exists at all ages except for the youngest 18-25y group.

4.11. Normative Data based on Survey Mean Scores

These results are taken from Table A4.16.

4.11.1. Personal Wellbeing Index and Domains

Survey mean scores (N=20).

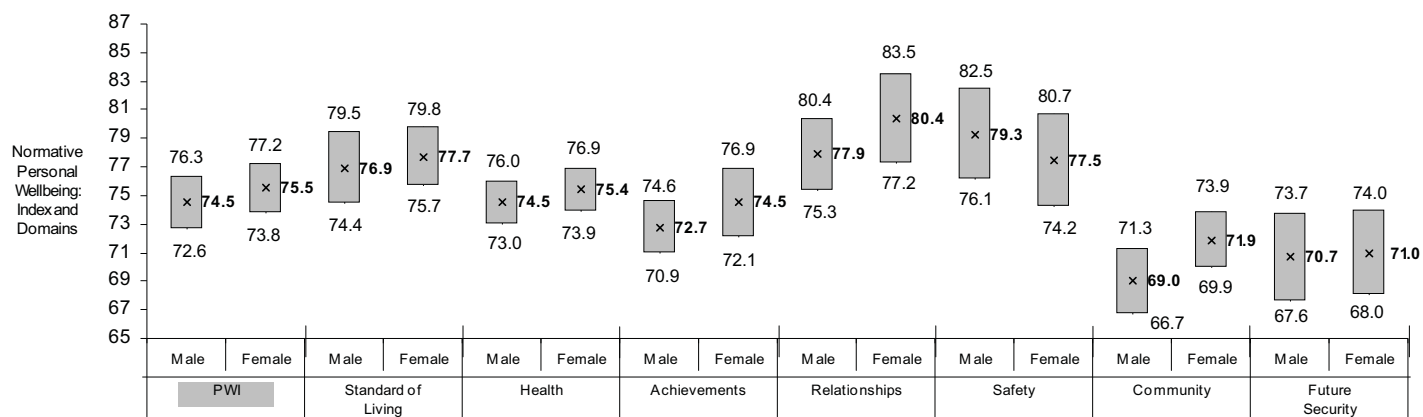


Figure 4.38: Index and Domains: **Normative Personal Wellbeing**

The interesting feature of Figure 4.38 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 4.2: Range (2SD) of Personal Wellbeing Mean Scores over Surveys, 1-13

	PWI	Standard	Health	Achieve	Relations	Safety	Community	Future Security
Male	3.7	5.1	3.0	3.7	5.1	6.4	4.5	6.1
Female	3.4	4.1	3.1	4.8	6.3	6.5	4.0	6.0
Difference M-F	+0.3	+1.0	-0.1	-0.3	-1.2	-0.1	+0.5	+0.1

In relation to these values and Figure 4.38 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 6.4 points (males) and 6.5 points (females).
3. For both genders, most stable domain is 'health' (3.0 and 3.1 points).

4.11.2. Normative: Gender x Age

These results are drawn from Table A4.17 (males) and Table A4.17.1 (females).

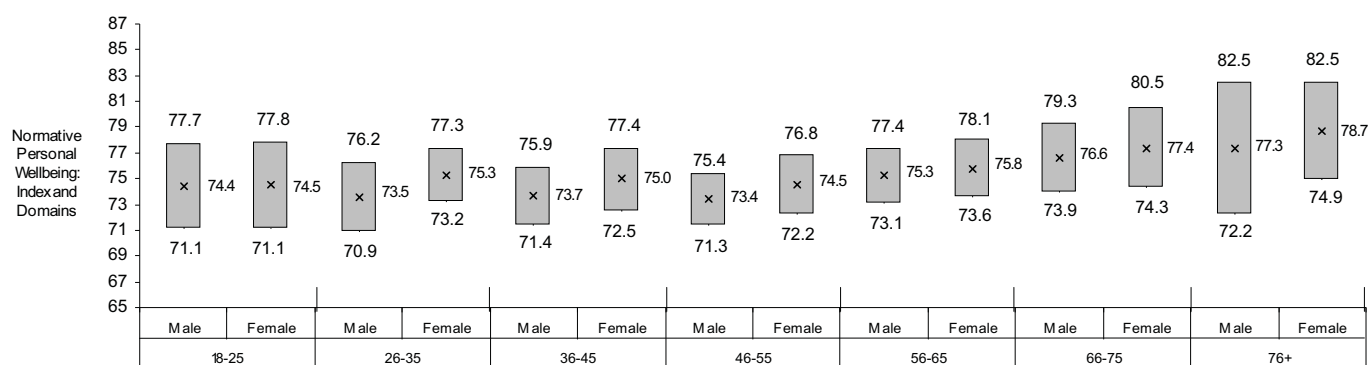
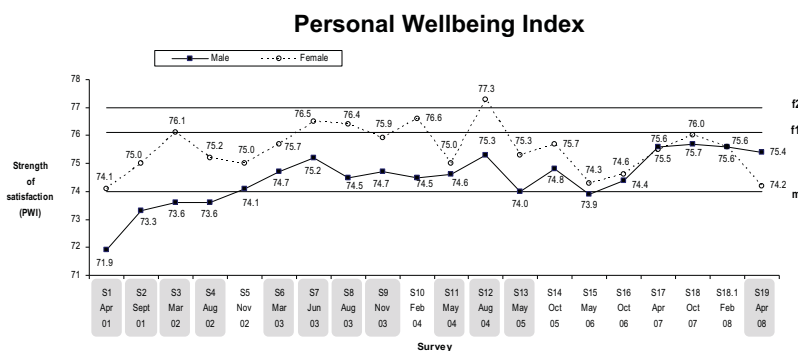


Figure 4.39: Normative Gender x Age

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

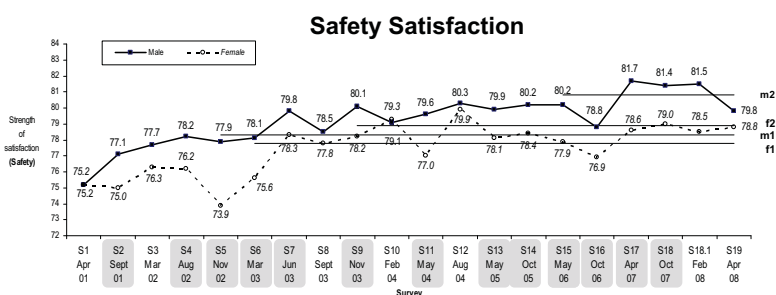
Dot Summary Points for Gender

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.



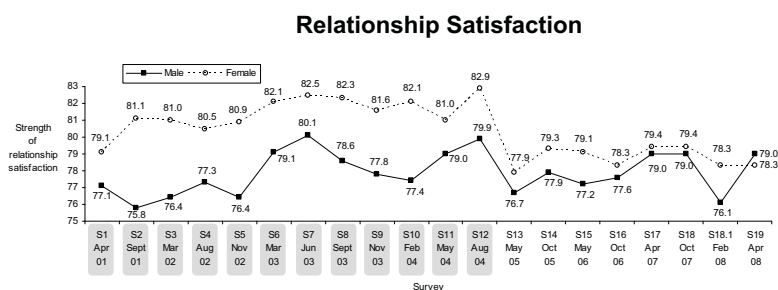
Females tend to have higher wellbeing than males

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.



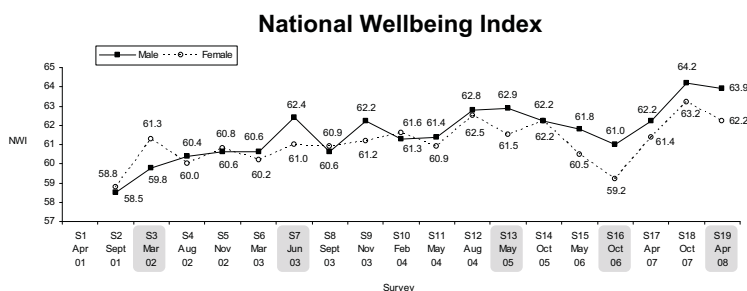
Males tend to have higher satisfaction with personal safety than females.

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.



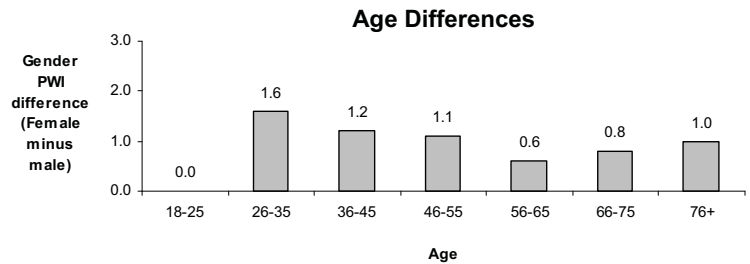
The gender difference in relationship satisfaction has disappeared.

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.



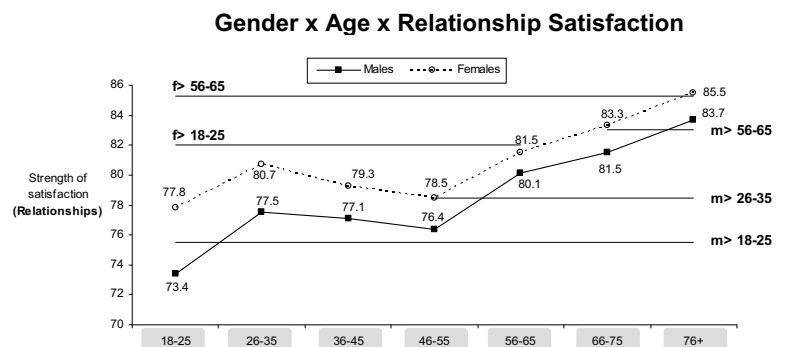
This is at its highest level.

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.



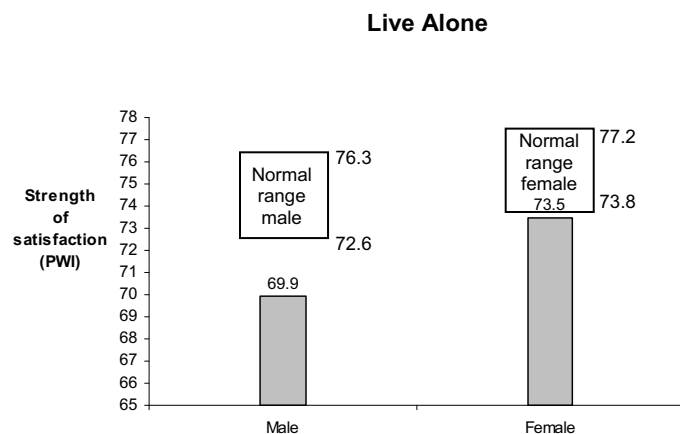
There is no gender difference in wellbeing at 18-25 years.

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

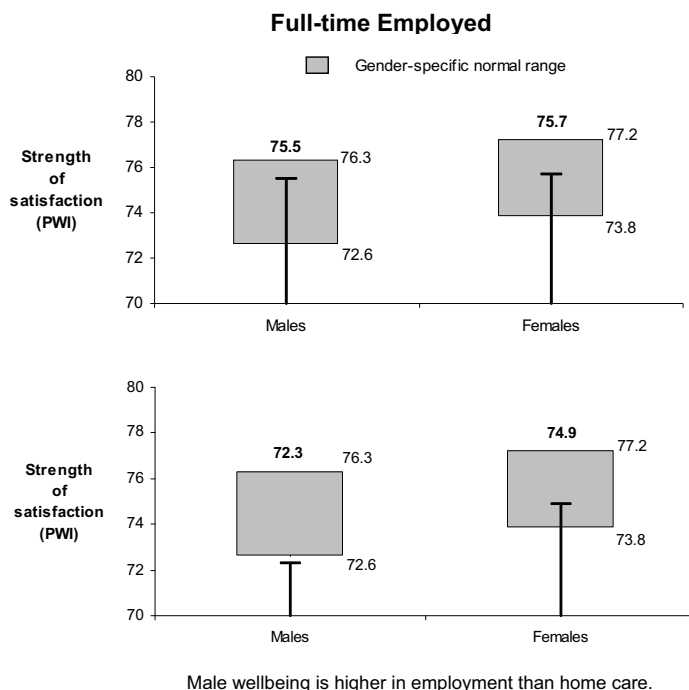


Males have particularly low satisfaction with relationships at 18-25 years.

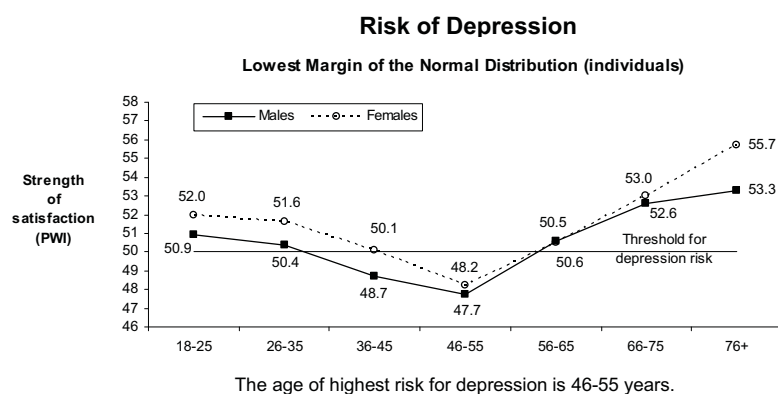
7. Males who live alone have lower personal wellbeing than females.



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.



5. Age

5.1. Distribution Overall

The sample for Survey 19 is well represented in all age groups (Table A5.1). The minimum number of respondents is in the 76+y group (N=149) and the maximum in the 46-55y group (N=443).

5.2. Age and Wellbeing

The results for Survey 19 come from Table A5.1 and the normative data for groups from Table A5.10.1.

5.2.1. *Personal Wellbeing Index*

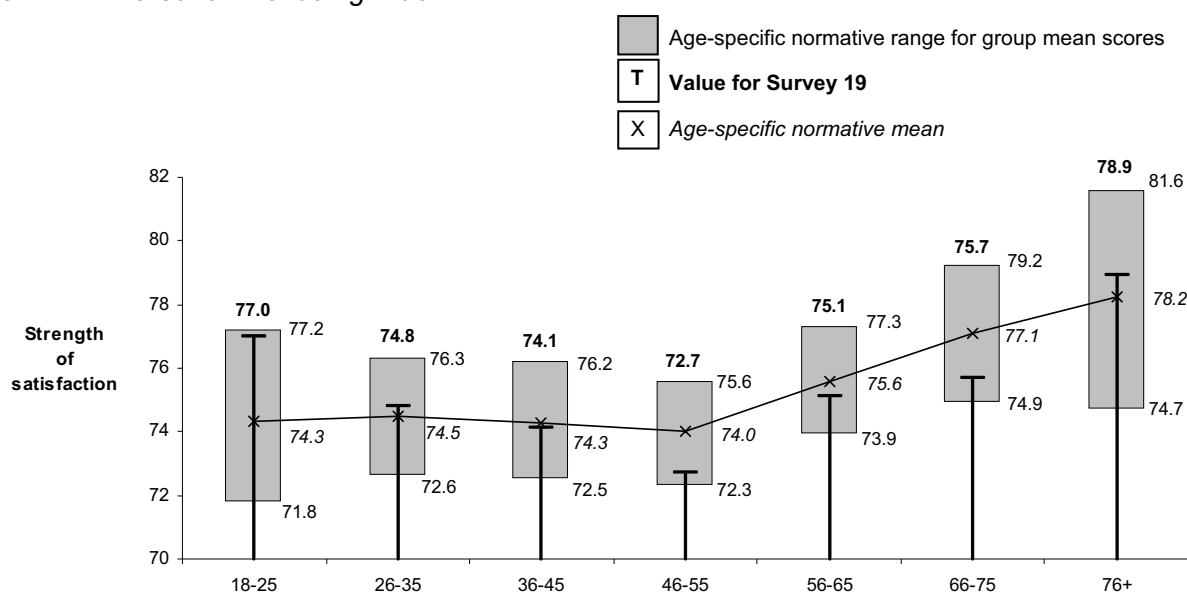


Figure 5.1: Age: **Personal Wellbeing Index** (Survey 19 vs. Normative Data)

All age groups lie within their normal range. However, the 18-25y group lie close to the top of their normal range while the 46-55y group lie close to the bottom of theirs. For the 18-25y group this represents no change since Survey 18, while for the 46-55y group it is a fall of 1.7 points and since Survey 17 (April 2007) a fall of 1.8 points which is significant.

In Survey 19, the 46-55y group is significantly lower than the youngest and the two oldest groups (Table A5.1). The oldest group is higher than all four groups between 26 to 65 years. This is typical of the oldest group.

The major changes over the past year (since Survey 17) have all been negative as 46-55y (-1.8), 66-75y (-1.7 points) and 26-35y (-1.4 points). It seems likely that the rising costs of mortgages and rents have contributed to this.

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.

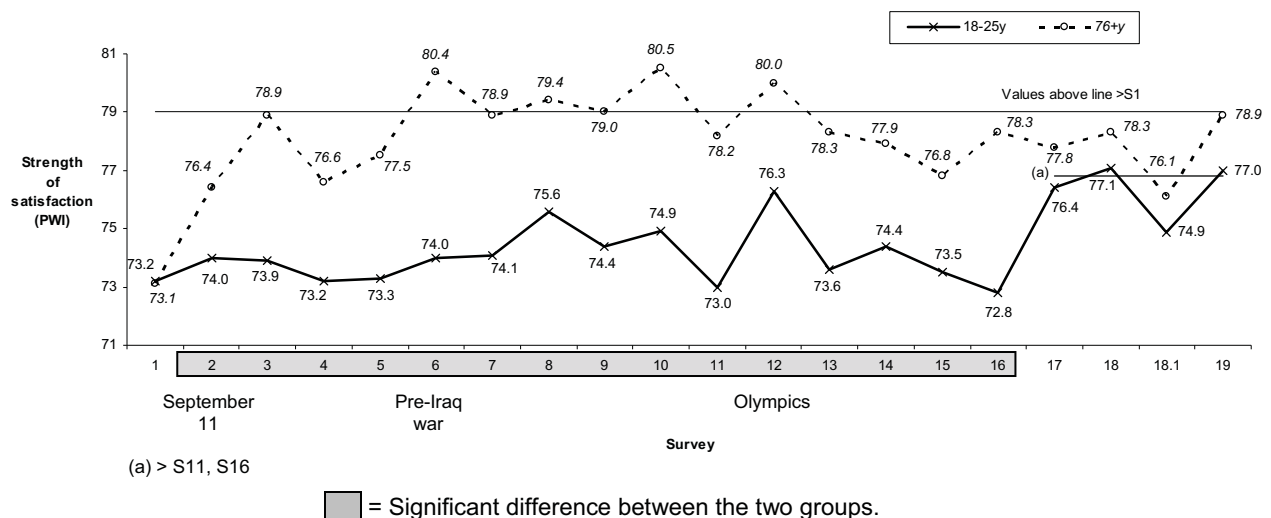


Figure 5.2: Age x Survey (Personal Wellbeing Index)

The notable features of Figure 5.2 are as follows:

1. For the fourth and consecutive time in seven years, the oldest and the youngest groups are not significantly different from one another, being separated by just 1.9 points. The two groups have been rising and falling in unison over this period.
2. Both groups are significantly higher than they were 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 its highest level yet recorded. It, also, has shown remarkable stability, varying by just 4.0 points over the whole seven-year record (Survey 18 = 77.1 points; Survey 1 – 73.1 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 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). The total range of values for this youngest group is 5.1 points. This range was achieved by the lowest at Survey 16 (72.8) and the highest at Survey 18 (77.1).

In contrast, the oldest group (Table A5.2) has changed over a range of 7.4 points (Survey 1: 73.1, Survey 10: 80.54). 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 six 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 they both regard the likelihood of a terrorist attack as lower than the intermediate age groups. However, how this could be used as an explanation for change in wellbeing is not clear.

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.

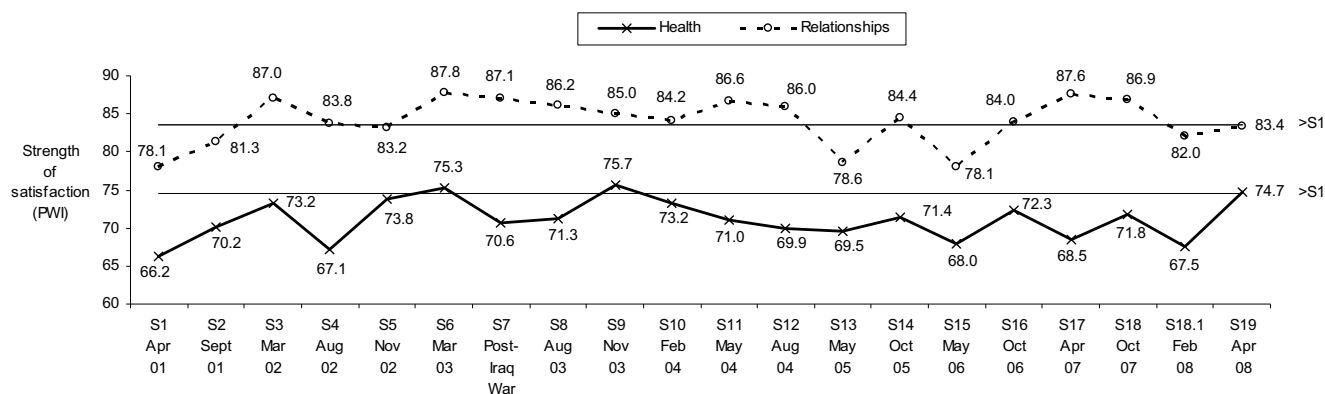


Figure 5.3: Age x Survey: 76y+, Health and Relationships

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 4.0 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 discussed in depth in Report 15.0.

5.2.3. Personal Wellbeing Domains

Most of the domains show the same pattern of no age-related changes as shown in Figure 5.1 (Table A5.1). The data for Health satisfaction in Survey 19 are shown below in relation to age-normative data for groups (Table A5.10.3).

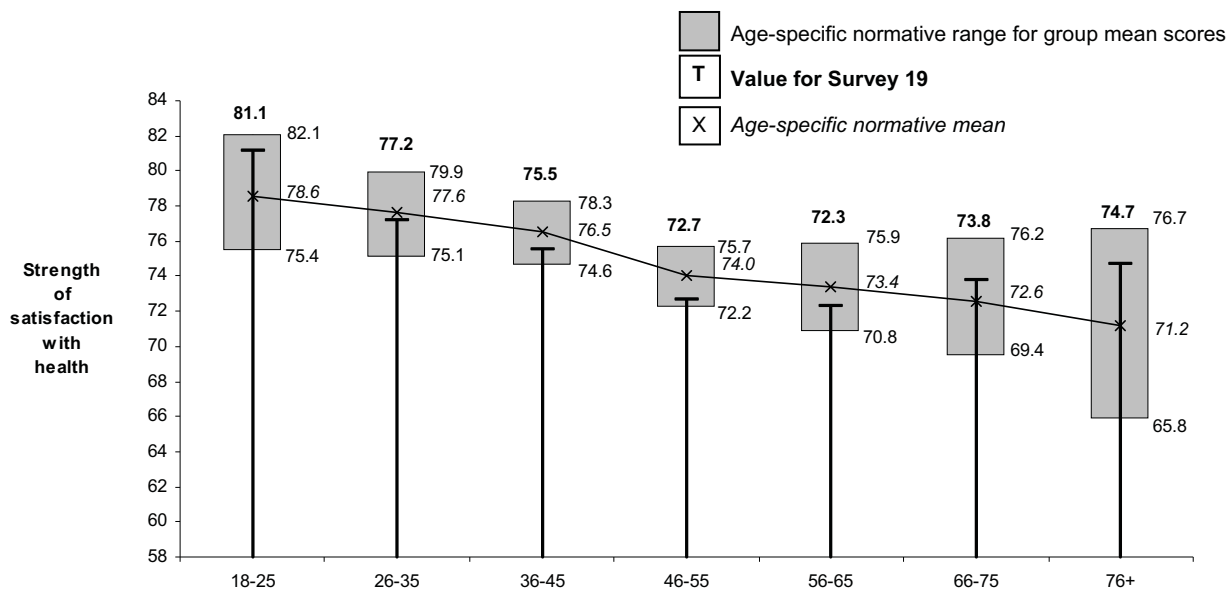


Figure 5.4: Age: Satisfaction with **Health** (Survey 19)

In terms of normative data, the cell size is N=20. The following can be noted:

- (a) Health satisfaction is within the normal range for all age groups.
- (b) Health satisfaction of the youngest and oldest groups are well above their normative mean (+2.5 and +3.5 points respectively).

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

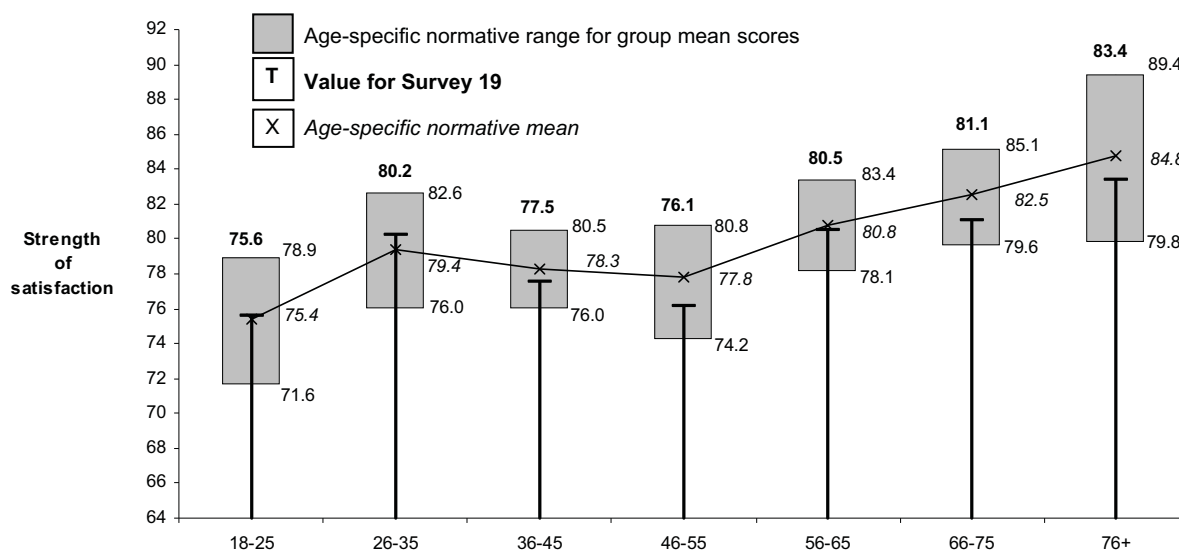


Figure 5.5: Age: Satisfaction with **Relationships** (Survey 19)

In Survey 19, all values are within their normative range and close to their average mean scores.

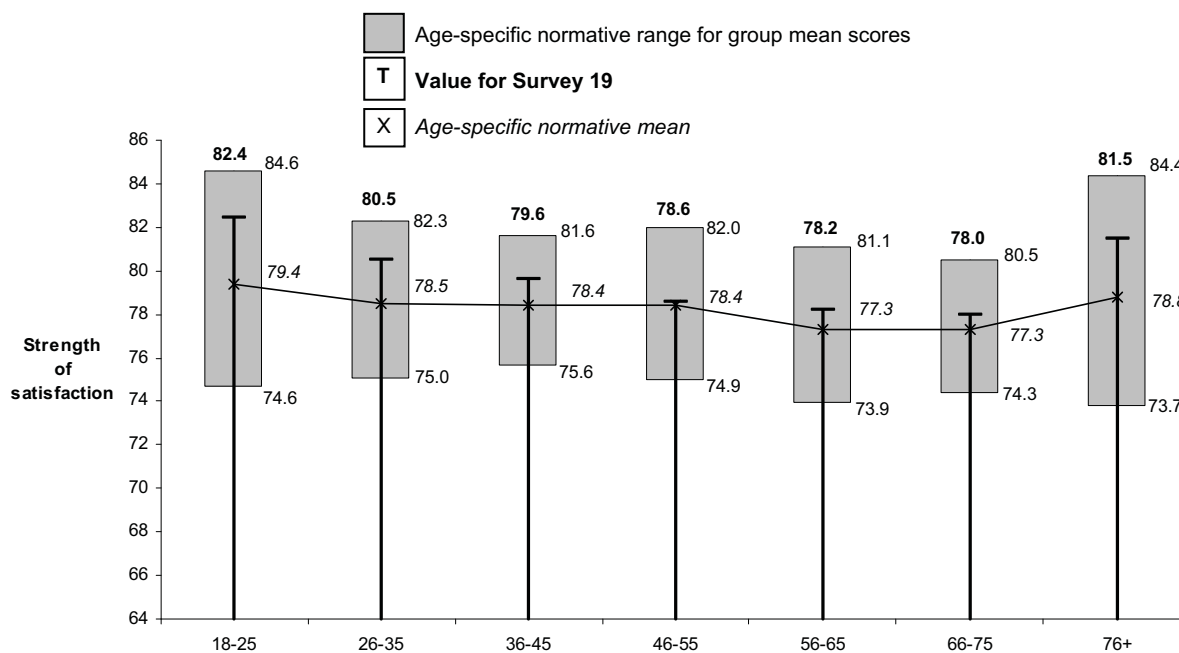


Figure 5.6: Age: Satisfaction with **Safety** (Survey 19)

In Survey 19, all values are within their normal ranges (Table A5.10.6).

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

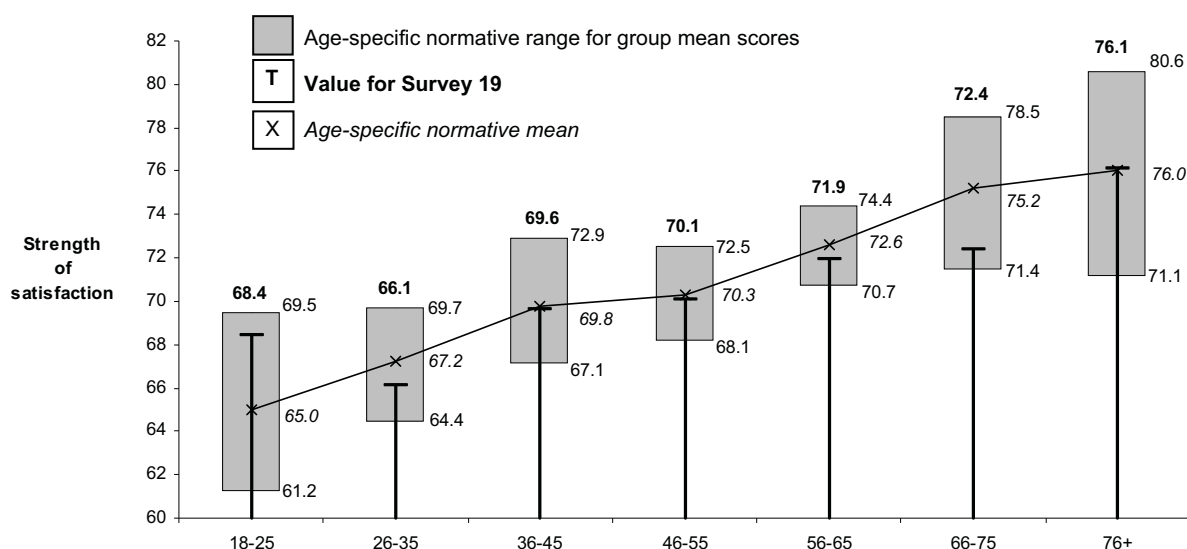


Figure 5.7: Age: Satisfaction with **Community Connection** (Survey 19)

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.

5.2.4. Life as a Whole

This increases with age in much the same pattern as for the Personal Wellbeing Index in Figure 5.1.

5.2.5. National Wellbeing Index

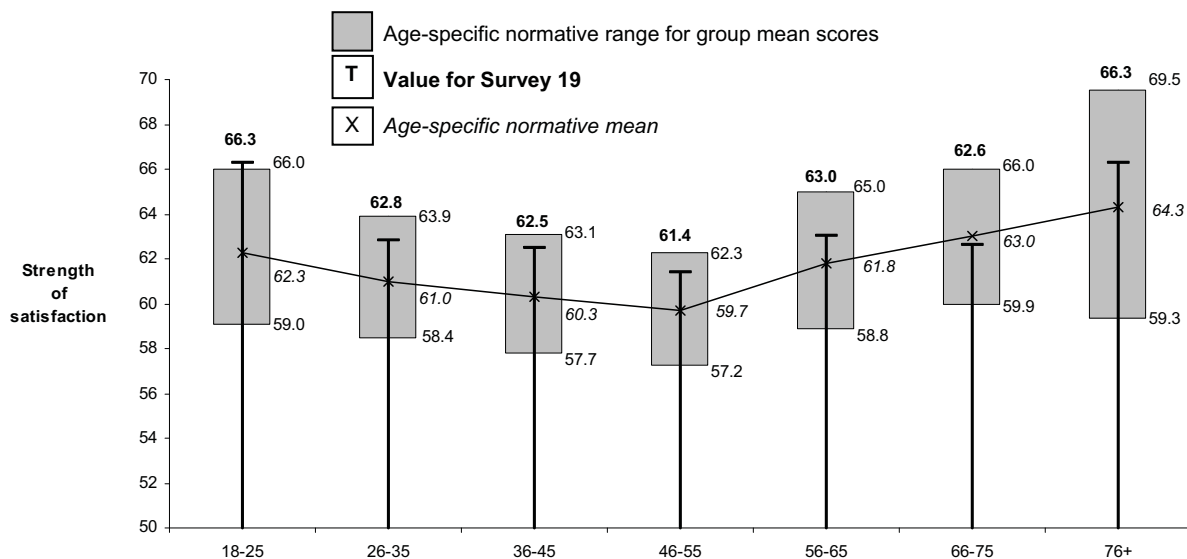


Figure 5.8: National Wellbeing Index (Survey 19 vs. Normative Data)

Most values lie within their normal range (A5.11.2). However, they are generally close to the upper margin and the 18-25y group lie above their normal range. This is the second consecutive survey this has happened.

5.2.6. National Wellbeing Domains

Two national domains show an age-related difference. The first is Government (Table A5.1 and A5.11.3).

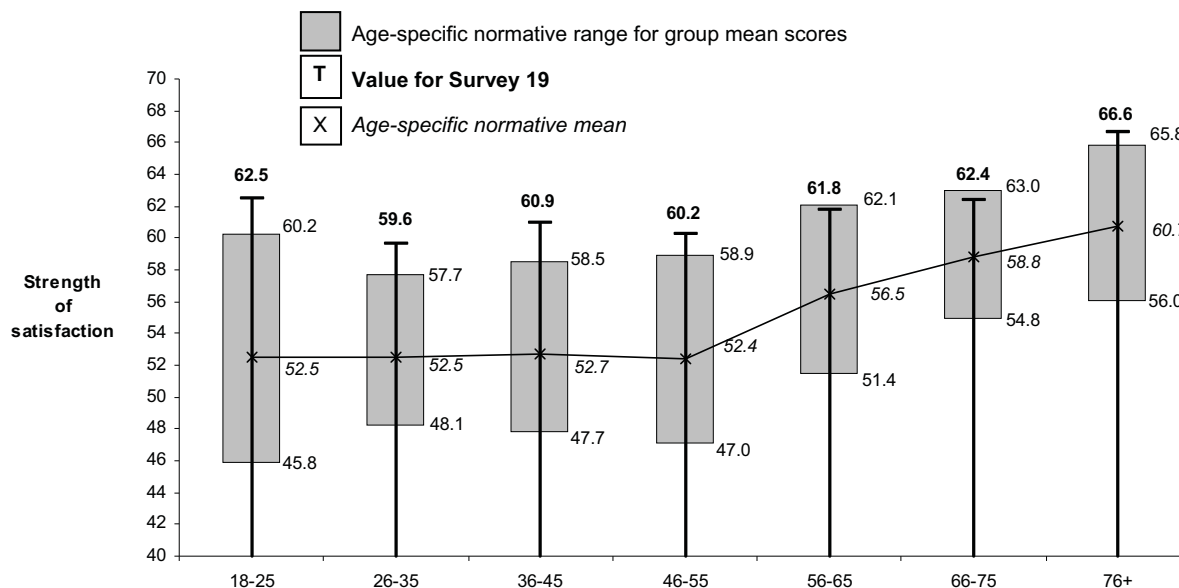


Figure 5.9: Satisfaction with Government (Survey 18)

All values lie at the top of, or above, their normal range. This shows that satisfaction with Government has increased across the age-range, but is most pronounced in the youngest groups.

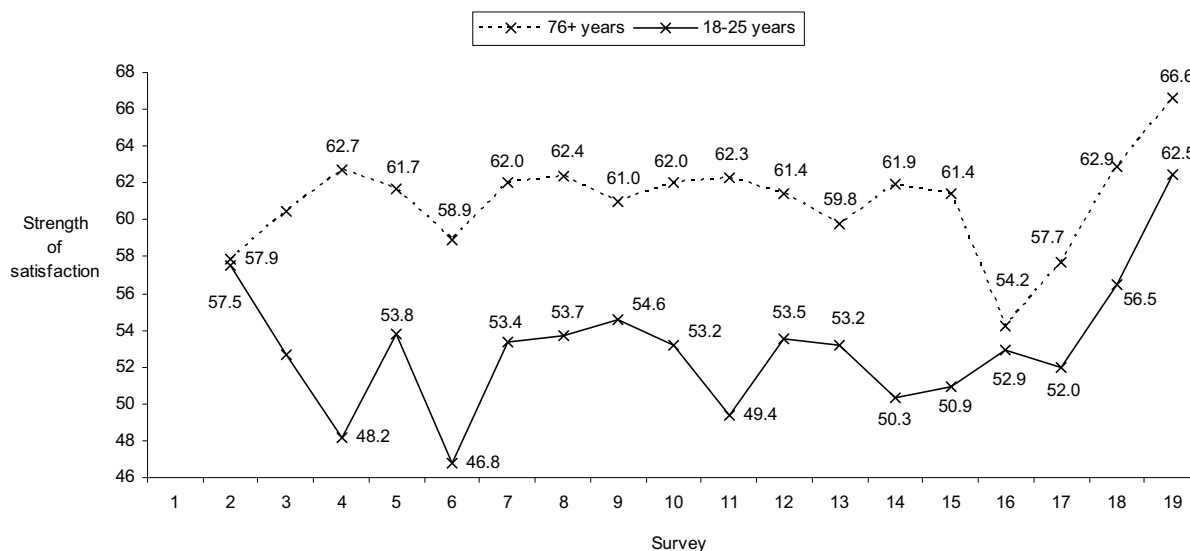


Figure 5.10: Satisfaction with Government x Age (18-25y; 76+y)

These are drawn from Table A5.3 and the following observations pertain:

1. The oldest group numerically at their highest point yet recorded (66.6) this being 3.7 points higher than Survey 18. They are also substantially and significantly more satisfied with Government than the youngest group. This is consistent with age-enhanced conservatism. However, the level of satisfaction dropped to its lowest level ever in Survey 16 and has now recovered to be higher than Survey 1. Whether the results from these last two surveys signal a new trend requires further data.

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 recently, when they have tended to move together.

The second national domain to show an age-related difference is Satisfaction with Environment. As indicated in Chapter 2, this change is novel, in that the 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.

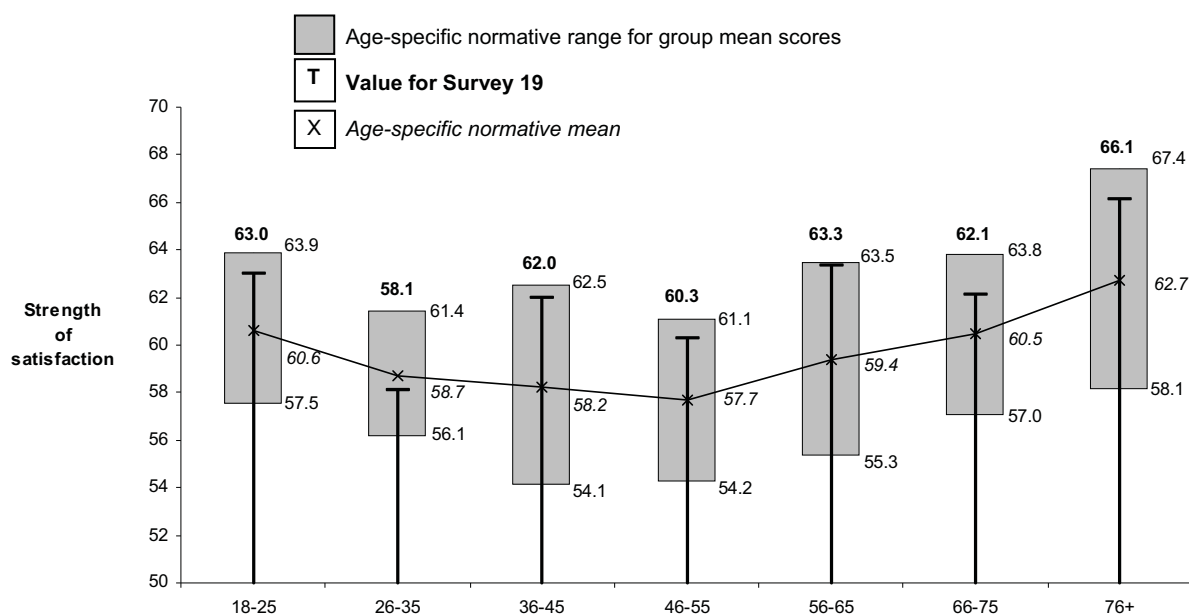


Figure 5.11: Satisfaction with the Environment x Age (Survey 19).

Over the surveys 16-17, people aged 26-65 years rated satisfaction with the environment as lower than the normal range (Table A5.11.4). They have now habituated to the chronic environmental message and satisfaction has returned to the normal 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 9-19, 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.

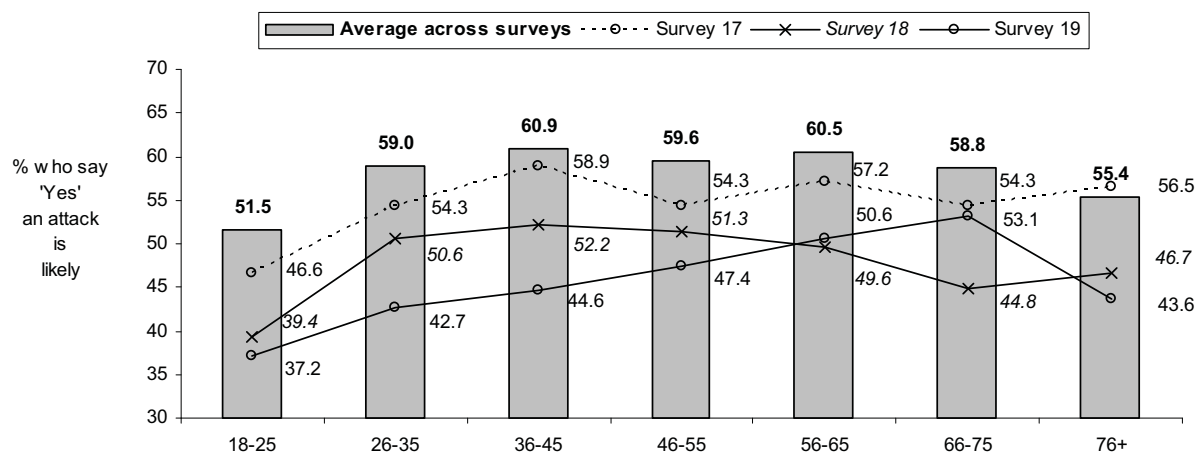


Figure 5.12: The percentage of people who consider that a terrorist attack in the near future is likely (Surveys 17-19).

While the percentage of people who consider an attack likely has continued to fall in most age groups, it has not done so in the 56-65 and 66-75 age groups. It is not clear why these groups should be so resistant to change, given that the oldest group has shown a steady decline in the proportion of people believing an attack is likely.

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 19 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 5.13.

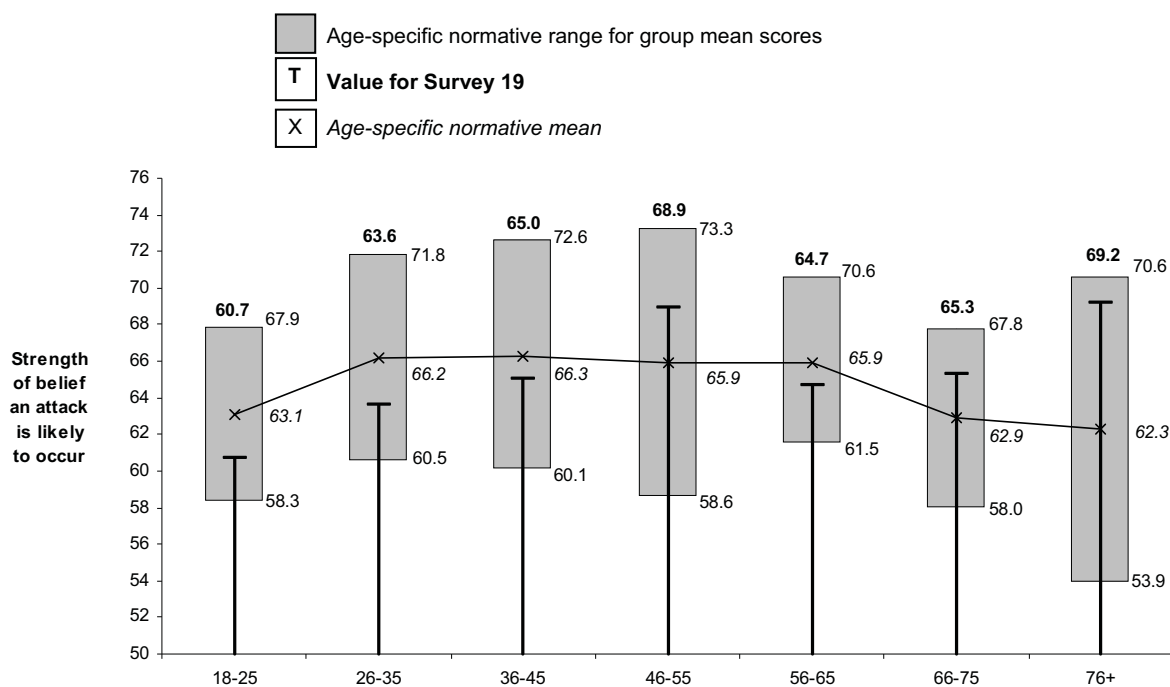


Figure 5.13: Strength of Estimated Probability by people who consider a terrorist attack likely in the near future

In terms of the perceived probability of an attack, the 18-25y group consider it least likely. It is notable that there is a marked age difference in the progression of this belief strength across surveys. The two youngest groups show a decline in belief strength. Thus, within these groups, not only do fewer people consider an attack likely but those who do have a weaker sense of conviction.

This is not true of the older groups. Here, the belief strength seems to be increasing and this is hard to explain. If the proportion of people with low-level conviction was decreasing across surveys, then the rise in belief strength might be attributable to the residue of high-conviction people. But this is not the case for the 66-75y group where both the proportion of people who consider an attack likely and the strength of their conviction have both risen.

5.3. Age and Household Composition

The cumulative data from Surveys 9-14 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).

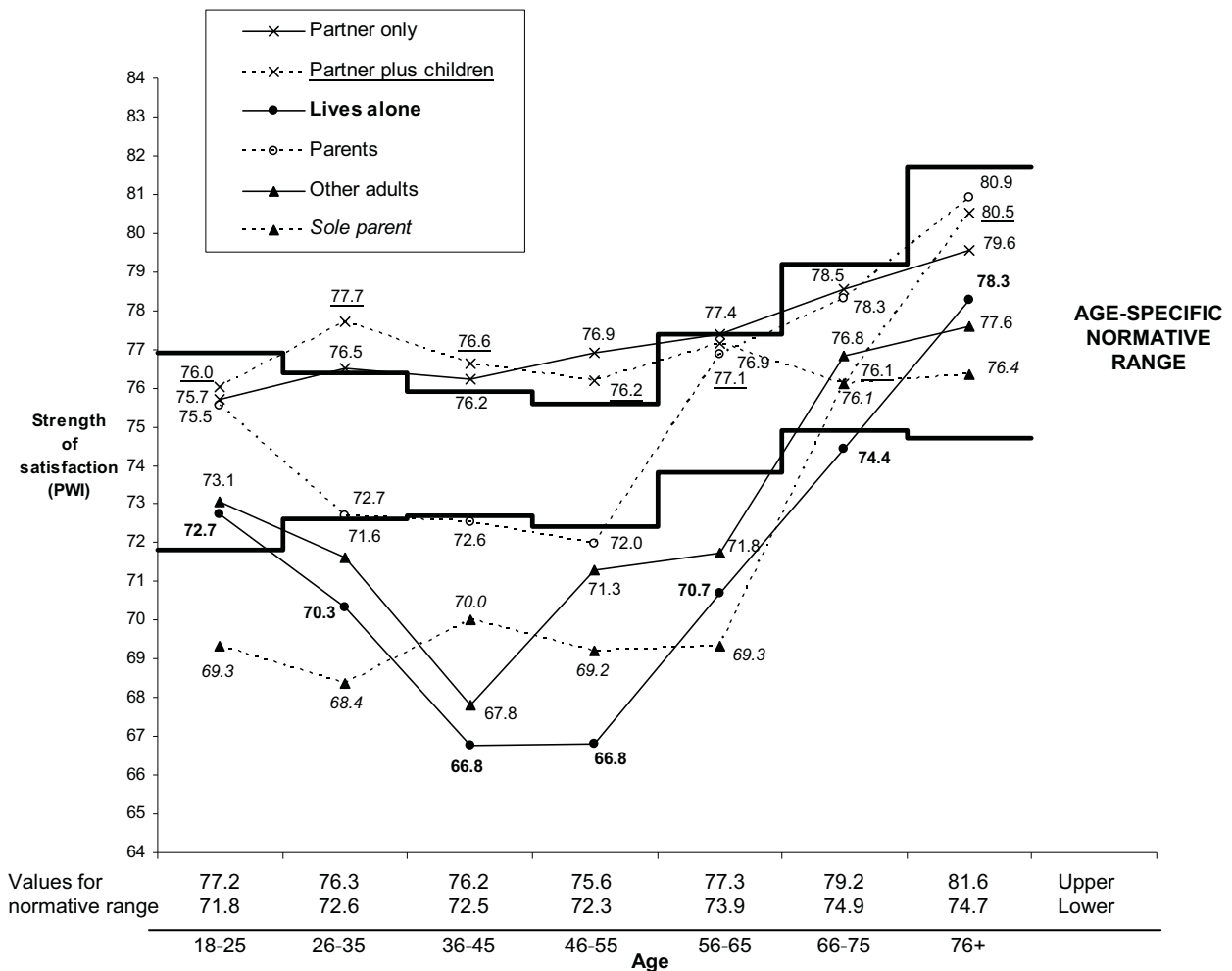


Figure 5.14: Age x Household Composition (cumulative data)

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 5.14 are as follows:

- 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

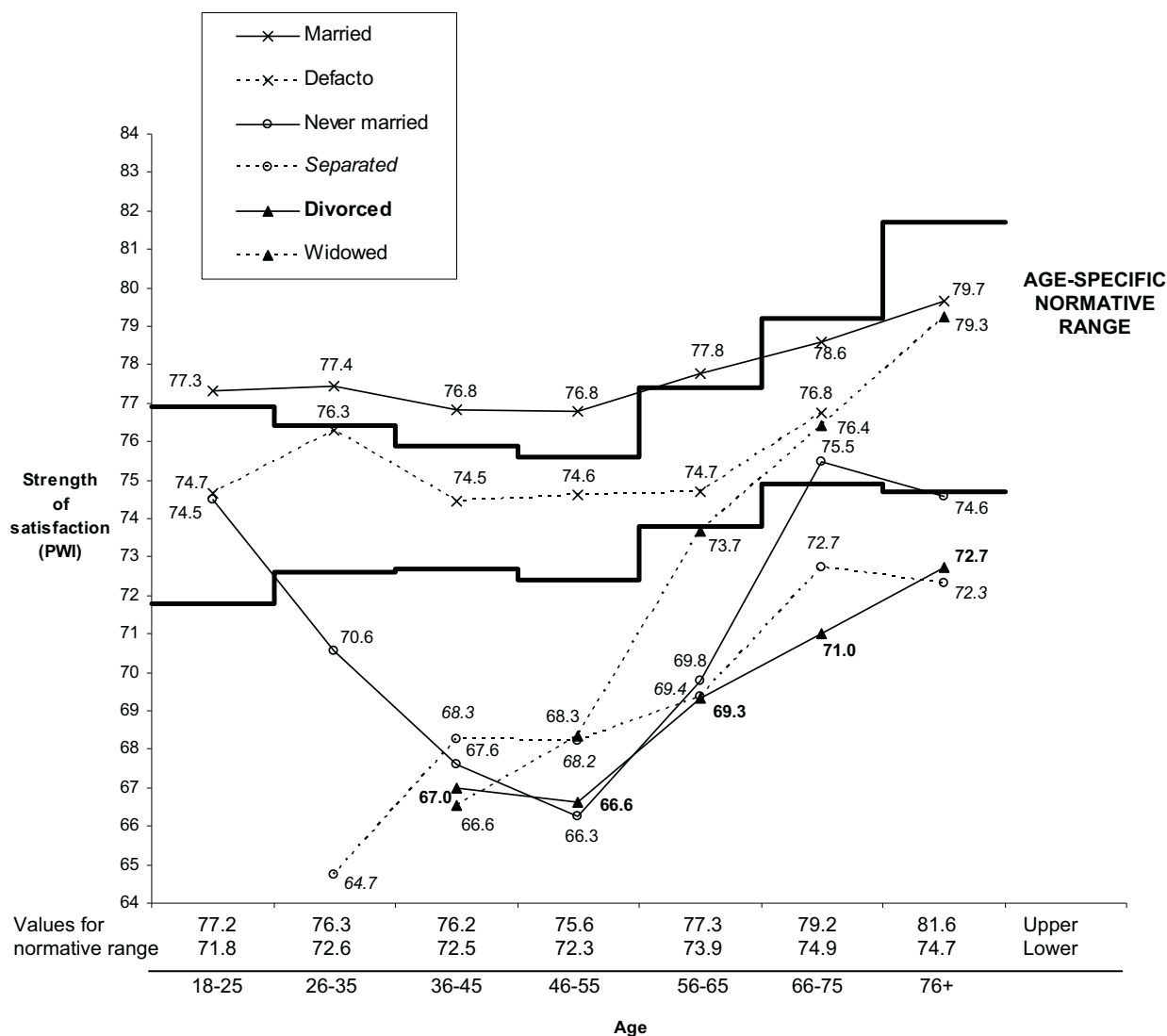


Figure 5.15: Age x Relationship Status: Personal Wellbeing Index (cumulative data)

The cumulative data from Surveys 9-15 are presented in Table A5.7 and Figure 5.15. Key observations are as follows:

- 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.
- 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.
- The decrease in the normal range of wellbeing in middle age (see Figure 5.15) is not due to the people with partners, but to the people with no partners.
- 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 5.15). 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

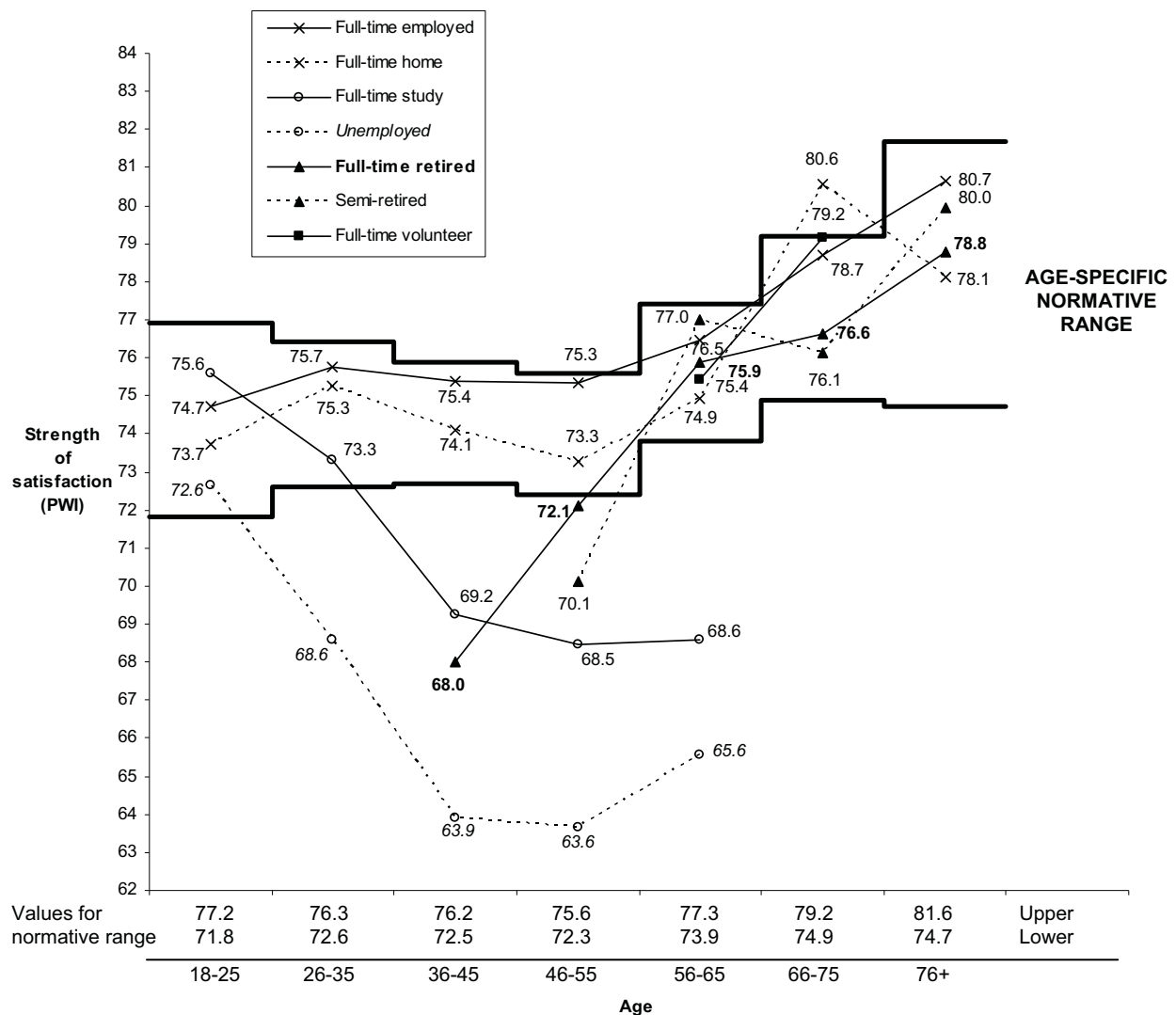


Figure 5.16: Age x Work Status (Personal Wellbeing Index)

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

- 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.
- 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.
- 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 5.17.

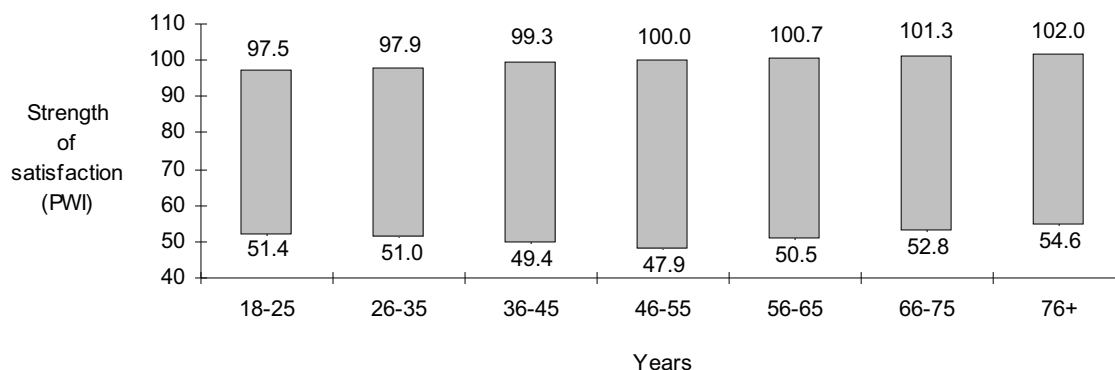


Figure 5.17: Normative Range for Each Age Group Derived from the Scores of Individuals (**Personal Wellbeing Index**)

There are three interesting features of these data as follows:

- 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).
- 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.
- 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 5.20). 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 hormesis (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 domain.

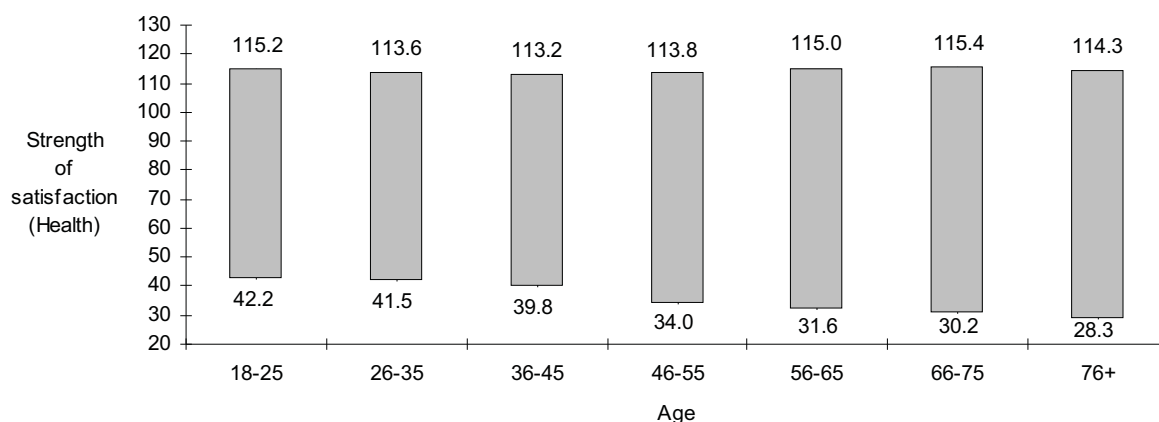


Figure 5.18: Age x **Satisfaction with Health**: Normative Raw Data

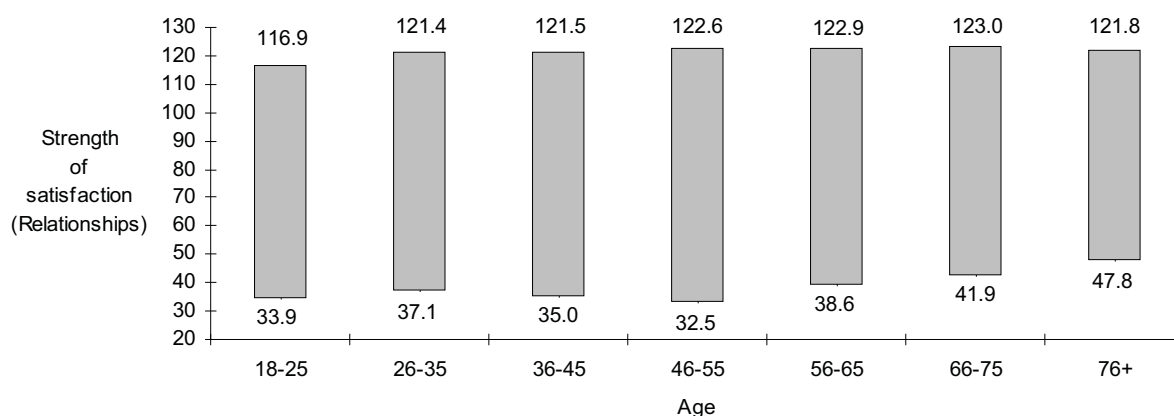


Figure 5.19: Age x **Satisfaction with Relationships**: Normative Raw Data

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 2.0 percentage points (113.2 to 115.2) across the seven age ranges, which is evidence of remarkable stability. The upper range for relationships varies by 6.1 percentage points (116.9 to 123.0). In contrast, the variation across age in the lower range for health is 13.9 points (28.3 to 42.2) and relationships is 15.3 points (32.5 to 47.8). These are remarkably similar degrees of change in opposite directions. The correlation between these lower margins for health and relationships is $-.79$. 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)

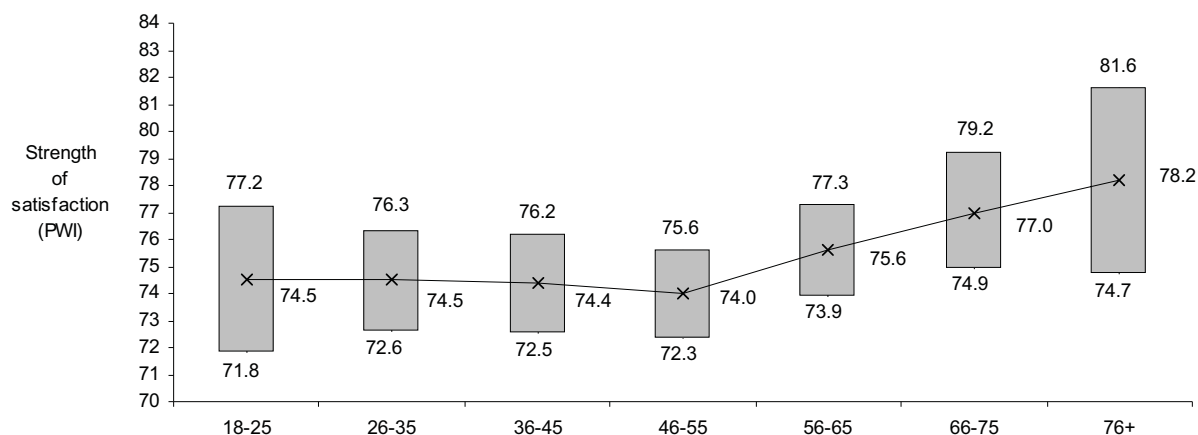


Figure 5.20: Normative Range for each age group derived from the survey mean scores (**Personal Wellbeing Index: N=20**)

Figure 5.20 has been constructed by using the survey mean scores (N=20) 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 (6.9 points) is far larger than for the middle-age groups (3.3 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 5.20 it can be seen that the top of the 76+y range (81.6 points) is around 6 points higher than it is for the four youngest groups, while the bottom of the range (74.7 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.

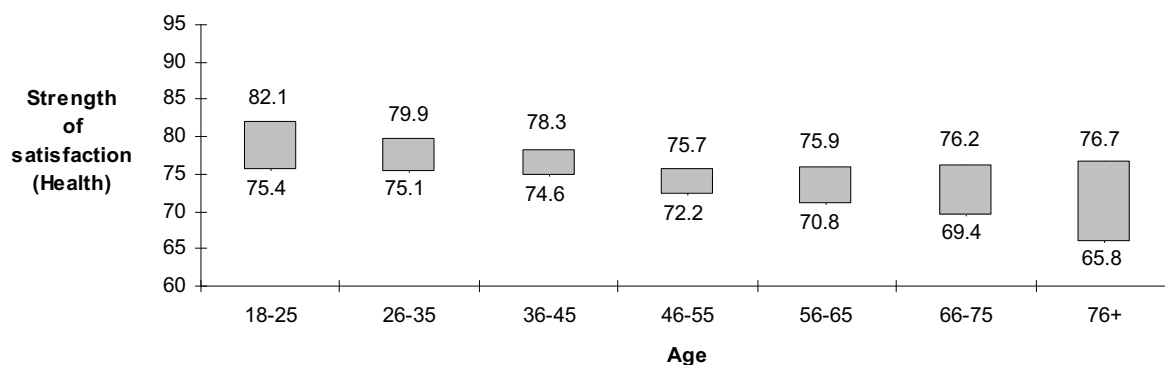


Figure 5.21: Age x **Satisfaction with Health**: Survey Mean Scores

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.

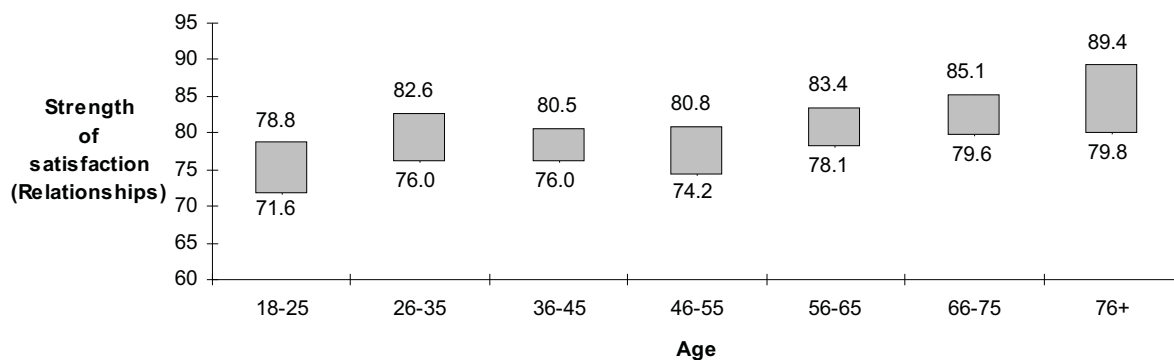
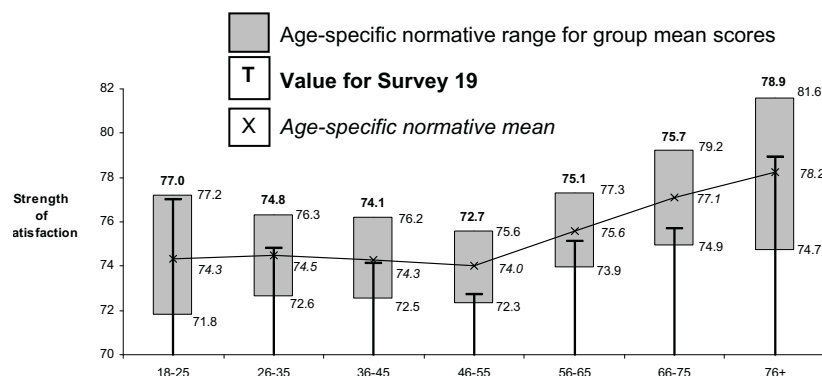


Figure 5.22: Age x **Satisfaction with Relationships**: Survey Mean Scores

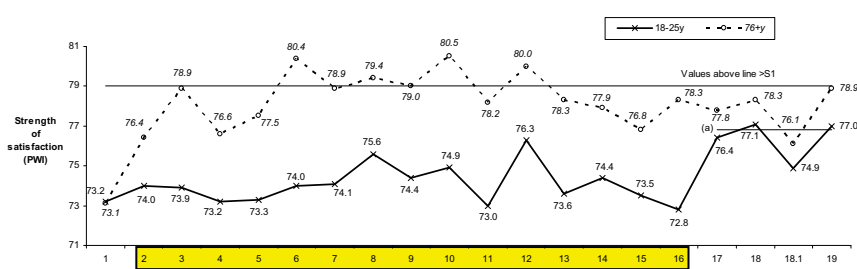
Satisfaction with relationships shows a rising pattern with age for both the top and the bottom of the normal range. The top of the range rises to a greater extent. There is a major shift from 18-25 years to 26-35 years.

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.



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.

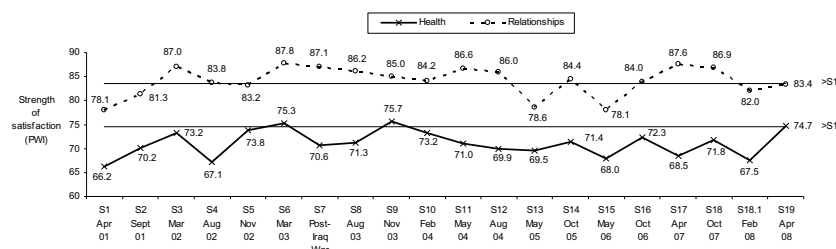


(a) > S11, S16

[Yellow Box] = Significant difference between the two groups.

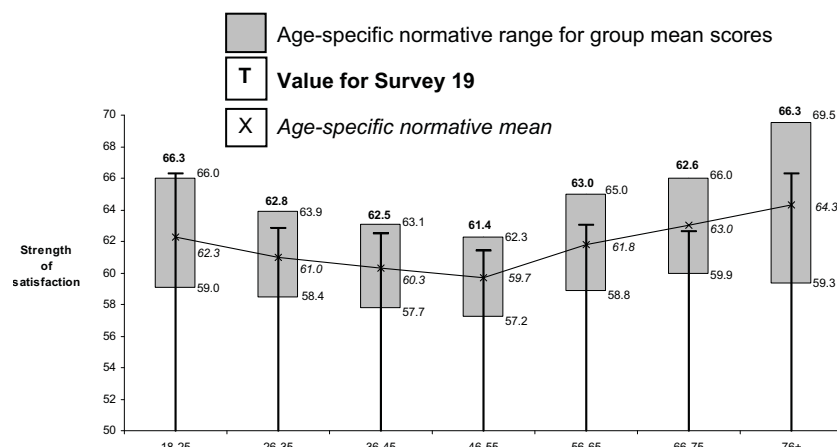
After having risen, all age groups are now returned to be no different from Survey 1.

3. Relationships remains higher than it was at Survey 1. Health remains no different from Survey 1.

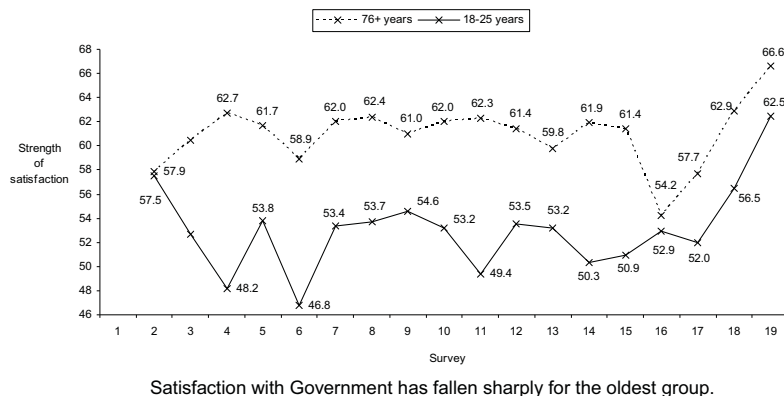


Satisfaction with relationships remains higher than at Survey 1.

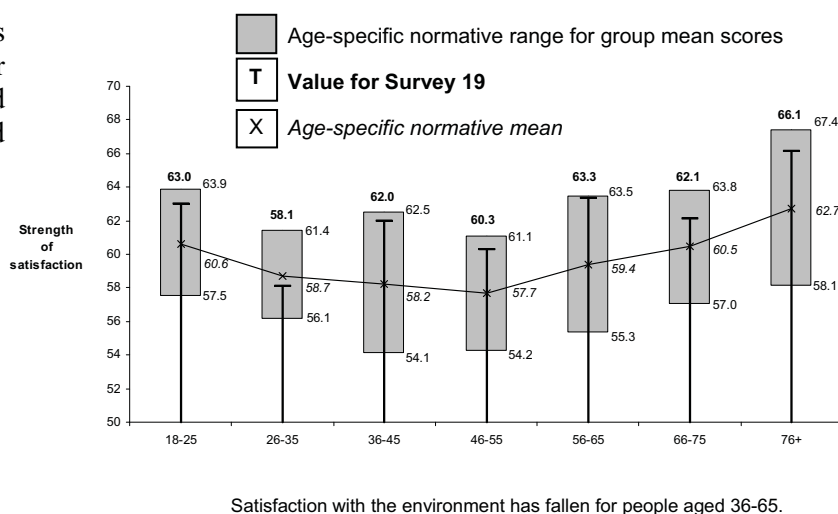
4. The National Wellbeing Index is at a very high level.



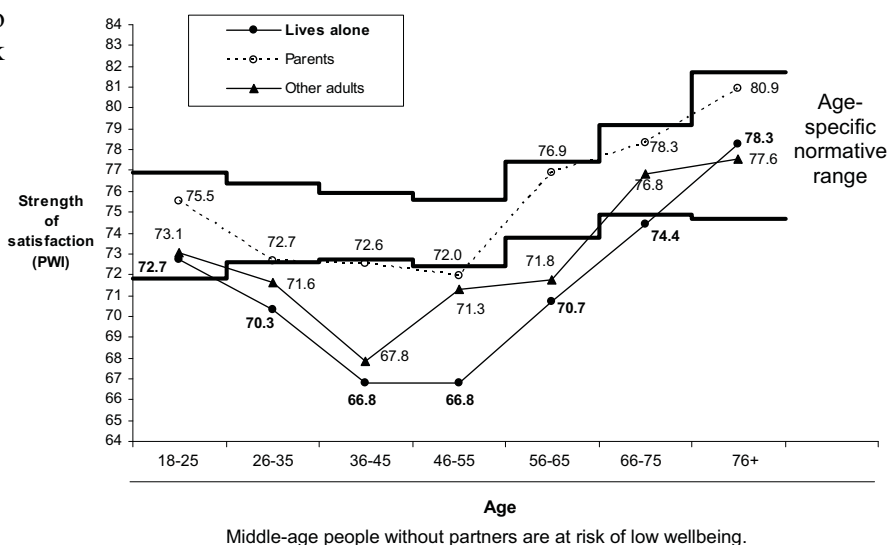
5. The National domain of Government is very high within both the youngest and oldest groups.



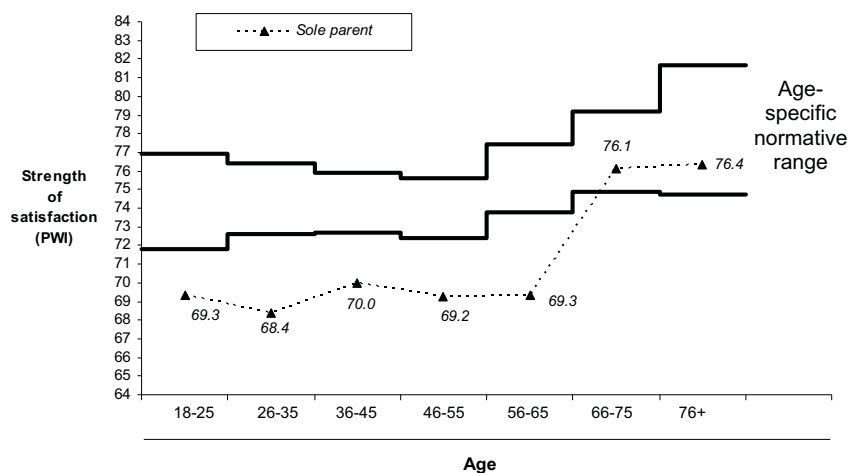
6. Satisfaction with environment has returned to its normal range after having fallen in Surveys 16 and 17. People have now habituated to the message of global warming.



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

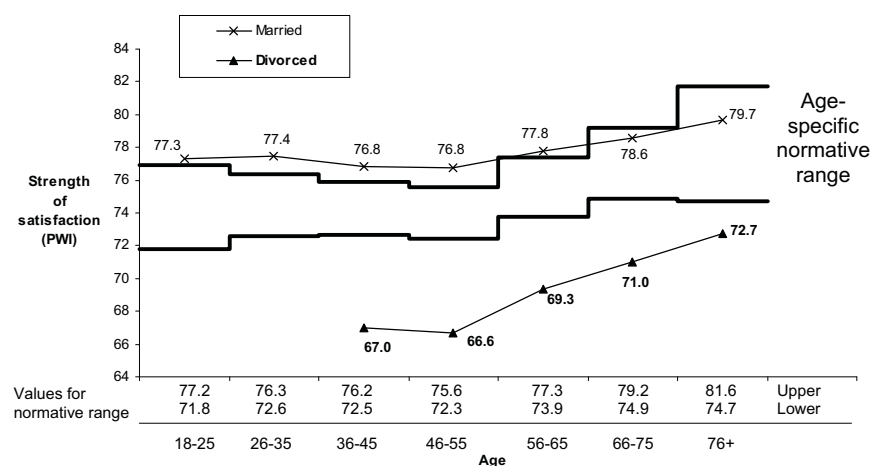


8. Living with your children as a sole parent from 66 years and older is good for your wellbeing.



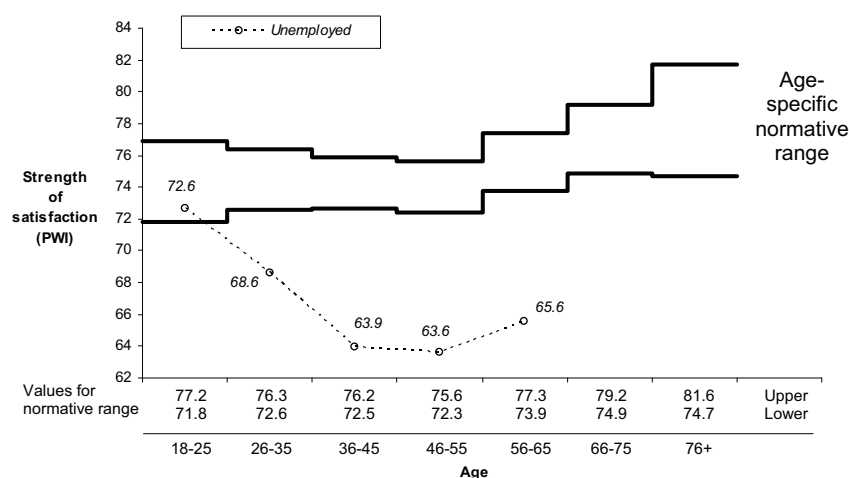
Sole parents age 66+ years have normal level wellbeing.

9. The average wellbeing of married people varies by 2.4 points across the age-range. The wellbeing of people who are divorced varies by 6.3 points, is lowest at 46-55, and never enters the normal range.



Married people show very little variation in wellbeing across the age-range.

10. 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.

	N (Survey 19)	% (Survey 19)	% combined
No one, you live by yourself	314	16.5	17.1
You live with your partner (only)	656	34.5	31.0
With partner and child	494	26.0	30.9
With one or both of your parents (only)	142	7.5	6.2
With adults who are neither your partner nor parent (only)	80	4.2	4.0
Sole parent	144	7.6	6.8

The proportions above for Survey 19 are similar to the combined survey data (Table A6.1). However, there are 3.5% more people living only with their partner, and 4.9% less living with their partner and children, than in the combined sample.

In terms of the combined data, it is notable that the highest proportion of respondents (61.9%) live with their partner either alone (31.0%) or with one or more children (30.9%). The third most common form of household composition is people living alone (17.1%).

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).

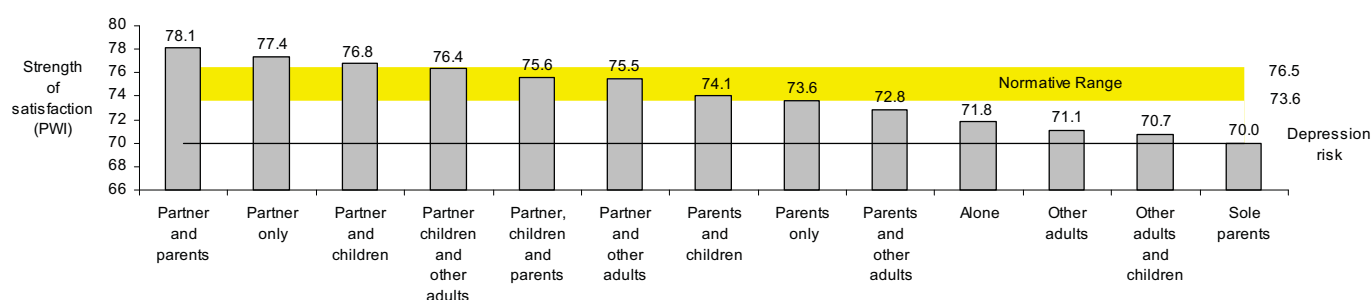


Figure 6.1: **Household Composition: Personal Wellbeing Index** [combined data]

Several aspects of this figure can be noted as follows:

- 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.
- 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 (6.8% of the sample) have a mean score which lies at this threshold.
- There is an 8.1 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 and parent(s). However 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).

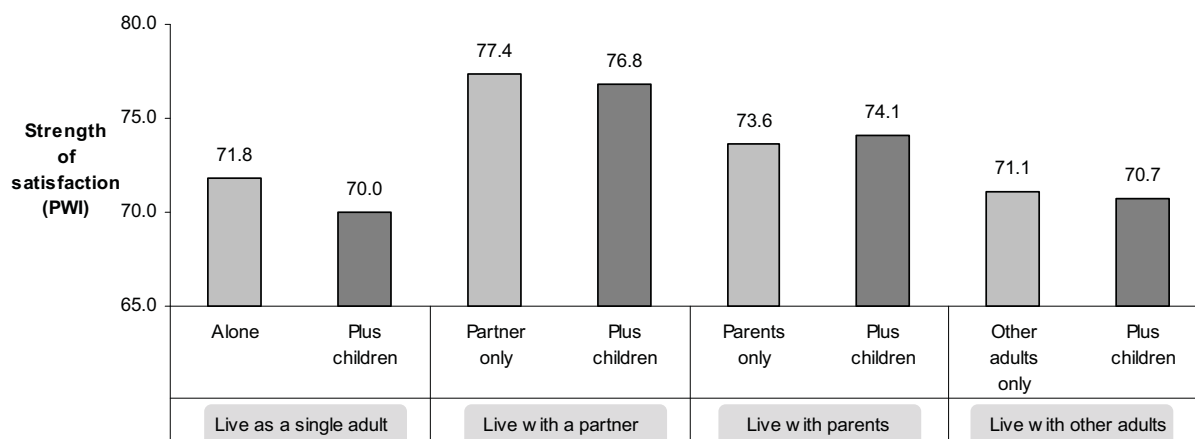


Figure 6.2: Effects of Children on Adult Wellbeing

- With no other adult present, the influence of children is demonstratively negative, with the wellbeing of single parents (single adult: plus children: 70.0) being into the territory of high risk for depression. Their wellbeing is 1.8 points lower than people who live alone. The wellbeing of both groups however, is highly income dependent (Chapter 3).
- In the presence of a partner, parents or other adults the additional influence of children is non-significant.

In summary, as a simple demographic, the addition of children to a household has little impact on parental wellbeing except in the case of single parents. This is, however, powerfully moderated by income (Chapter 3).

- (f) Of the six 'partner' groups, four lie above the normative range (76.5). Living with other adults in addition to partner reduces wellbeing by 1.9 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 0.8 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 five 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 1.8 points below the normative range. However, this is gender-dependent with females having higher wellbeing than males (see Chapter 4).

Figure 6.2.1 shows the wellbeing of the major household groups in Survey 19 (Table A6.1) compared with their normative ranges (Tables A6.30, A6.32, A6.34, A6.36, A6.38, A6.40).

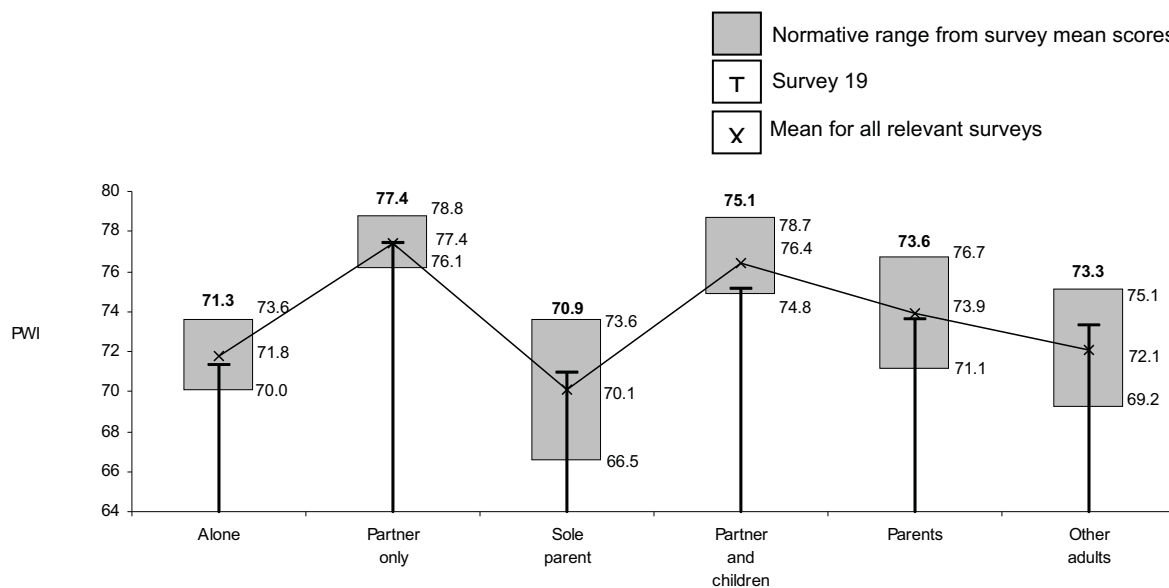


Figure 6.2.1: Household Composition (Personal Wellbeing Index)

All values for Survey 19 lie within their respective normal ranges.

6.2.2. Personal Domains

The results in this section are drawn from Table A6.2 (Survey 19) and Table A6.3 (combined data).

Table A6.2 shows the domain data from Survey 18. 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 = 3,536) who live alone below.

6.2.2.1. Live Alone

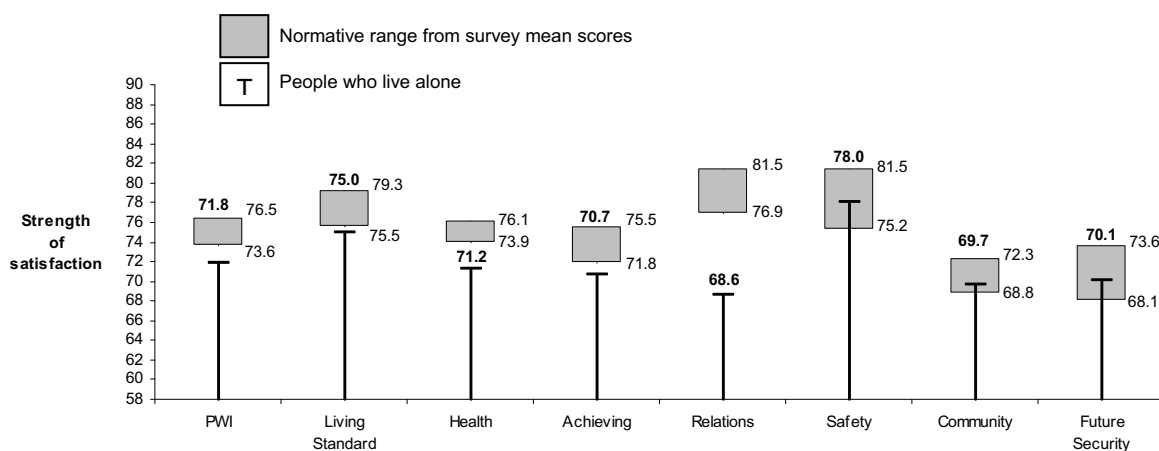


Figure 6.3: **Live Alone:** Domain vs. Normative Data (Personal Wellbeing Index: combined data)

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 1.8 points below the normative

range. The major deficits among the domains are with relationships (-8.3 points) and health (-2.7 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).

6.2.2.2. 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.

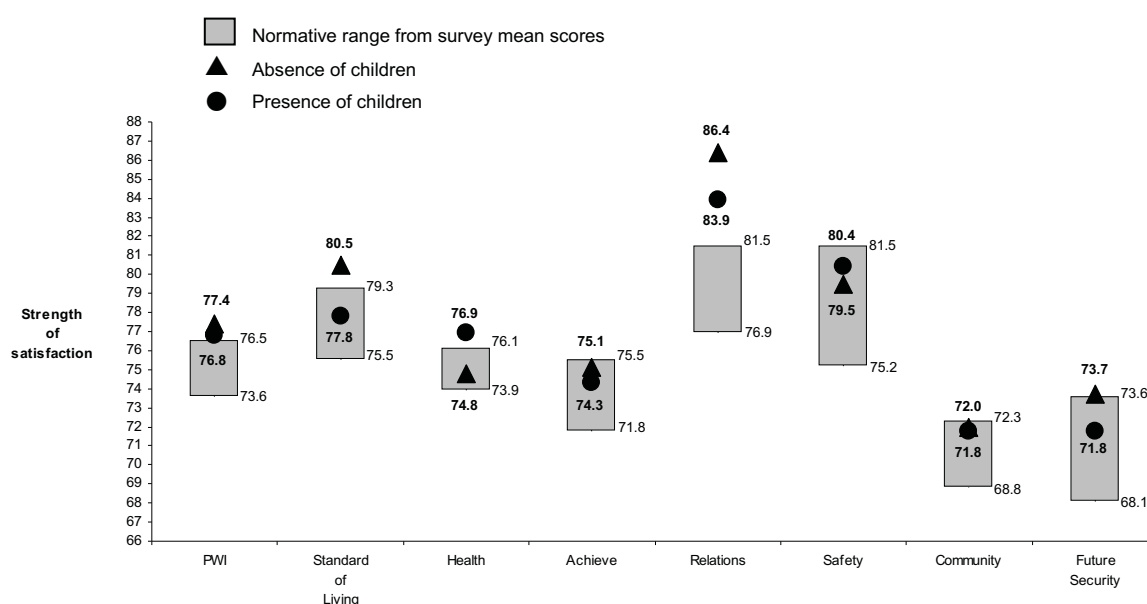


Figure 6.4: Live with Partner in the Absence/Presence of Children

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 (-0.6 points), it is significant in the case of two domains as Living Standard (-2.7 points) and Relationships (-2.5 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 (+2.1 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.

6.2.2.3. Partner Only v.s Children Only

The other 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 6.5. This is based on 1,436 Sole Parents (Table A6.3).

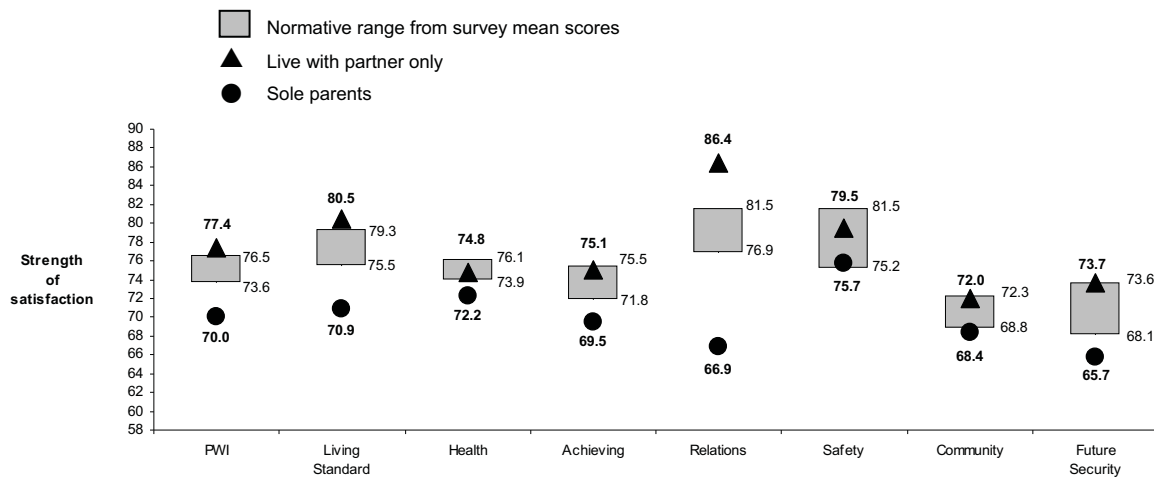


Figure 6.5: Comparison between living with partner only and sole parents

The advantage of living only with a partner is most obvious in the domain of relationships. Here the two groups are separated by 19.5 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 2.2 point advantage over partner plus children.

6.2.4. National Wellbeing Index

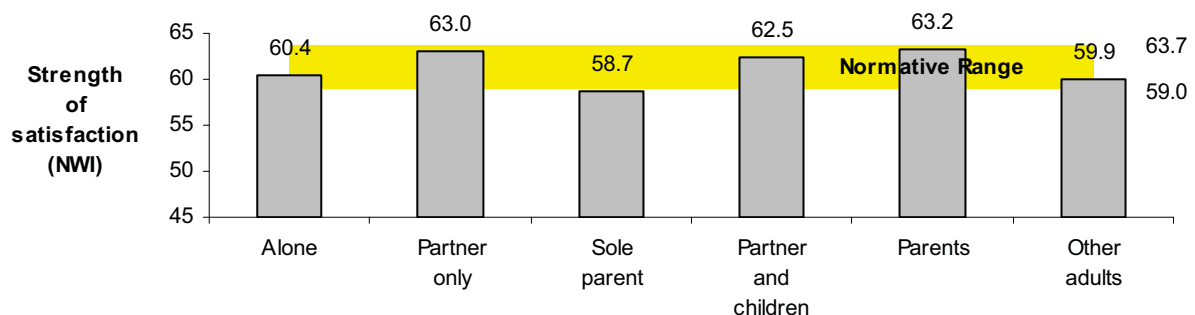


Figure 6.6: Household Composition: National Wellbeing Index

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).

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 19 (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).

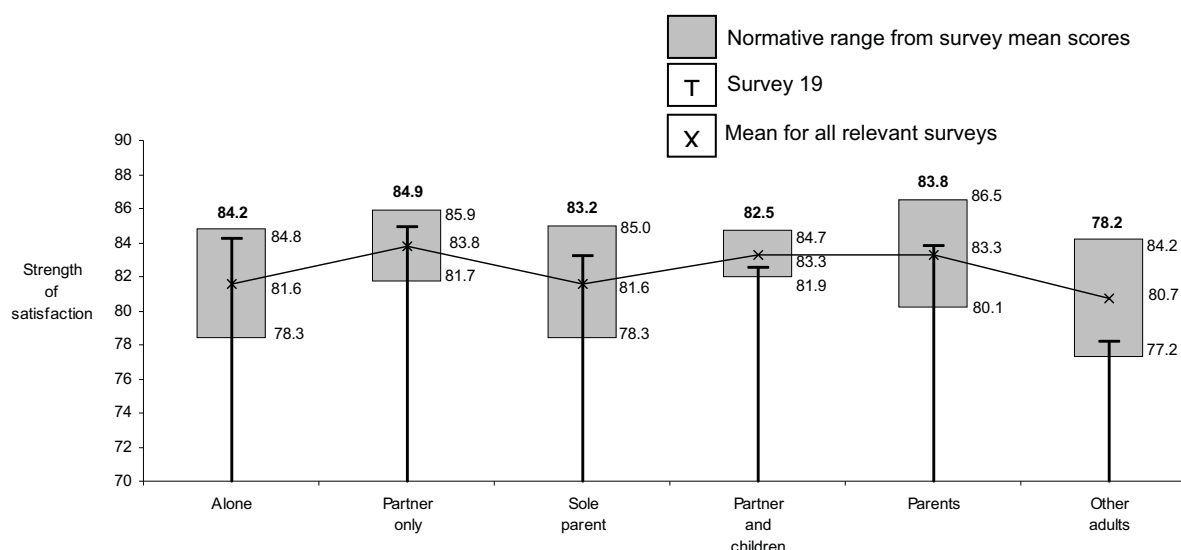


Figure 6.7: Household Composition: Life in Australia

All Survey 19 values live within their respective ranges.

6.2.7. National Survey-Specific Aspects: Terrorist Attack

Table 6.2 shows that there was a generally maintained sense of an imminent terrorist attack during Survey 19. Figure 6.8 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 A6.41).

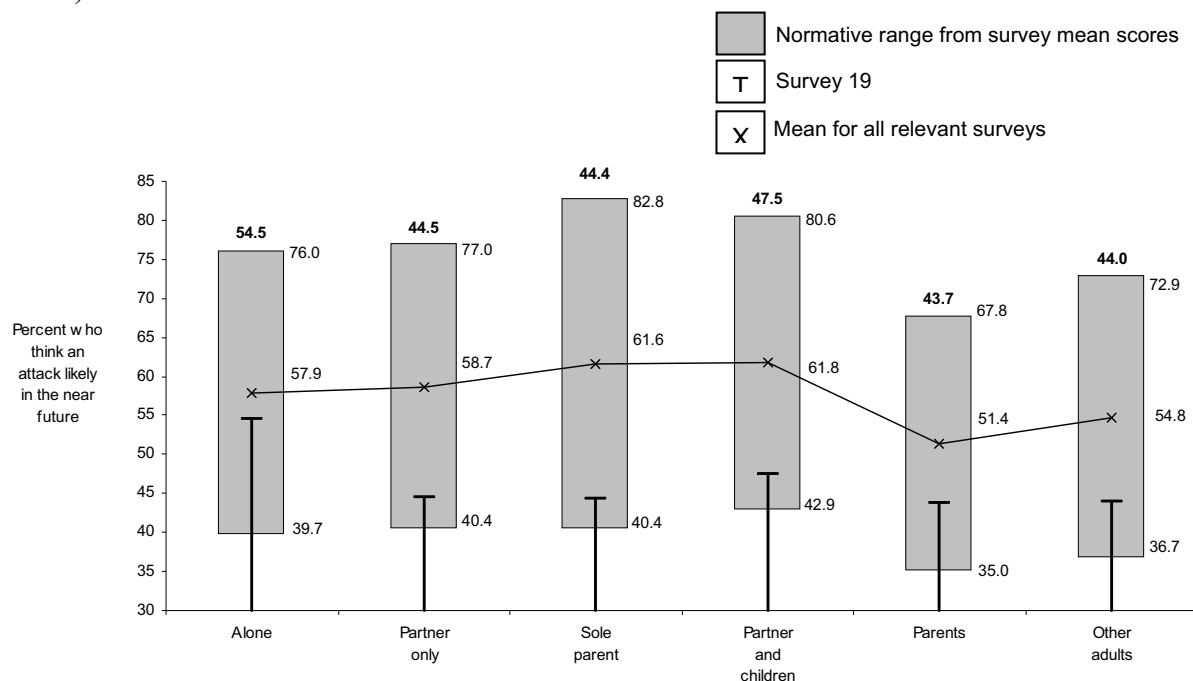


Figure 6.8: Household Composition: Percent who think an attack is likely

It can be seen that the current percentage of people who think an attack likely is generally lower than average for all groups, as expected, but the groups are showing very different rates of adaptation. People living either alone or with their parents seem slow to adapt. On the other hand, people living as sole parents or only with their partner have lost so many believers that their current values are almost below their x2SD normative range.

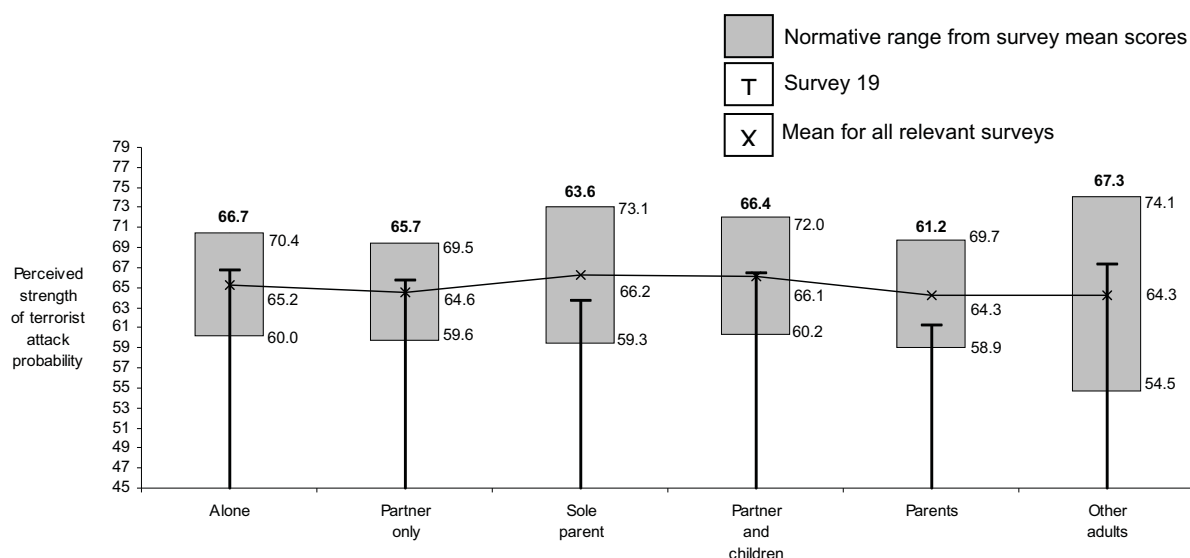


Figure 6.9: Household Composition: **Terrorist Attack Probability Strength**

The normative range has been calculated from mean scores for each of the groups over the past 11 surveys (Table A6.42). The following observations pertain:

1. The 'Other adult' group has varied between these surveys more than the other groups (19.6 points). The least variation is within people living only with their partner (9.9 points).
2. The current strength of the feeling that an attack is likely remains close to the mean value or lies slightly higher. Thus, even though far fewer people regard an attack as likely, those that do have a strength of belief little different from the larger groups of 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).

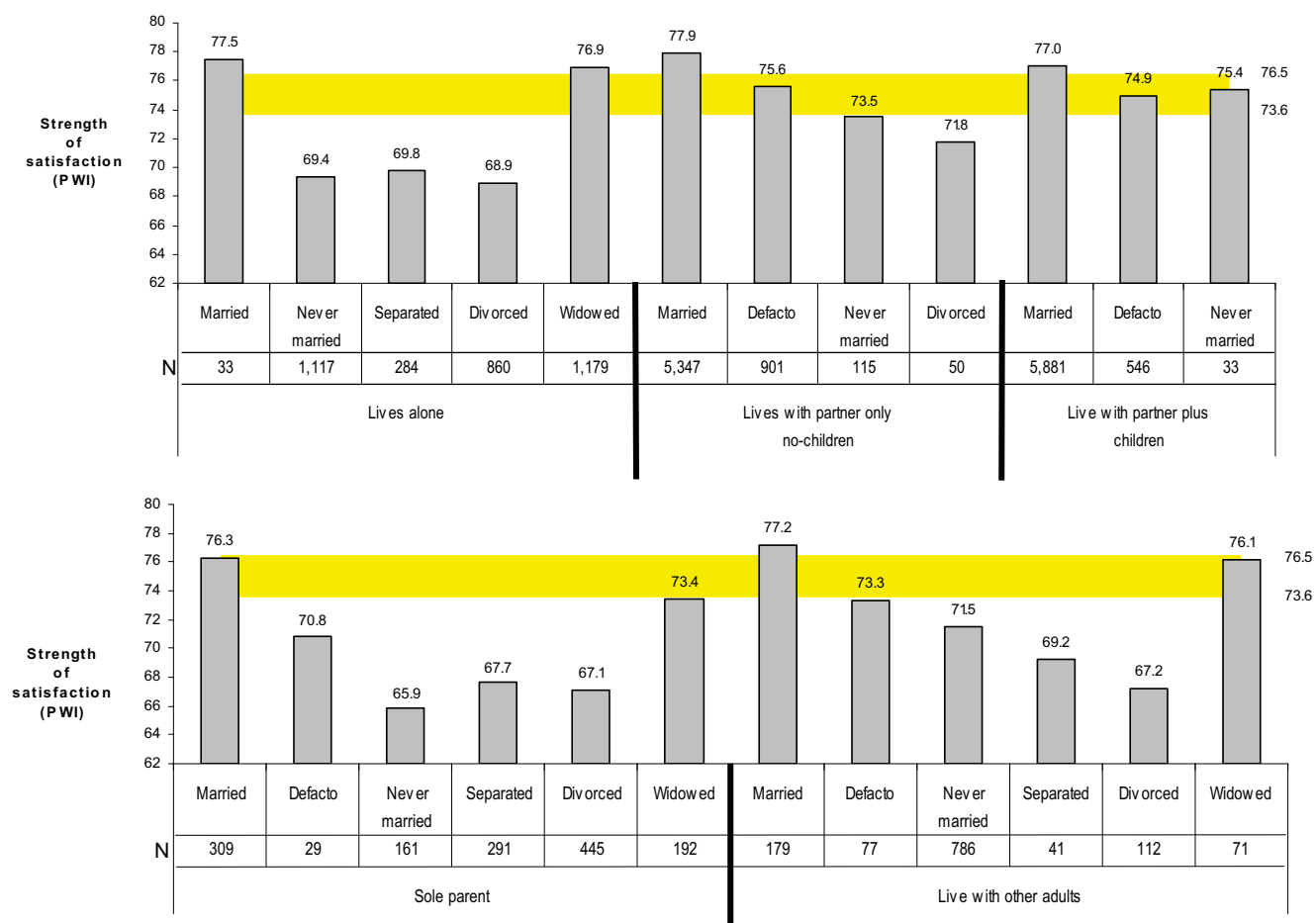


Figure 6.10: Household Composition x Relationship Status: Personal Wellbeing Index

- People who are married have higher wellbeing than people in defacto relationships. In the absence of children the advantage is +2.3 points and in the presence of children +2.1 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).
- 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 3.5 points over widows who live alone, to lie just below the normative range.
- 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 (69.4) or with other adults (71.5).
- 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 -2.1 points; divorced -1.8 points).

6.3.1. Relationship Status x Income

These Household Composition x marital status groups are separated by income in Tables A6.8-A6.14.

6.3.1.1. Live Alone

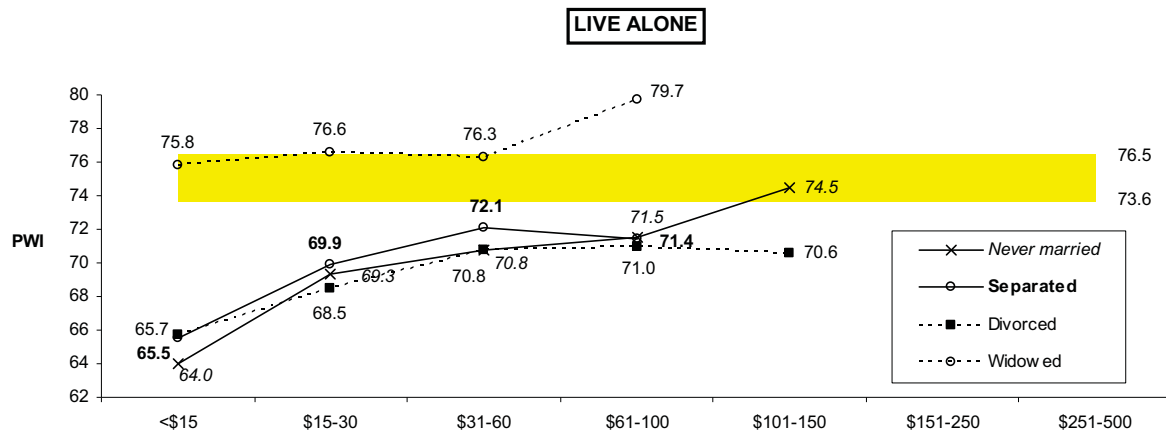
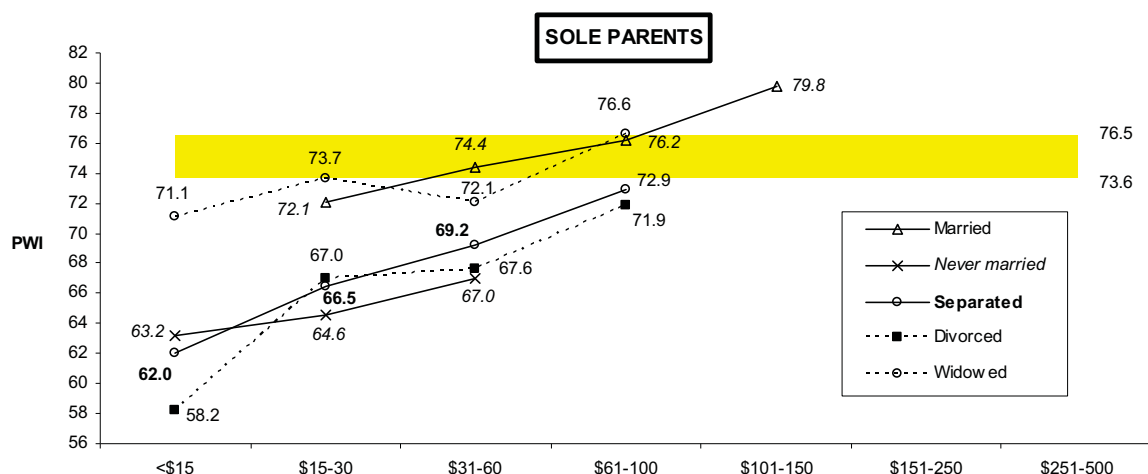


Figure 6.11: **Live Alone** x Relationship Status x Income: Personal Wellbeing Index

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 trajectory of the separated group indicates that it would have a similar experience with higher income. This is not true, however, of the divorced group who remain well below the normal range even at \$101-150K.

6.3.1.2. Sole Parent x Relationship Status x Income

Figure 6.12: **Sole Parent** x Relationship Status x Income: Personal Wellbeing Index**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 and Separated enter at \$61-100K. 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.
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 21.6% of all sole parents (Table A6.4).

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:

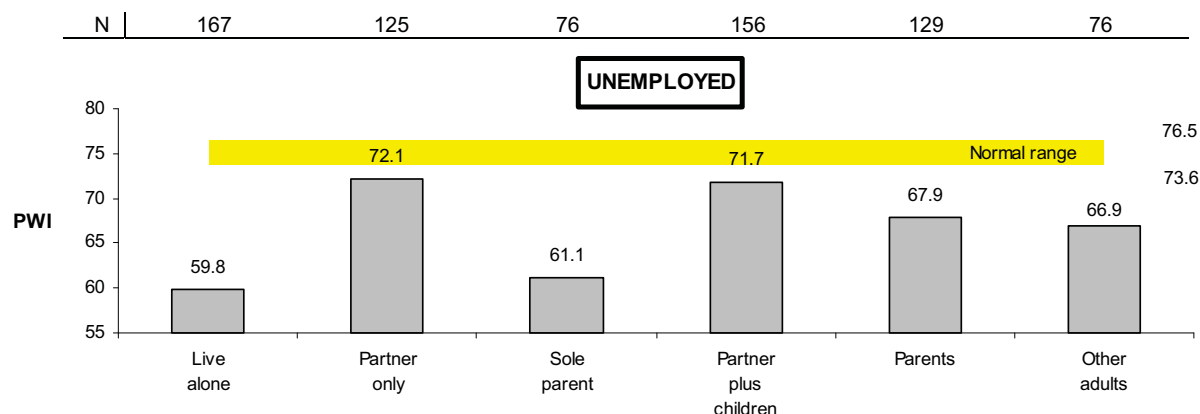


Figure 6.13: Household Composition x **Unemployment**: Personal Wellbeing Index

The protective element of having a partner is very evident here. Even the addition of children provides a 11.9 point advantage over living alone. Indeed, this group of unemployed people living alone have one of our lowest levels of wellbeing on record (59.8 points) and 22.9% 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.

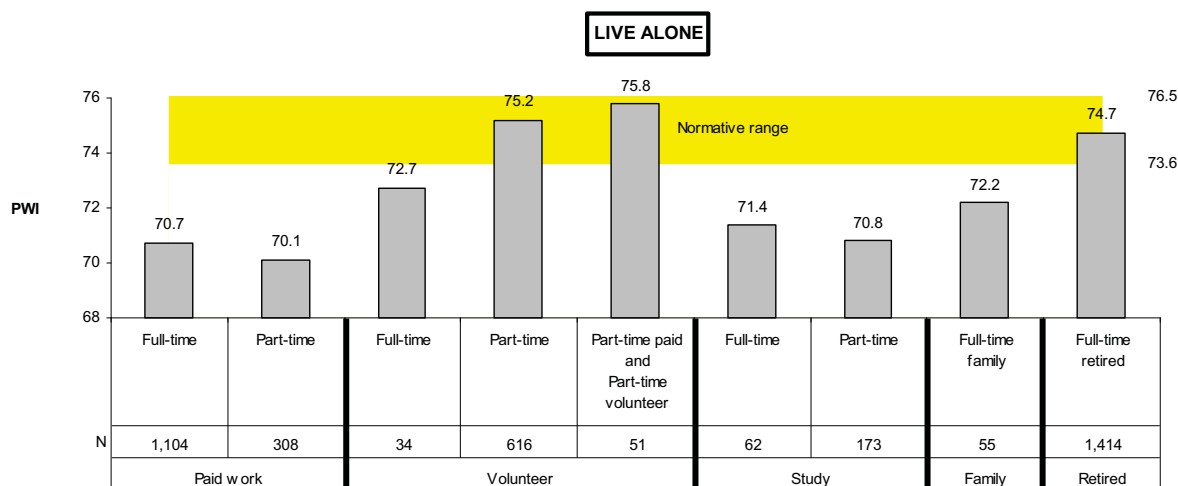


Figure 6.14: **Living Alone** x Work Status (Personal Wellbeing Index)

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.

6.4.3. Sole Parents x Work Status

Data are from Tables A6.13 and A6.14.

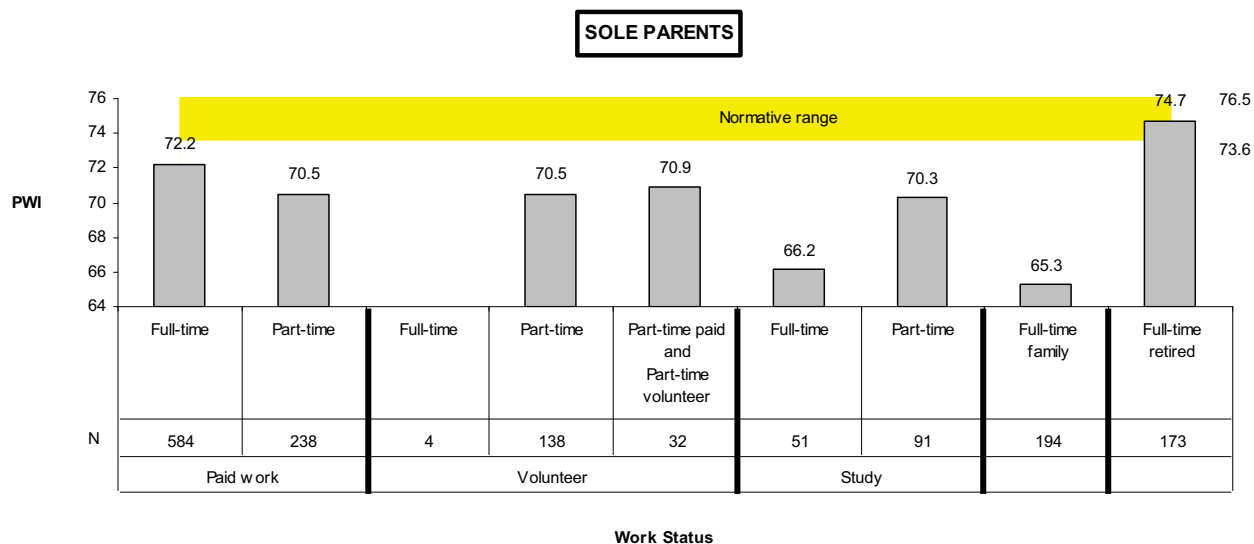


Figure 6.15: **Sole Parents** x Work Status (Personal Wellbeing Index)

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. 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.

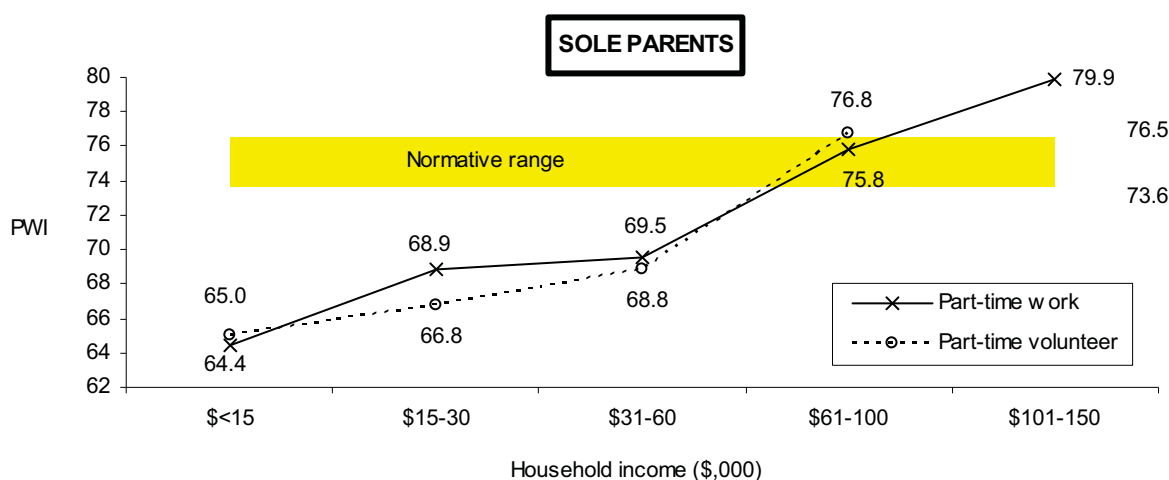


Figure 6.16: **Sole Parents** x Part-time Work Status x Income

It appears that part-time work is a marginally more powerful source of wellbeing to sole parents than is part-time volunteer work. However, at \$61-100K both groups enter the normal range. The very high wellbeing for those earning \$101-150K is based on N=21, and so may not be reliable.

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)

Domain	All combined data sr ² (n=1116)	Live alone – never married			
		\$<15,000 sr ² (N = 201)	\$15,000-\$30,000 sr ² (N = 188)	\$31,000-\$60,000 sr ² (N = 377)	\$61,000-\$100,000 sr ² (N = 152)
1. Standard	3.9	3.6	6.6	4.4	1.5
2. Health	1.1	1.4	0.9	1.4	0.7
3. Achieving	8.4	9.0	8.1	7.0	13.2
4. Relationships	0.5	0.1	0.3	1.6	0.6
5. Safety	0.0	0.1	0.1	0.7	0.0
6. Community	0.5	0.4	0.2	1.0	0.8
7. Future Security	0.5	0.4	0.1	0.6	1.6
Unique	14.9	14.0	14.6	16.0	16.3
Shared	41.0	50.0	28.8	41.0	26.9
R ² (adjusted)	55.9	64.0	43.4	57.0	43.2

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 3.6% of unique variance within the total 64.0% explained variance for this sample.

Observations of this table are as follows:

1. The live-alone-never married group in which the domains explain most variance has the lowest income. This group has very low wellbeing (64.0 points; Table A6.5) and a high proportion of

the group would be in homeostatic failure, such that their circumstances of living are causing SWB to decrease. This affects all the domains, and the evaluation of life as a whole, and so the explained shared variance (50.0%) is far higher than any of the other income groups. Interestingly, the unique variance, which mainly reflects the cognitive component of SWB, remains much the same as for the higher income groups.

2. 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 Data (Personal Wellbeing Index and Domains)

6.6.1. Norms using Data from Individuals

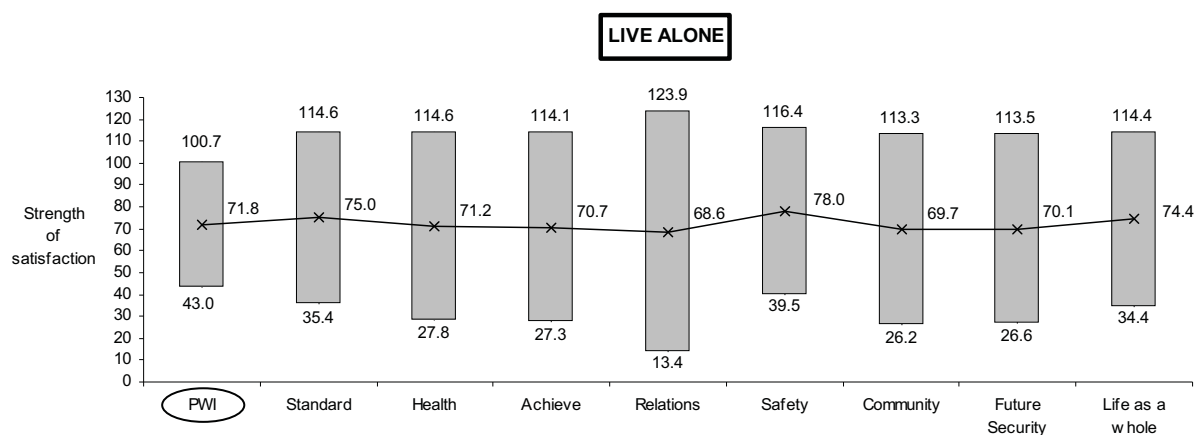


Figure 6.17: Live alone normative data (N = 3,536)

The above results come from Table A6.29.

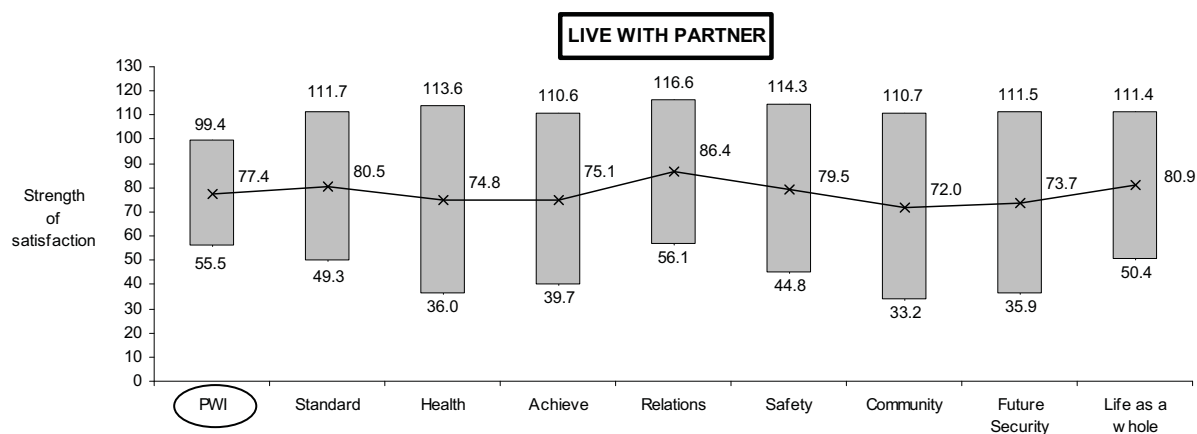


Figure 6.18: Live with partner normative data (N = 6,462)

The above results come from Table A6.31.

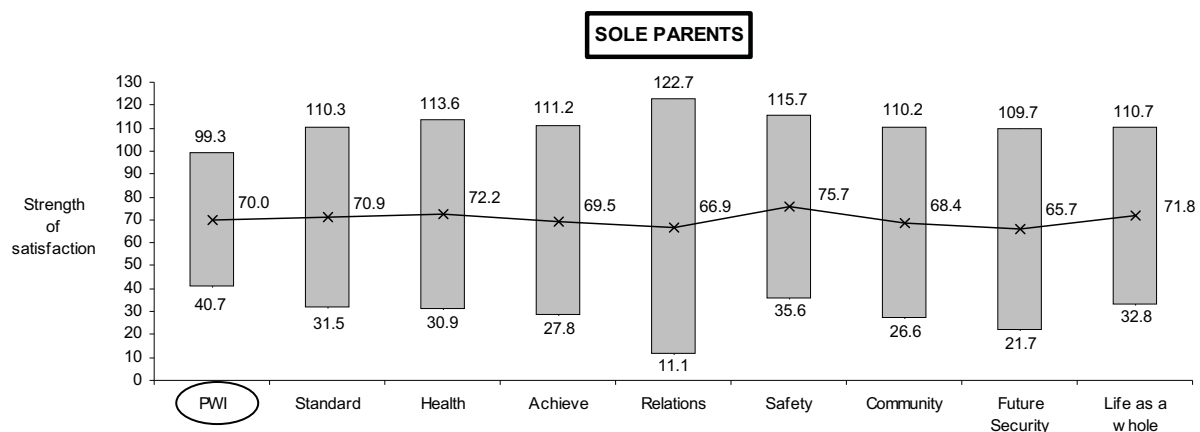


Figure 6.19: Sole parent normative data (N = 1,436)

The above results come from Table A6.33.

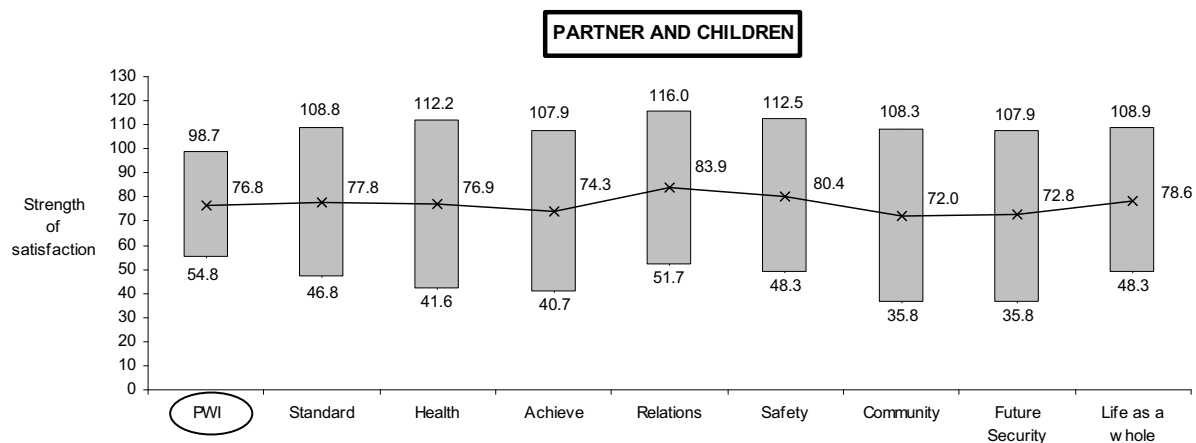


Figure 6.20: Live with partner and children normative data (N = 6,502)

The above results come from Table A6.35.

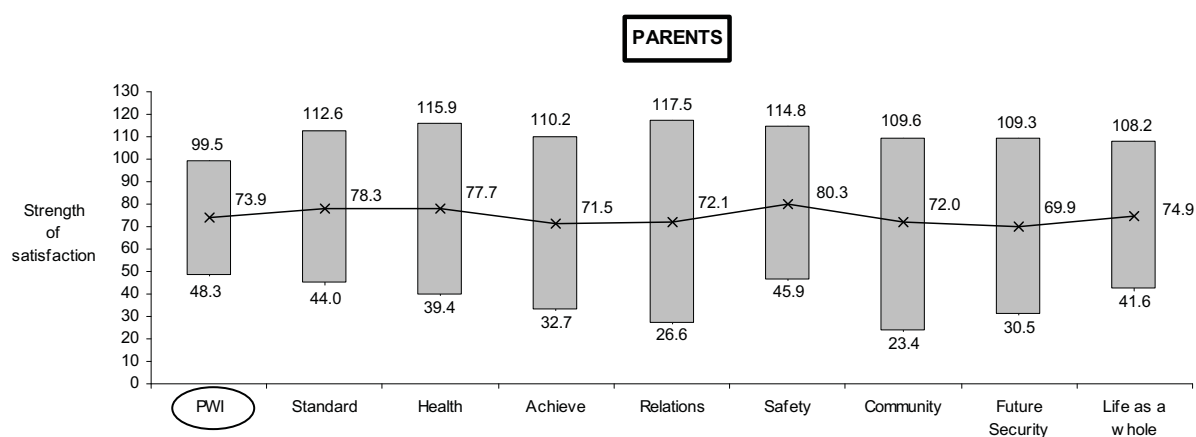


Figure 6.21: Live with parents normative data (N = 1,598)

The above results come from Table A6.37.

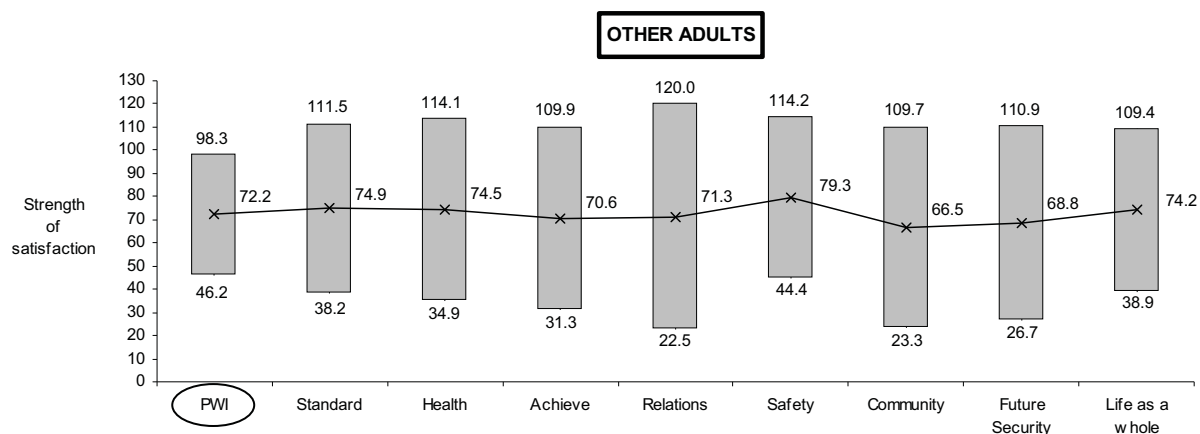


Figure 6.22: Live with other adults normative data (N = 1,276)

The above results come from Table A6.39.

6.6.2. Norms using Sample Means (Personal Wellbeing Index and Domains)

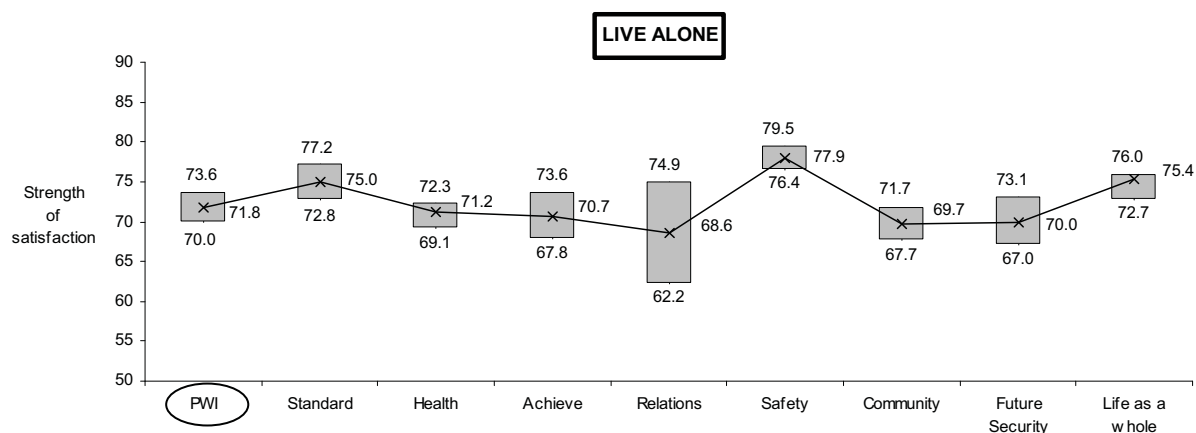


Figure 6.23: Live alone normative data (N = 11)

The above results come from Table A6.30.

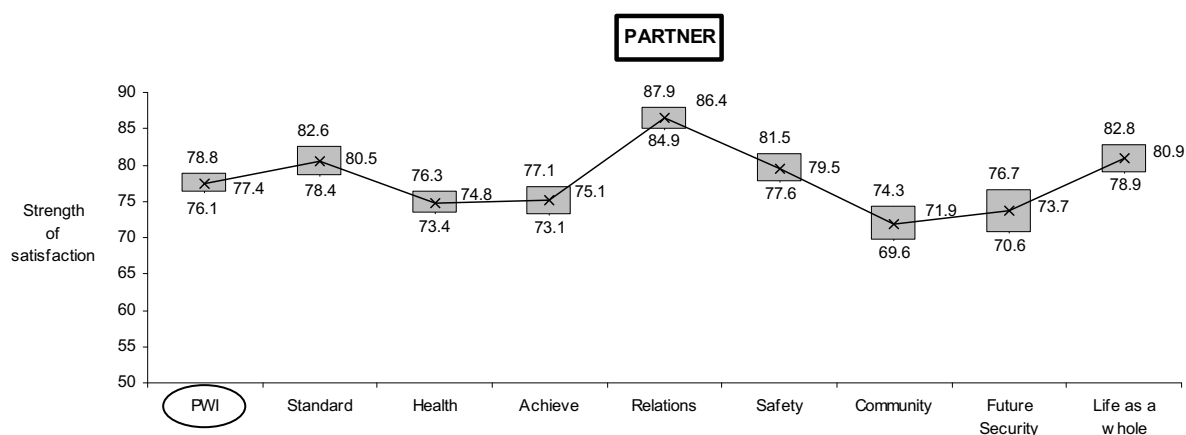


Figure 6.24: Live with partner normative data (N = 11)

The above results come from Table A6.32.

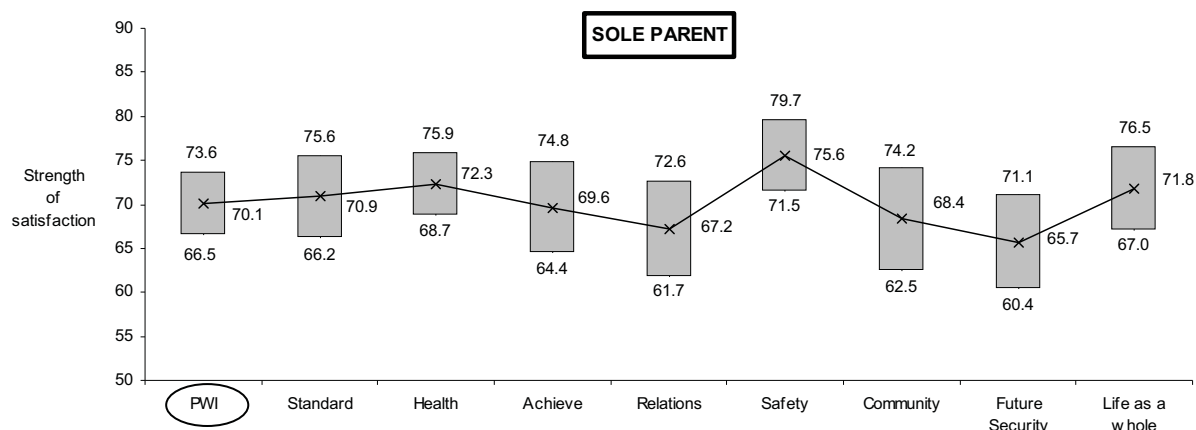


Figure 6.25: Sole parent normative data (N = 11)

The above results come from Table A6.34.

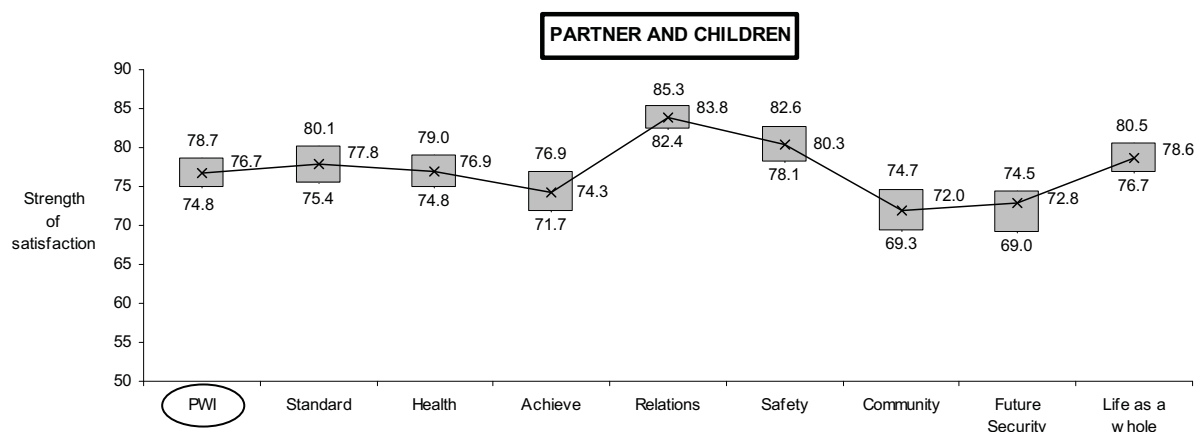


Figure 6.26: Live with partner and children normative data (N = 11)

The above results come from Table A6.36.

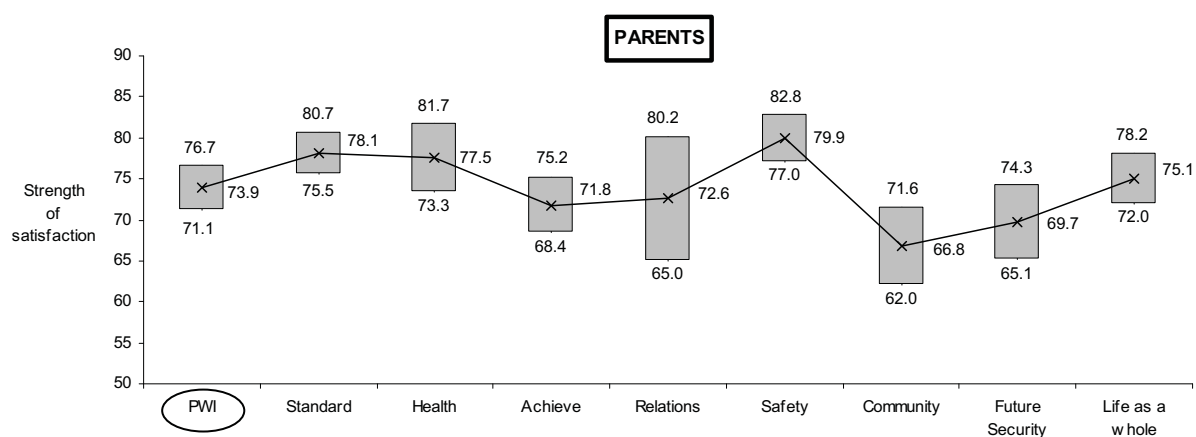


Figure 6.27: Live with parents normative data (N = 11)

The above results come from Table A6.38.

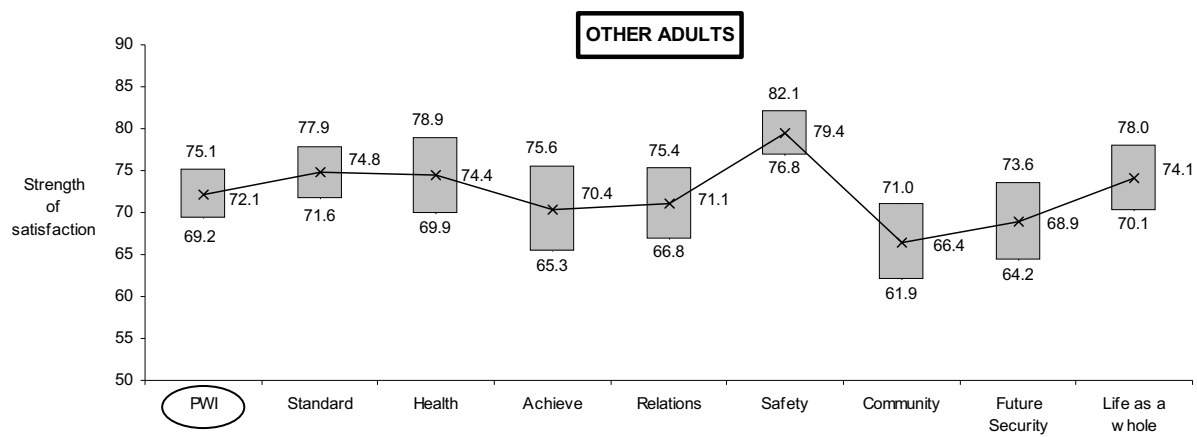
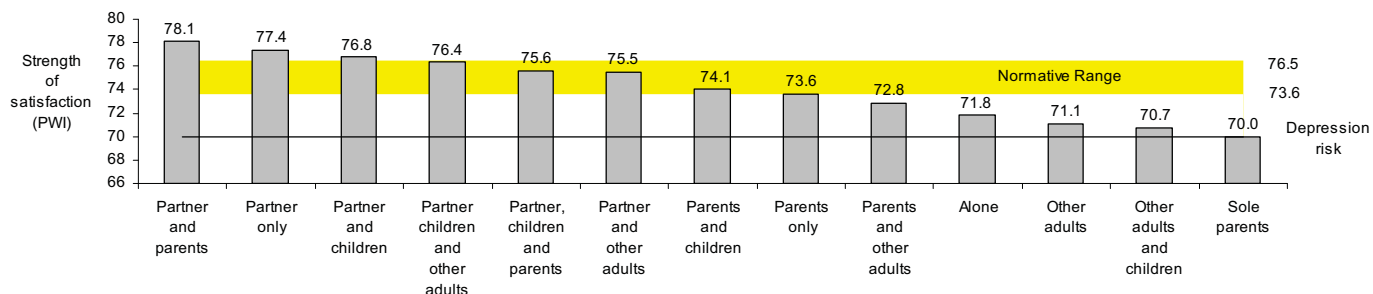


Figure 6.28: Live with other adults normative data (N = 11)

Dot Point Summary for Household Composition

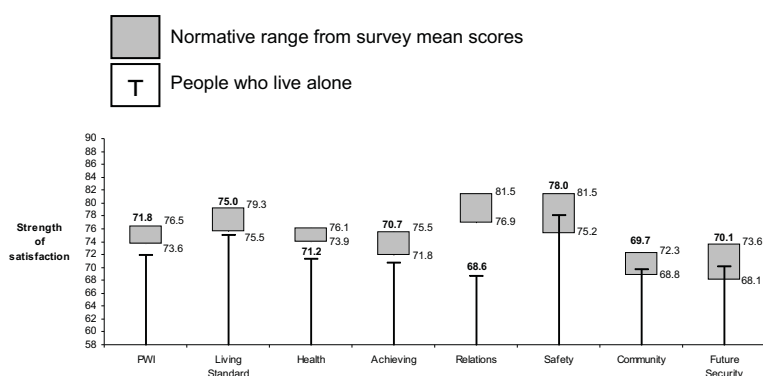
1. The highest levels of personal wellbeing are achieved by people living with their partner. The lowest personal wellbeing is found among sole parents. Their low wellbeing puts many of them at risk of depression.



Living with a partner is most conducive to enhance wellbeing.

LIVE ALONE

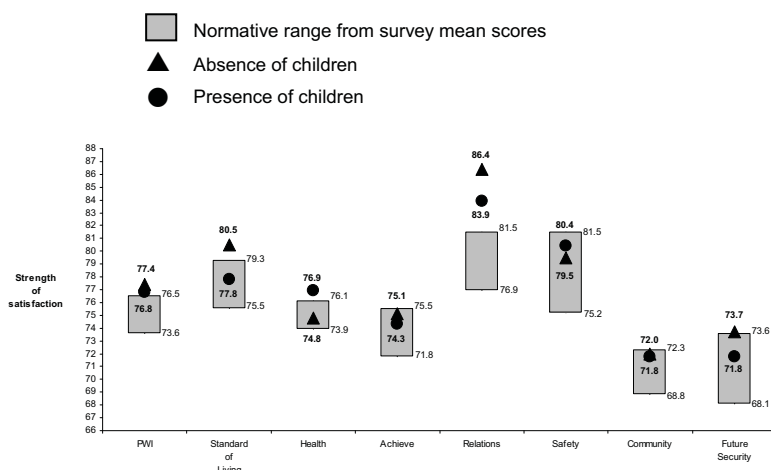
2. People who live alone have a major loss of wellbeing in terms of relationships and health. The relative lack of buffering caused by poor relationship availability makes the person more vulnerable to life stressors. Thus, minor health issues may seem important due to the lack of a close friend with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



People who live alone have low wellbeing.

CHILDREN

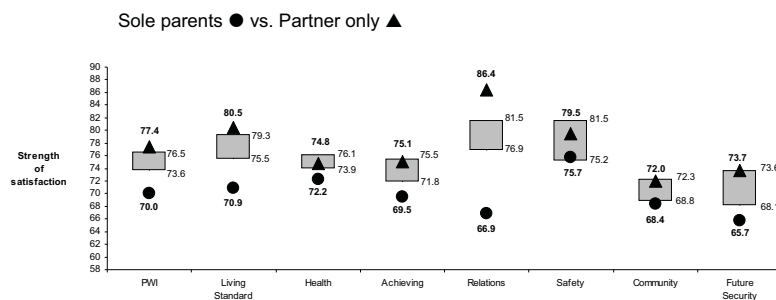
3. For a couple living together, the presence of children reduces two domains (Standard of Living, Relationships) and enhances one domain (Health). This may be an example of domain compensation involving perceived health. The net result is little difference between these groups in the overall Personal 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.



Children reduce Standard of Living and Relationships, but enhance perceived health.

SOLE PARENTS - DOMAINS

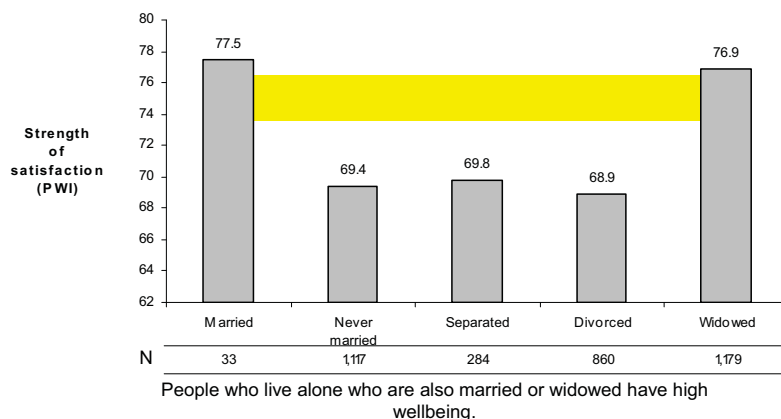
4. The domain that is most deficient for sole parents is Relationships. It is particularly notable that this disparity in satisfaction is far higher than it is for Standard of Living even though the Sole Parents are a very low income group. It seems evident that the major factor missing from the lives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



The major factor missing from the lives of sole parents is another adult.

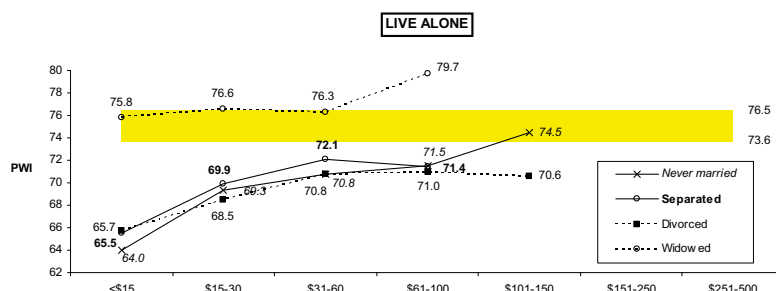
LIVE ALONE AND RELATIONSHIP STATUS

5. For people who live alone, those who are married, and widows have above normal range Personal Wellbeing Index.



LIVE ALONE AND INCOME

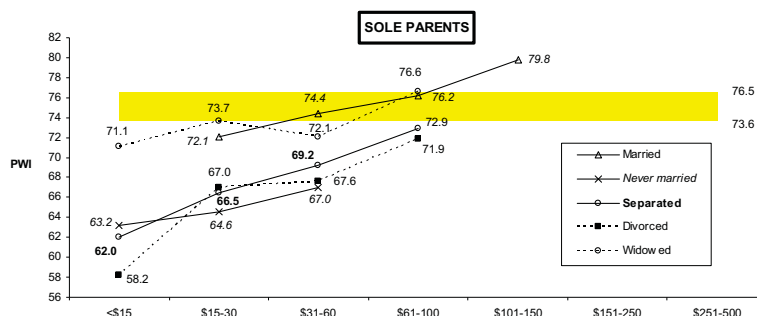
6. With the exception of widows, the Personal Wellbeing people who live alone is highly income-dependent. The wellbeing of Never Married and Separated enters the normal range at an income of about \$101-150K. However, the wellbeing of people who are divorced remains below the normal range at this level of income.



The wellbeing of people who live alone is highly income dependent.

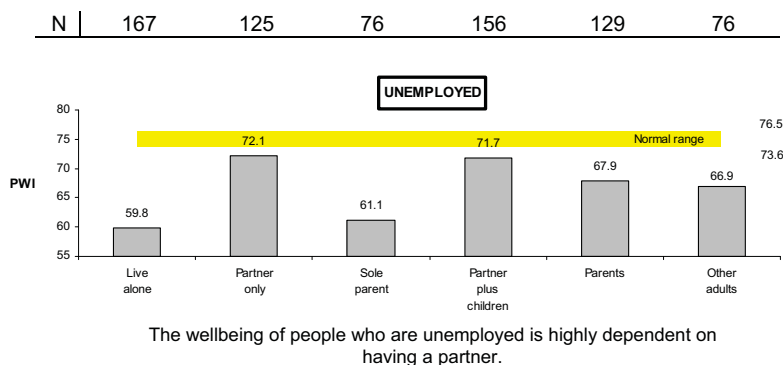
SOLE PARENTS X RELATIONSHIP STATUS x INCOME

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.



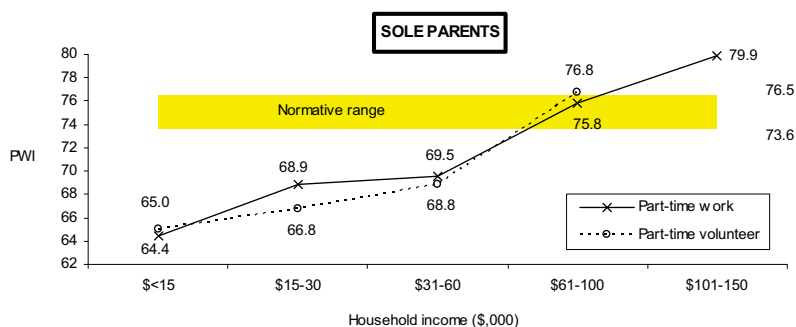
UNEMPLOYED

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.



SOLE PARENTS x WORK

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.

	Survey 19		Combined Surveys 9-19	
	N	%	N	%
Married	1,100	56.0	12,231	57.0
Defacto or living together	146	7.4	1,639	7.6
Never married	336	17.1	3,631	16.9
Separated but not divorced	62	3.2	690	3.2
Divorced	173	8.8	1,648	7.7
Widowed	147	7.5	1,607	7.5
Total	1,964	100.0	21,446	100.0

The proportion of respondents in each category for Survey 19 (Table A7.1) closely reflect the proportions from the combined surveys (Table A7.2).

7.1. Marital Status and Wellbeing

7.1.1. *Personal Wellbeing Index (combined surveys)*

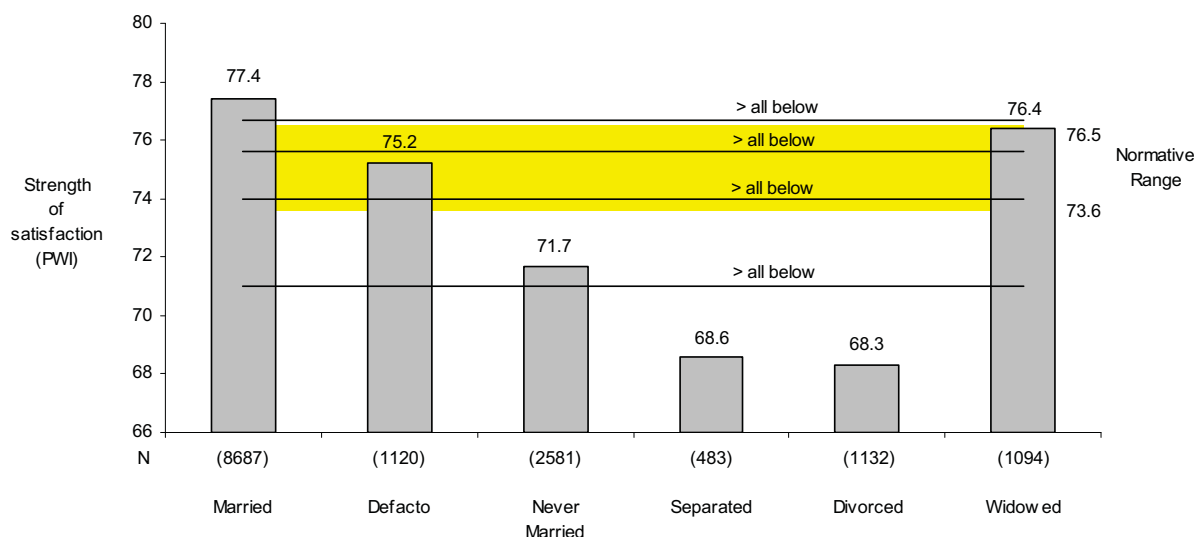


Figure 7.1: Marital Status: **Personal Wellbeing Index**

People who are married have a higher personal wellbeing than all other groups (Table A7.2). Widows have higher wellbeing than all four lower groups, defacto higher than all three lower groups, and never married 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 5.15. As a total group (Figure 7.1) their wellbeing lies at the top of the normal range.

7.1.2. Personal Wellbeing Domains

The domains generally follow much the same pattern as shown in Figure 7.1 (Table A7.2). The separated and divorced groups differ only on the domain of health, where the divorced group have lower health satisfaction (Figure 7.2). This may be either a cause or an effect of the finality of divorce.

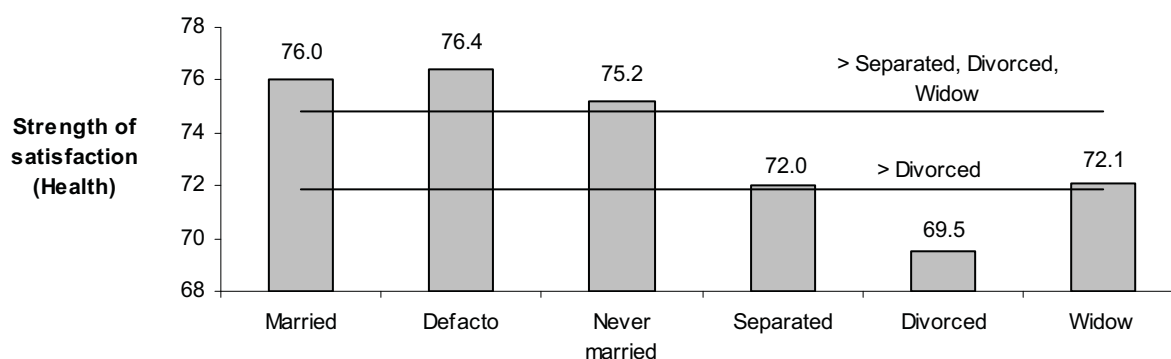


Figure 7.2: Marital Status: **Health Satisfaction**

The relatively lower 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 (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.

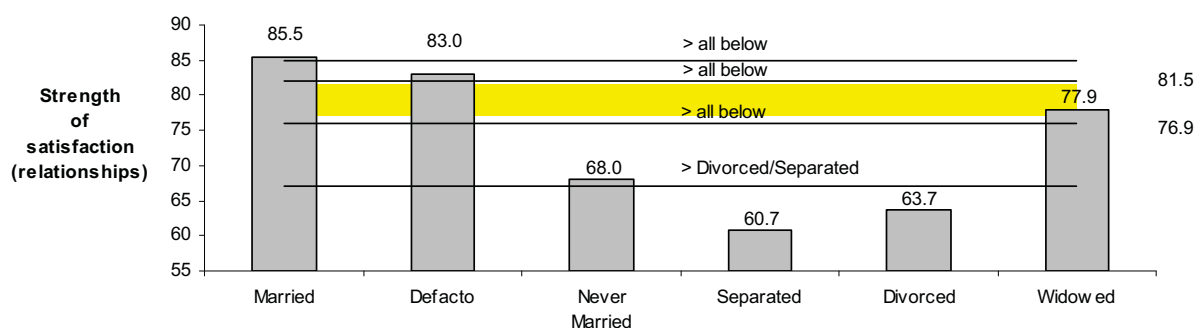


Figure 7.3: Marital Status: **Relationship Satisfaction**

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 65.1% 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 A7.18 to A7.29).

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.

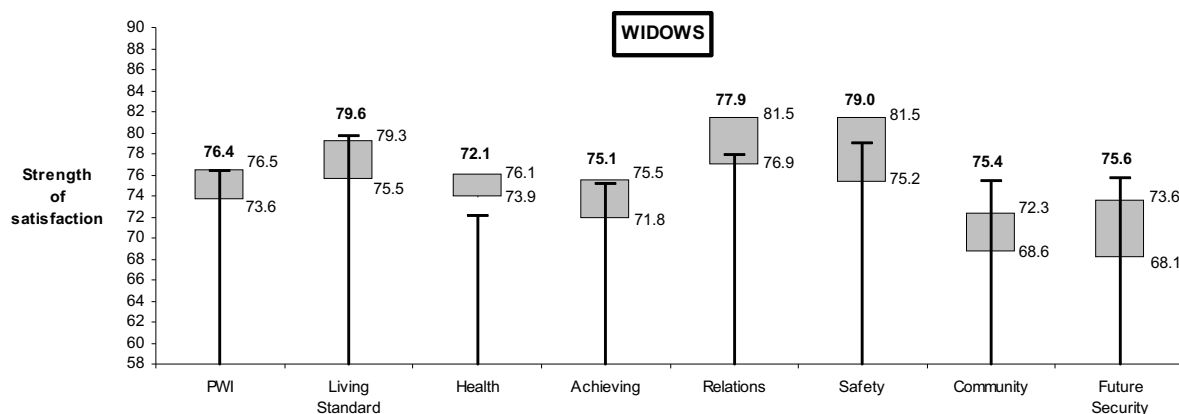


Figure 7.4: Widows: Personal Wellbeing Index Domains

Despite having higher than average Personal Wellbeing Index, the level of satisfaction with health is below normal. This exemplifies the relative unimportance of health as a determinant of SWB provided that other domains can compensate.

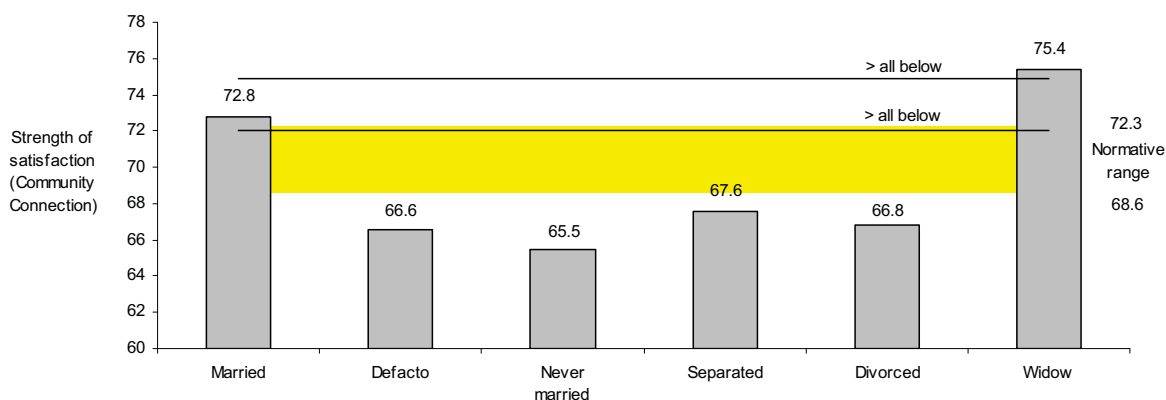


Figure 7.5: Marital Status: **Community Connection Satisfaction**

In the domains of Community Connection and Future Security, Widows have higher levels of satisfaction than Married.

7.1.3. Life as a Whole

This shows a similar pattern to Figure 7.1.

7.1.4. National Wellbeing Index

Figure 7.6 shows the combined data from Table A7.2.

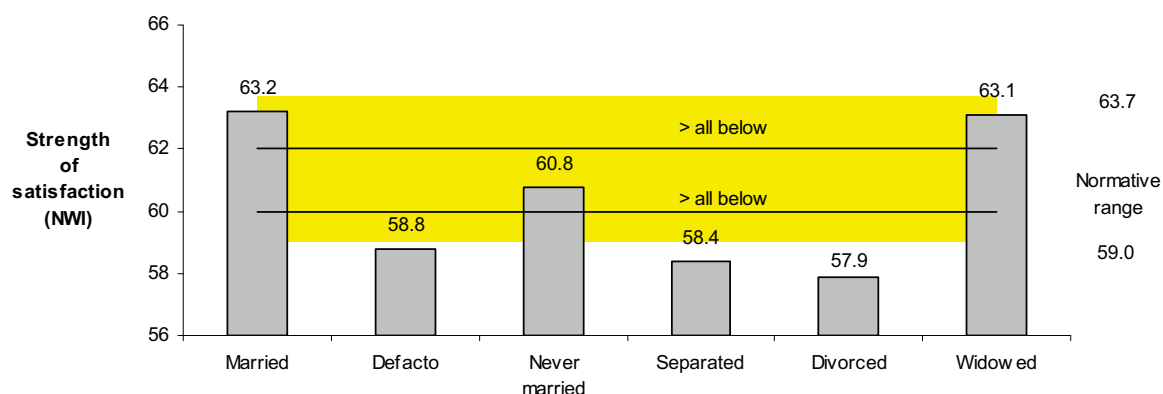


Figure 7.6: Marital Status: **National Wellbeing Index**

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 defacto 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.

7.1.5. National Wellbeing Domains

The national domains (Table A7.2) show a significant pattern of difference that resembles Figure 7.6 with the exception of National Security and Government.

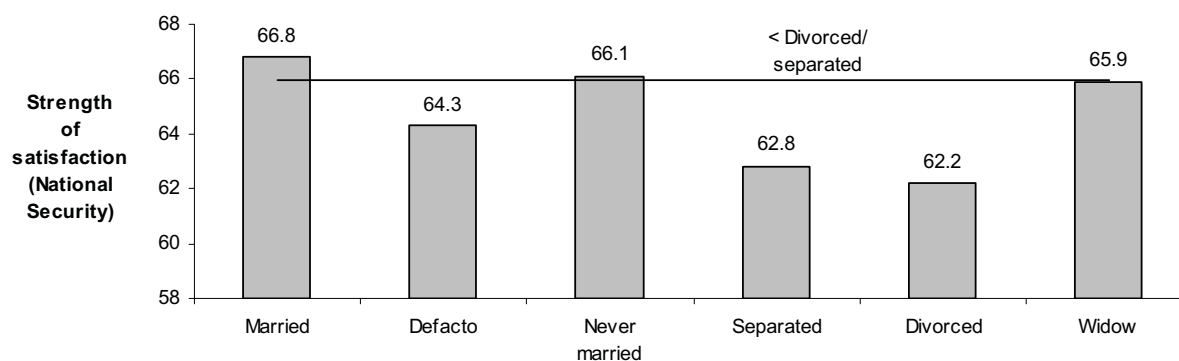


Figure 7.7: Marital Status: **National Security**

This domain of National Security shows no difference between married, never married and widowed (Table A7.2). The reason for this differential domain sensitivity is not known.

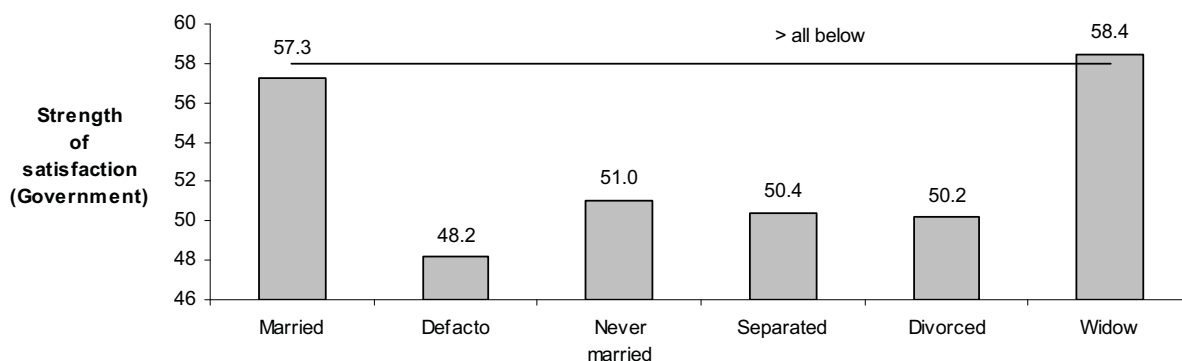


Figure 7.8: Marital Status: Government

It is evident that the champions of Government are married and widowed. Older age, conservatism, and security may contribute to this.

7.1.6. Life in Australia

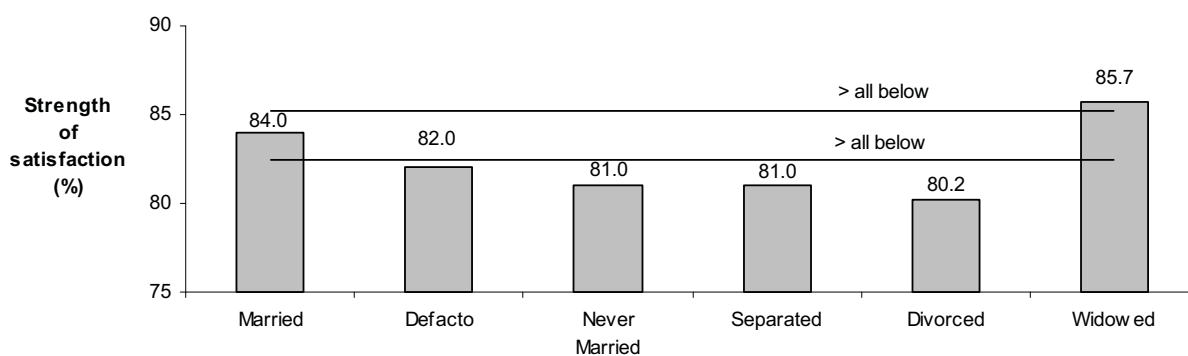


Figure 7.9: Marital Status: Life in Australia

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 (5.5 points) compared with the Personal Wellbeing Index (9.1 points).

7.1.7. Likelihood of Terrorist Attack

The perceived likelihood of a terrorist attack does not differ between the marital groups for Survey 19 (Table A7.1). However, the combined data (Table A7.2) show differences as below:

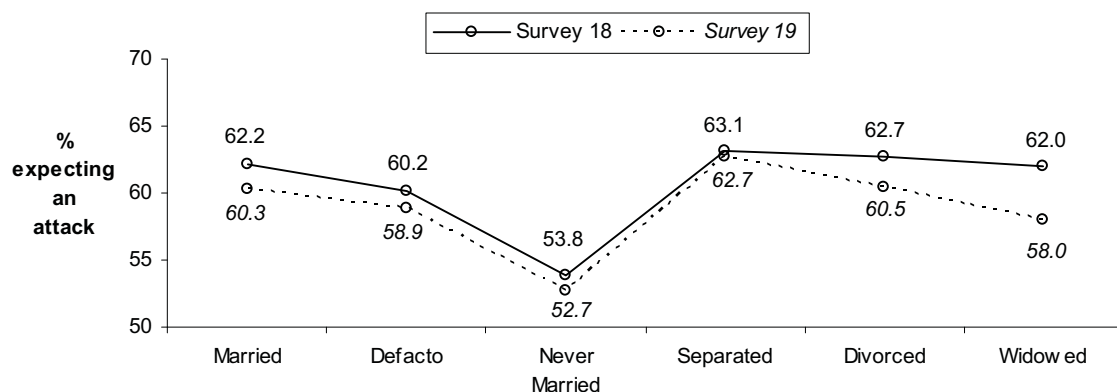


Figure 7.10: Marital Status x % Expecting an Attack

Relatively few people within the Never Married group regard such an attack as likely (52.7%). The perceptions of this group may be linked to their age, since the majority are young. All groups have shown a modest 1-2% decrease since Survey 18.

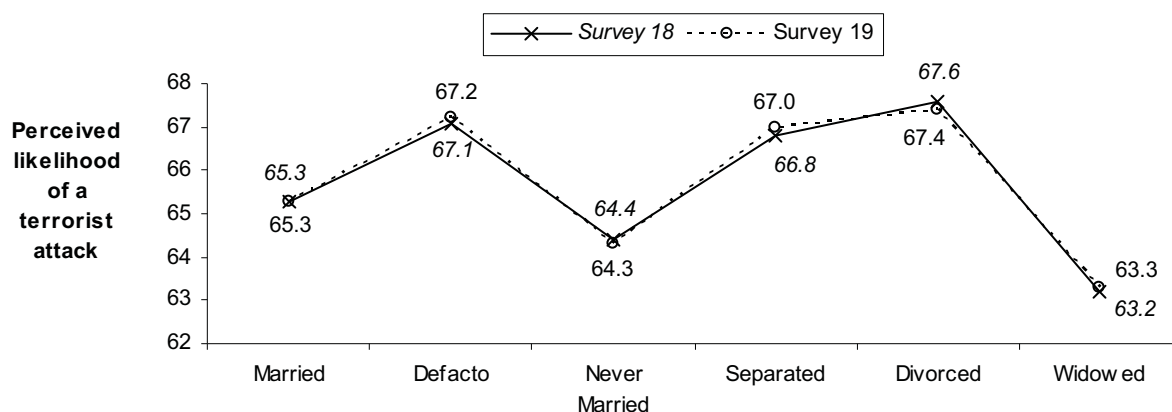


Figure 7.11: Marital Status x Perceived **Likelihood of a Terrorist Attack** (from 0-100)

While most groups contain fewer people who regard an attack as likely (Figure 7.10), those who continue to regard an attack as likely have not changed the strength of their belief since Survey 18.

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 below.

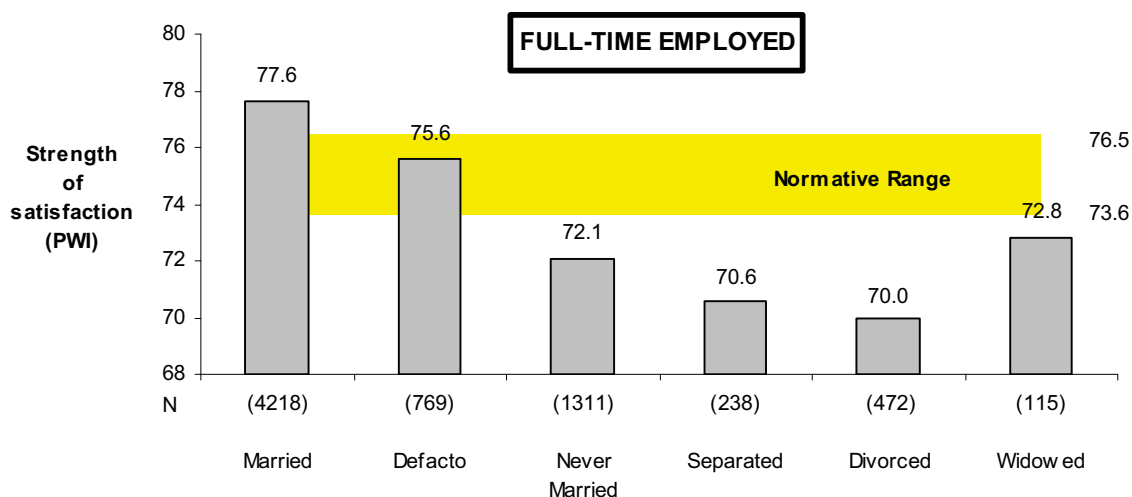


Figure 7.12: Marital Status x Full-time Employment: **Personal Wellbeing Index**

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 10.2% of the widowed group are full-time employed compared with 52.7% of the married group.

The data presented in Table A7.3, also show how the negative effects of unemployment are somewhat buffered through marriage (Figure 7.13). The combination of divorce or separation and unemployment is devastating for personal wellbeing.

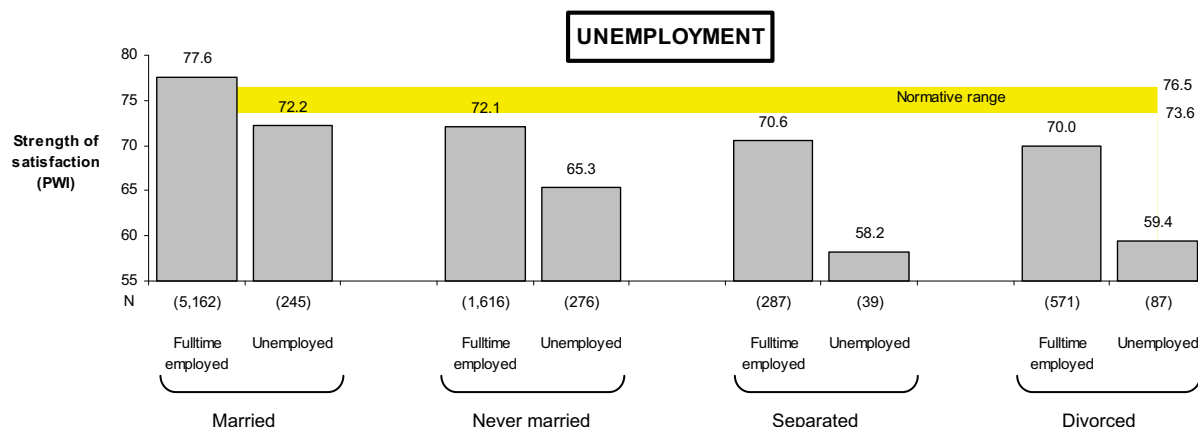


Figure 7.13: Marital Status vs. Employed/Unemployed: **Personal Wellbeing Index**

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 (-5.4 points), never married (-6.8 points), separated (-12.4 points), or divorced (-10.6 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) are shown below.

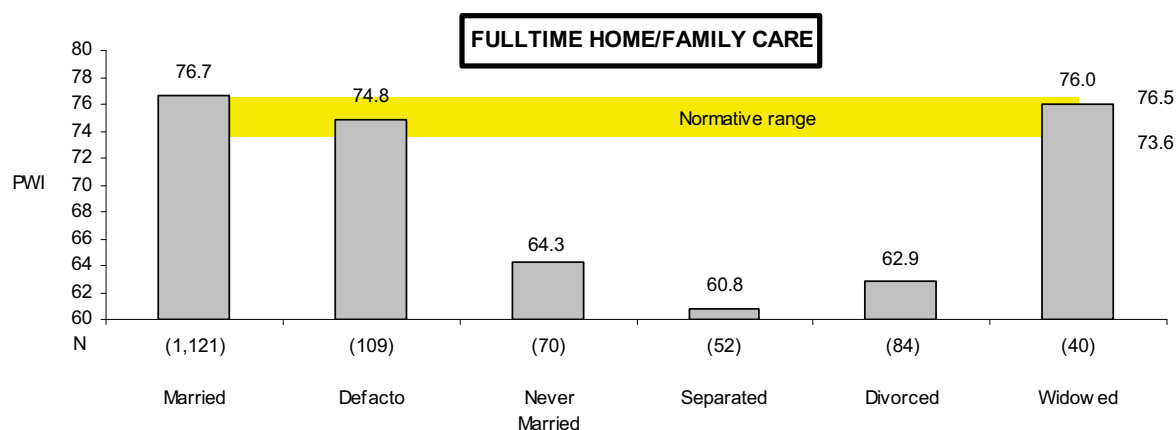


Figure 7.14: Marital Status vs. Full-time Home or Family Care (cumulative data)

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*

These results come from Table A7.2 (combined sample) and A7.4 (Part-time Work Status: combined data).

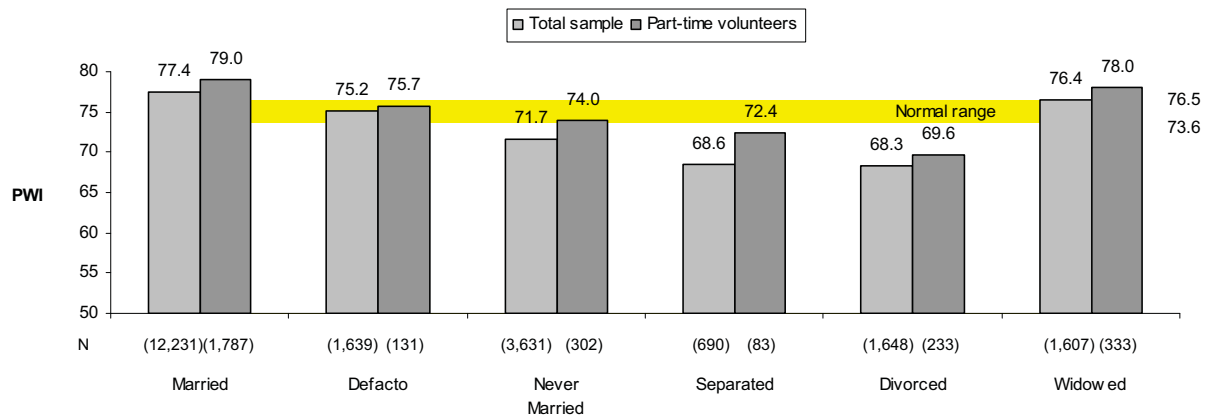


Figure 7.15: Marital Status x Part-time Volunteering (Personal Wellbeing Index)

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 (+1.3 points).

This difference, between the separated and divorced groups is very interesting. The 1.3 point advantage for the divorced group is consistent with the 1-2 point advantage for the other groups. But the 3.8 point advantage for the separated group is very much more substantial.

An explanation may be as follows:

- People with high SWB set-points tend to volunteer. Thus, the general 1-2 point advantage across the marital groups reflects this difference.
- 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 2-3 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. A7.3) who engage in part-time voluntary work is as follows:

	% of part-time volunteers
Married	18.2
Defacto	9.8
Never married	10.3
Separated	15.2
Divorced	18.8
Widowed	24.4

The following conclusions may be drawn:

- (1) There is no simple association between the probability of volunteering and having or not-having a partner.
- (2) People in a married relationship are about twice as likely to be part-time volunteers as people in defacto relationships. This may be because the married group is older.
- (3) 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.

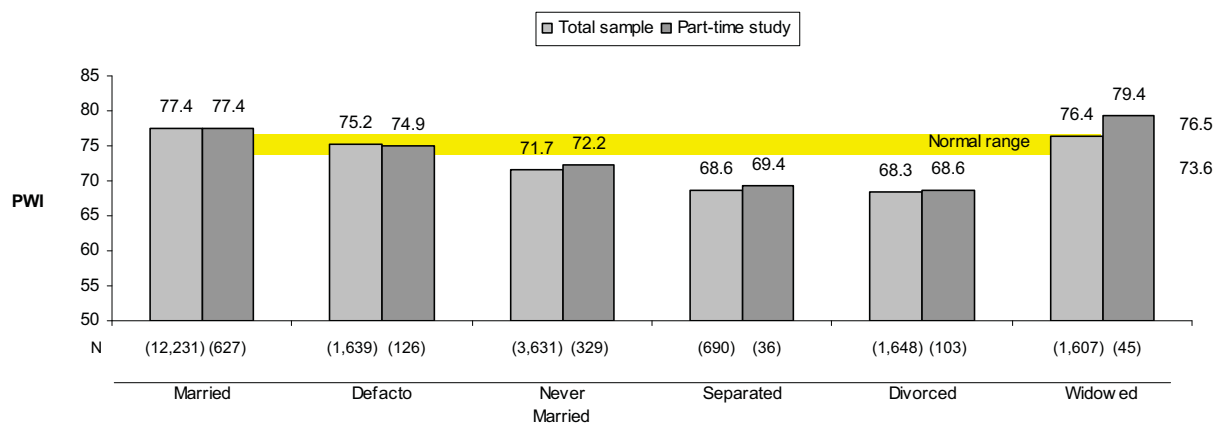


Figure 7.16: Marital Status x Part-time Study (PWI)

Of all the groups, the positive effects of part-time study are most evident for people who are widowed. 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 outgoing.

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*

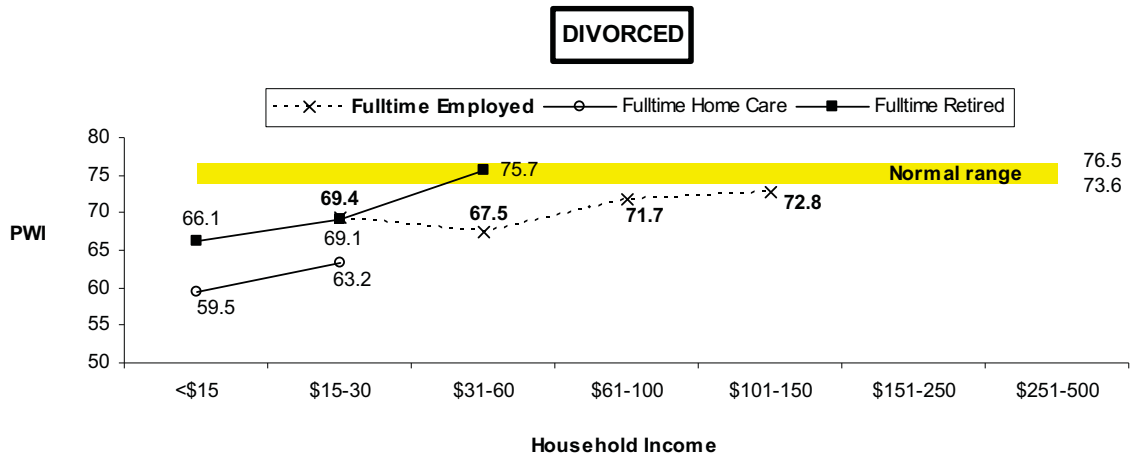


Figure 7.17: **Divorced** x Work Status x Income

For people who are divorced, income has little impact if they have a fulltime job. Even with an income of \$101-150K (N=57) 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 are way 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.

7.4.2. *Never Married*

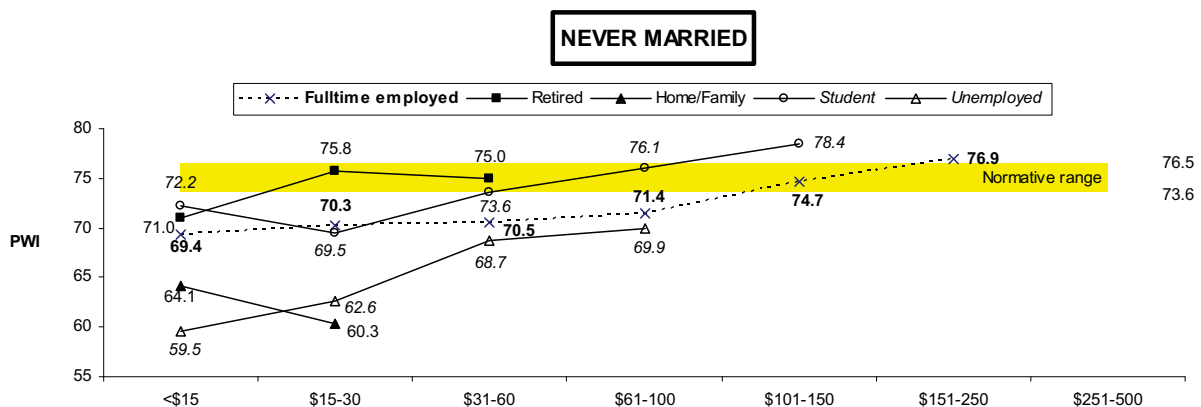


Figure 7.18: **Never Married** x Work Status x Income

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 10.4 points from <\$15K to \$61-100K. Full-time students show a 3.9 point gain over this income range.

7.5. Regressions of Personal Wellbeing Index Domains Against Life as a Whole

These regression are presented in Tables A7.13 to A7.18 (combined surveys)

Table 7.1: Regressions: Marital Status

Domain	Normative (S19) sr ²	Married sr ²	Defacto sr ²	Never married sr ²	Separated sr ²	Divorced sr ²	Widowed sr ²
1. Standard	3.9	6.8	5.4	4.5	4.9	5.4	6.3
2. Health	1.3	0.7	0.7	0.9	0.1	0.3	0.4
3. Achieving	7.5	4.2	4.8	7.8	4.8	4.8	2.8
4. Relationships	0.5	3.2	3.0	1.4	4.3	2.3	2.4
5. Safety	0.0	0.0	0.1	0.1	0.1	0.1	0.2
6. Community	0.5	0.3	0.3	0.3	0.1	0.2	0.4
7. Future Security	0.8	0.4	0.7	0.4	0.6	0.4	0.4
Unique	14.5	15.6	14.9	15.3	14.6	13.4	12.9
Shared	40.9	32.2	31.9	35.9	30.4	37.1	30.0
R ² (adjusted)	55.4	47.8	46.8	51.2	45.0	50.5	42.9
N		14,176	1,859	4,156	770	1,837	1,730

Shade = significant

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.

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 and the B for Safety is negative.

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.

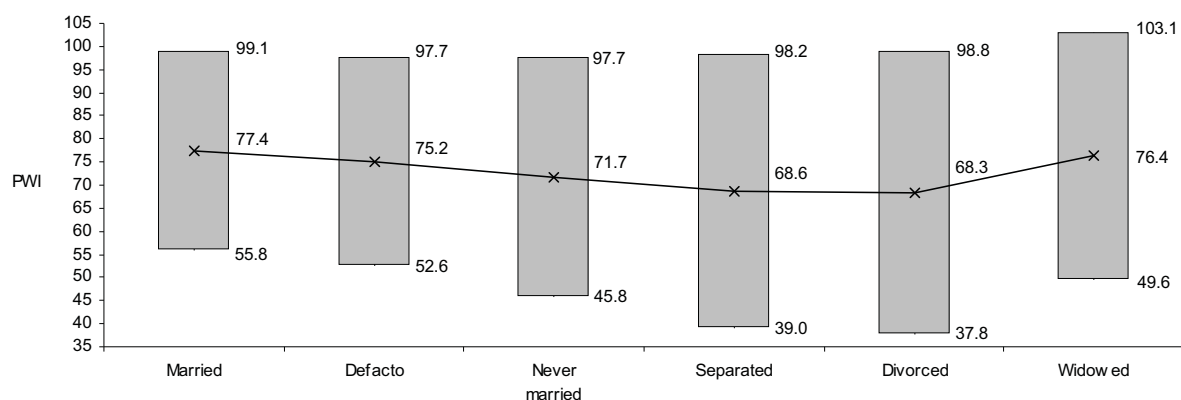


Figure 7.19: Marital Status Normative Ranges for Personal Wellbeing Index (individual data)

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 form 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.

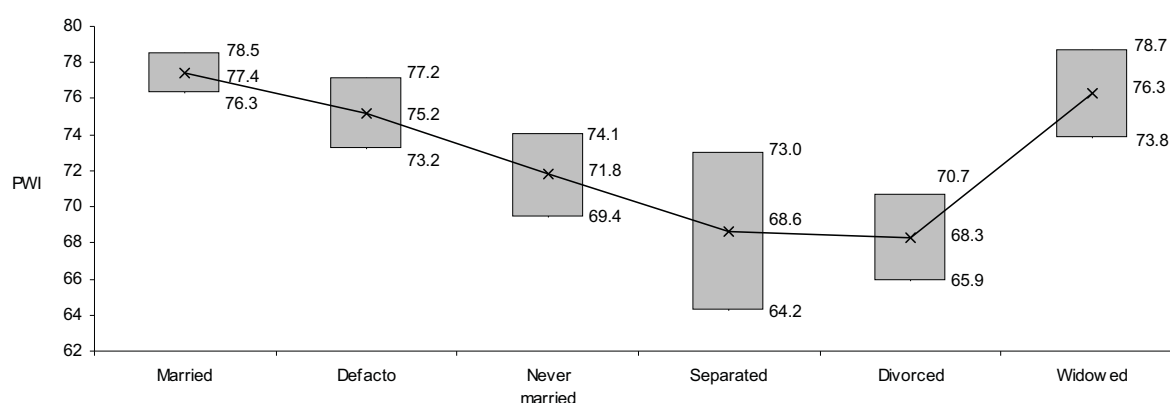


Figure 7.20: Marital Status Normative Ranges for Personal Wellbeing Index (survey mean scores)

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 mean sample sizes for survey range from about 1,100 (Married) to 60 (Separated). And, indeed, these two groups have the smallest x 2SD range (1.96 points) and largest range (10.08 points) respectively. However, there is more to this differential range than simply sample size. The top of these two ranges differ by 5.5 points while the bottom of the ranges differ by 12.1 points. In other words, there appears to be a systematic propensity for the separated group mean score to vary in a downward, than in an upward direction. 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.

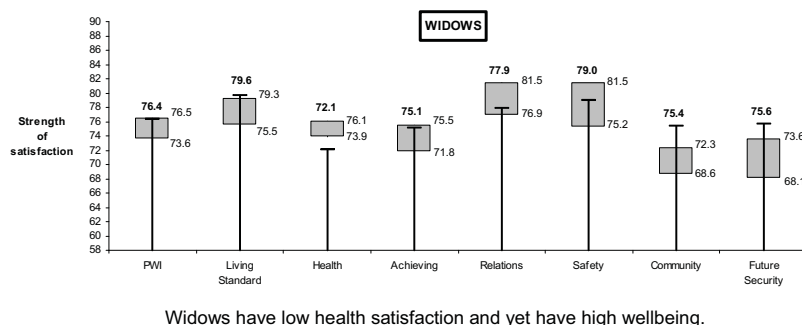
Widows have an average level of wellbeing that lies at the top of the normal range. This is despite low income for this group.

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.

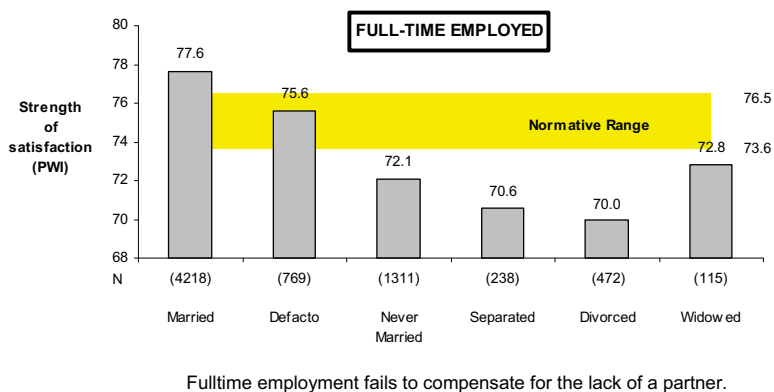


2. Widows have relatively low health satisfaction. This is probably due to the burden of accumulated medical condition, that yield pain, such as arthritis.

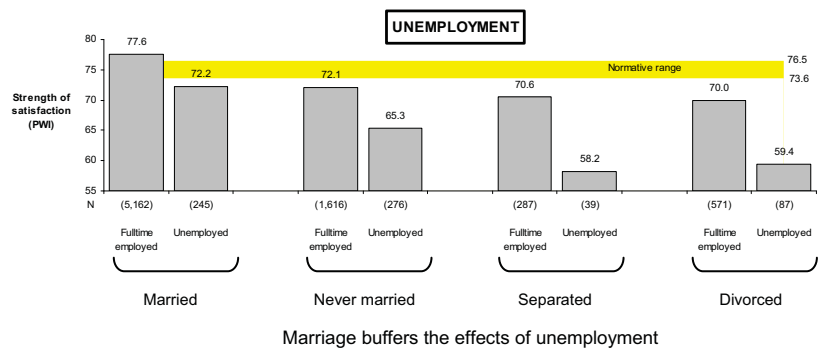
Despite this, their overall wellbeing lies at the top of the normal range. This is due to compensating high levels in other domains.



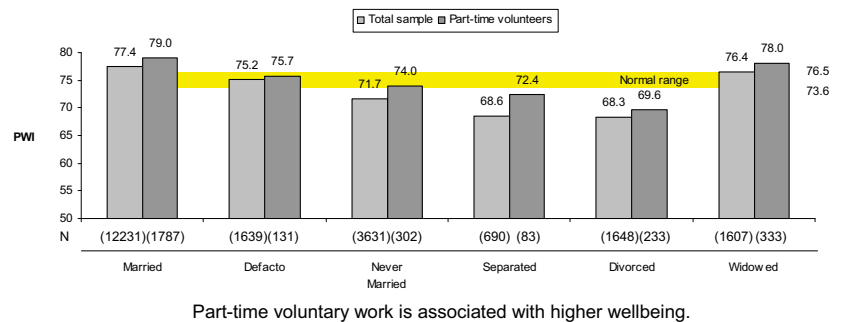
3. The fact of full-time employment is not, of itself, able to bring all marital status groups into the normal range. Thus, the idea that work, of itself, has some intrinsic value to enhance personal wellbeing is not supported.



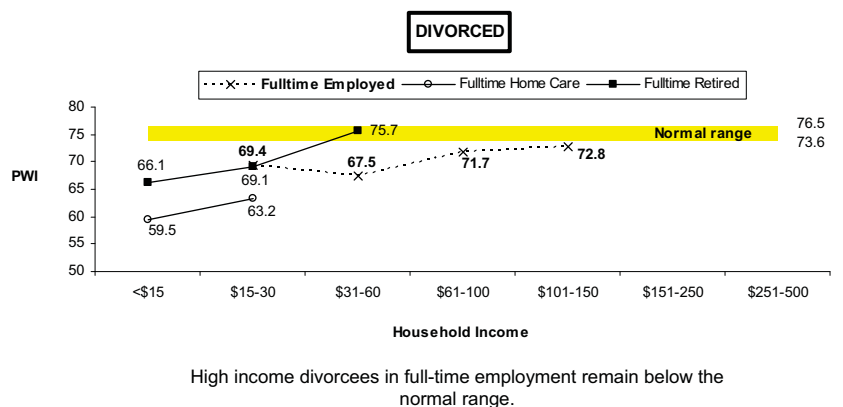
4. The negative effect of unemployment on wellbeing is partially buffered through marriage. However, the combination of separation/divorce and unemployment is devastating, yielding one of our lowest group mean scores for personal wellbeing (58.2).



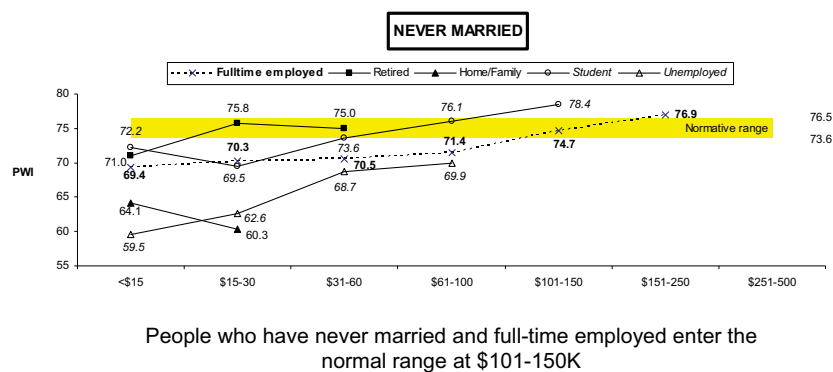
5. Part-time volunteers have higher wellbeing than non-volunteers. The group to benefit most are people who are separated. This, may imply that the positive effect of volunteering is most evident in the early stages and dissipates as the activity become routine.



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.



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 ---

	Survey 19		Combined Surveys 9-19	
	N	% Total Sample	N	% Total Sample
Full time paid employment	777	48.4%	8812	50.8%
Full time retired	441	27.4%	4645	26.8%
Semi retired	64	4.0%	520	3.0%
Full time volunteer	12	.7%	112	.6%
Full time family duties	133	8.3%	1614	9.3%
Full time study	101	6.3%	906	5.2%
Unemployed	79	4.9%	742	4.3%
Total	1607	100.0%	17351	100.0%

Please tell me whether either of the following part-time categories applies to you at the present time. Are you ---

	Survey 19		Combined Surveys 9-19	
	N	% Total Sample	N	% Total Sample
Part time paid work	253	40.2%	3212	40.8%
Part time voluntary work	266	42.3%	2911	37.0%
Part time paid & voluntary work	0	0.0%	465	5.9%
Part time study	110	17.5%	1281	16.3%
Total	629	100.0%	7869	100.0%

	Survey 19		Combined Surveys 9-19	
	N	% Total Sample	N	% Total Sample
Looking for Work?				
Yes	219	11.5%	219	11.5%
No	1690	88.5%	1690	88.5%
Total	1909	100.0%	1909	100.0%

The above data, taken from Table 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 19 and the combined data from Surveys 9-19.

8.1. Overall Distribution

The basic statistics are provided above and elaborated in Table A8.3 which combines full-time and part-time work. It is interesting that, at the time of Survey 19, 11.5% of the sample are looking for work. This is almost the same as the average across surveys (11.7%) and far higher than the proportion of the sample who are unemployed 3.8%. Thus, this ‘Looking for Work’ category includes people who are under-employed, dissatisfied with their current employment, or in part-time work.

8.2. Work Status and Wellbeing

Results are taken from Table A8.5 for Survey 19 and Table A8.6 for combined surveys.

8.2.1. Full-time Work Status: Personal Wellbeing Index (combined surveys)

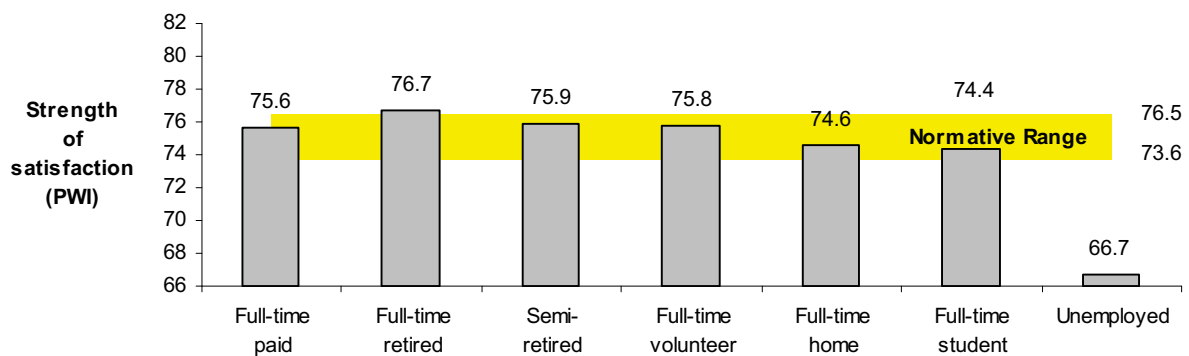


Figure 8.1: Work Status: **Personal Wellbeing Index** (combined data)

Most groups approximate the normal range (Table A8.6). The exceptions are people who are fulltime retired, who have a very high wellbeing, and people who are unemployed who have lower wellbeing, as expected.

8.2.2. Personal Domains

The personal domains (Table A8.6) generally show the same pattern as Figure 8.1 with the exception of Health.

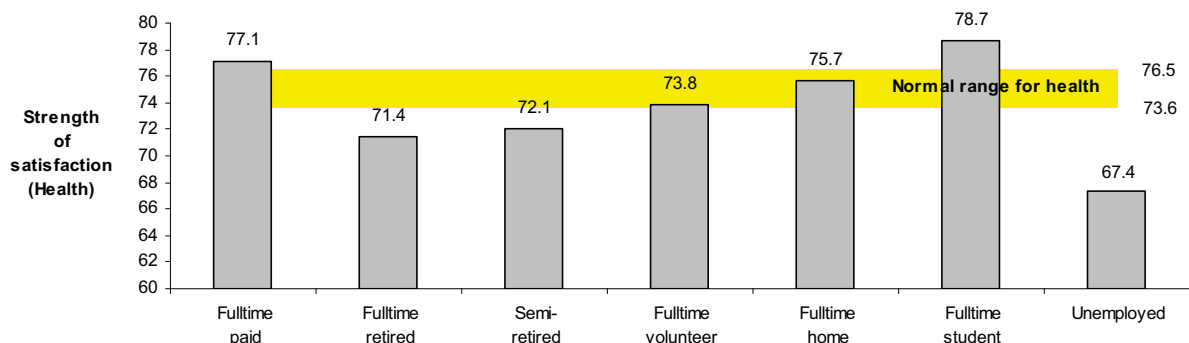


Figure 8.2: Work Status: **Satisfaction with Health** (Combined Data)

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 8.2). 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 as Health Related Quality of Life indexes, as measures of overall wellbeing.

8.2.3. Domain profile of Full-time work-status groups

The domain profile for Full-time Employed (N = 8,035) is as follows (Table A8.6):

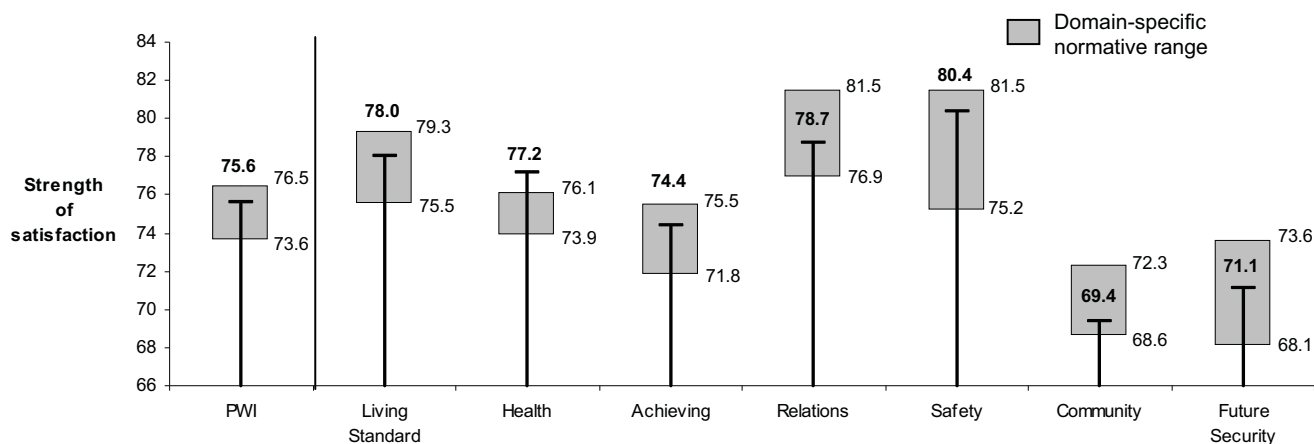


Figure 8.3: Work Status: **Full-time Employed** x Personal Domains (Combined Data)

This domain profile is remarkable in so far as all domain values fall within the normal range except Health which lies +1.0 points higher.

The domain profile for Full-time Retired (N = 4,204) is as follows (Table A8.6):

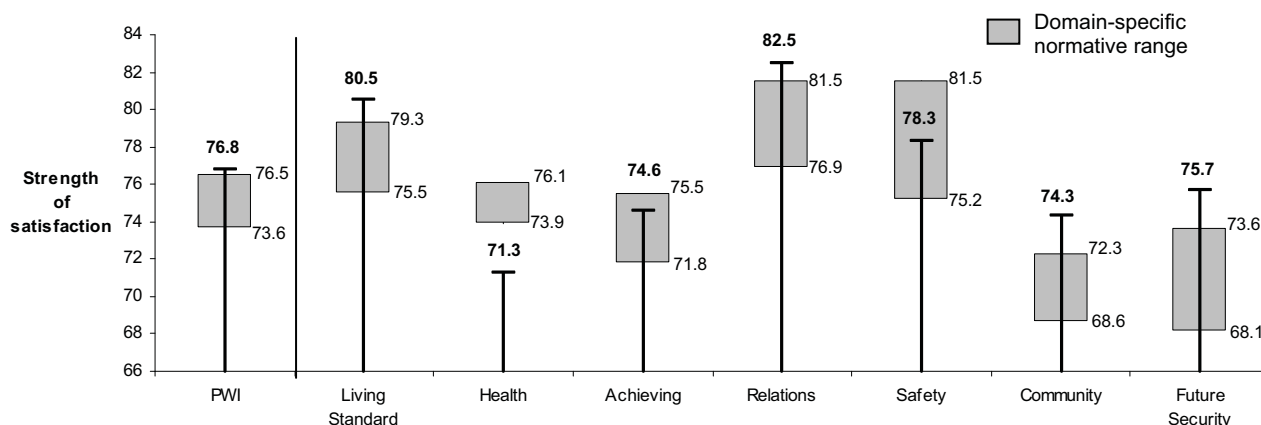


Figure 8.4: Work Status: Full-time Retired x Personal Domains (Combined Data)

Most notable in this group is health satisfaction that lies 2.5 points below the normative range. Yet this group has a level of subjective wellbeing that lies slightly (0.4 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 = 456) is as follows (Table A8.6):

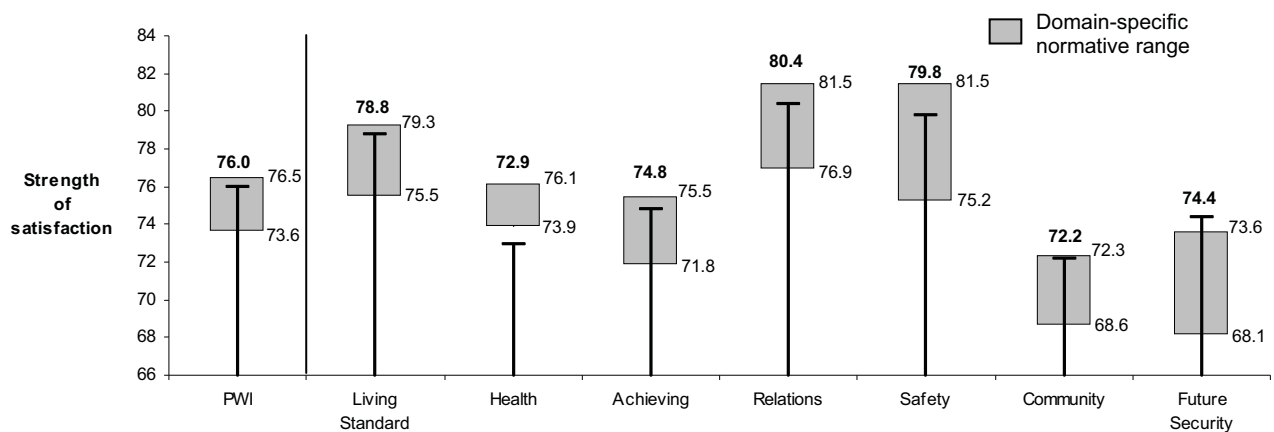


Figure 8.5: Work Status: Semi-retired x Personal Domains (Combined Data)

While Health lies -0.9 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=100) is as follows (Table A8.6):

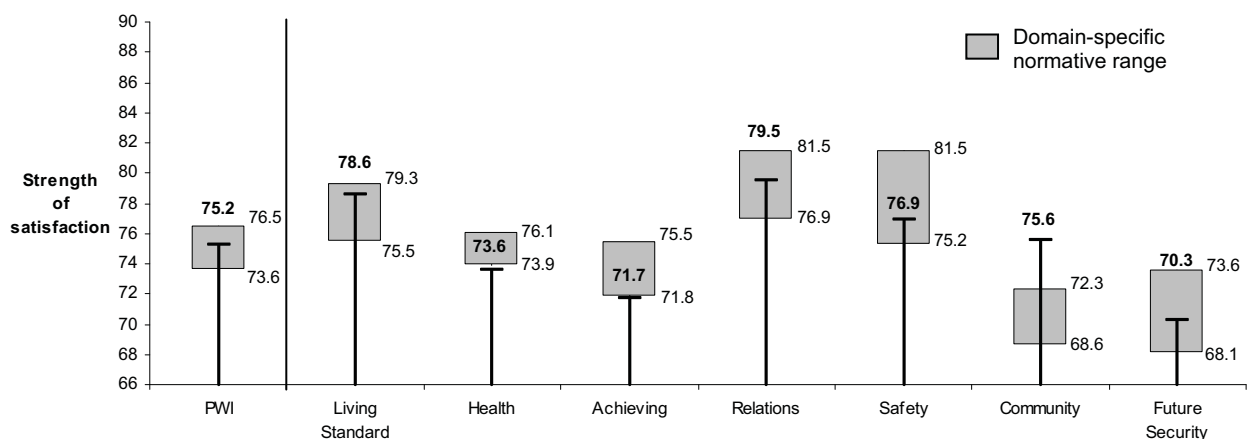


Figure 8.6: Work Status: **Full-time Volunteers** x Personal Domains (Combined Data)

It is notable that despite the spectacular performance of Community (+3.3 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 (71.7) is well below that of people who are full-time employed (74.4: Figure 8.3).

The domain profile for Full-time Home or Family Care (N = 1,481) is as follows (Table A8.6):

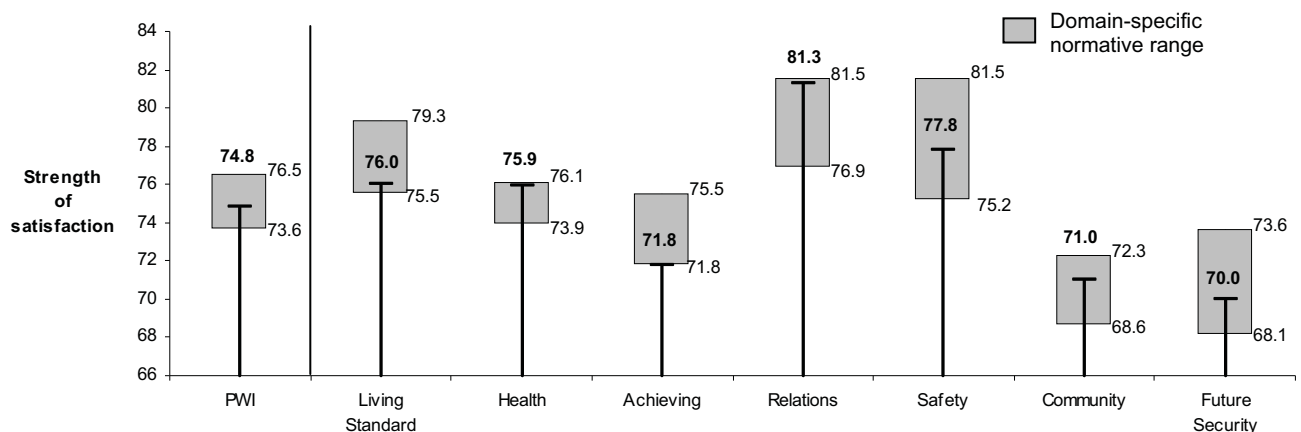


Figure 8.7: Work Status **Full-time Home or Family Care** (Combined Data)

The domain most in deficit is 'Achieving in Life' which is 0.1 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 = 805) is as follows (Table A8.6):

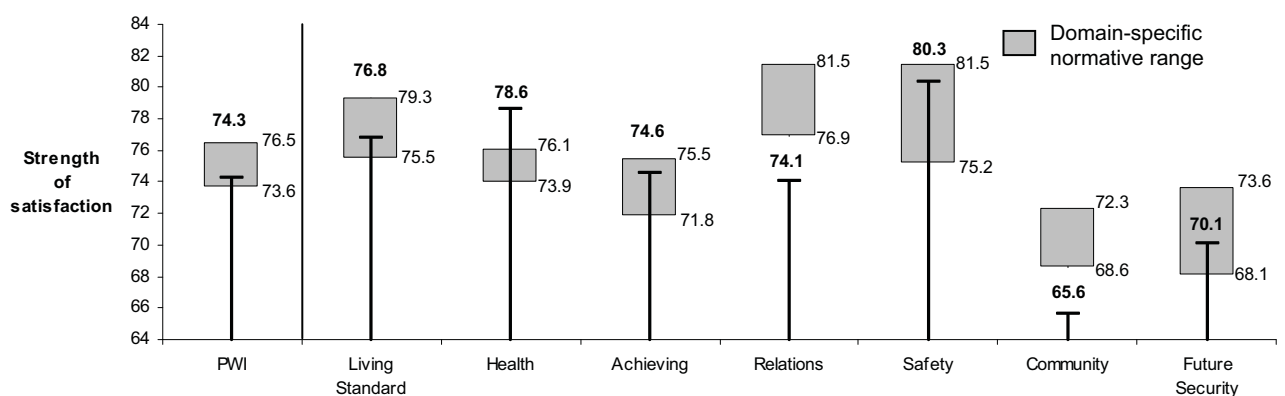


Figure 8.8: Work Status **Full-time Students** x Personal Domains (Combined Data)

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 -2.9 points; Community -3.0 points). These deficits are marginally compensated by higher than normal health satisfaction (+2.4 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 = 663) is as follows:

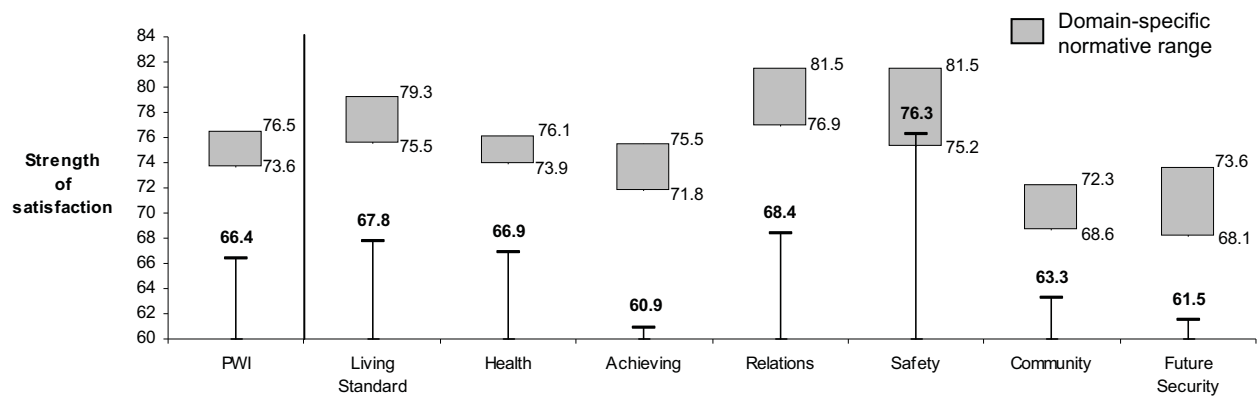


Figure 8.9: Work Status: **People who are Unemployed** x Personal Domains (combined data)

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.

8.2.3.1. Unemployed x Household Income

The results for Survey 19 are found in Table A8.7 and for the combined surveys in Table A8.8.

The domain profile for people who are unemployed with a household income <\$15K (N=189) is as follows.

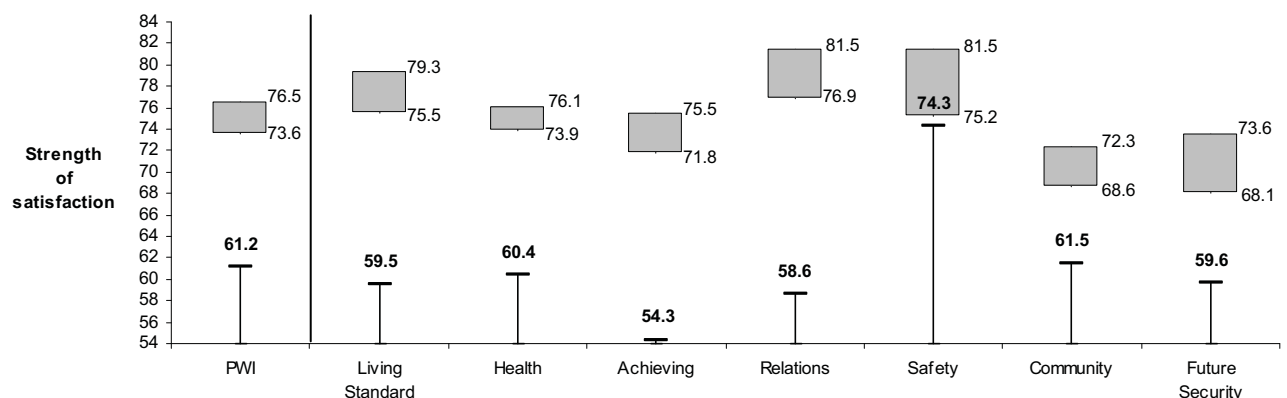


Figure 8.10: Unemployed x \$<15,000 (combined data)

Despite the fact that the domain scores are lower than the combined unemployed sample (Figure 8.9) 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=145) is as follows:

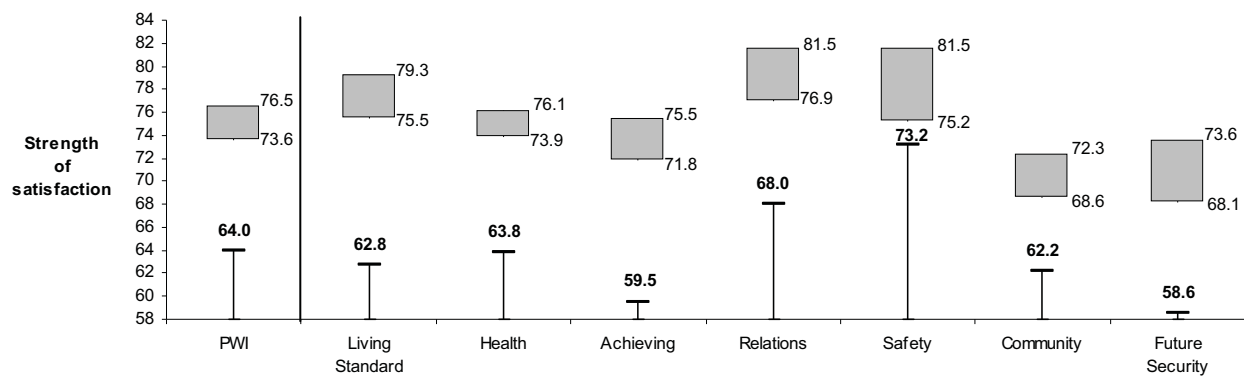


Figure 8.11: Unemployed x \$15,000-\$30,000

While the Personal Wellbeing Index has risen by 2.8 points and the domains have contributed very unevenly as:

- The most spectacular rise is Relationships (+9.4 points) followed by Achieving (+5.2), Health (+3.4) and Living Standard (+3.3).
- The other three domains changed by <2 points.

The domain profile for people who are unemployed with a household income of \$31-60K (N=107) is as follows:

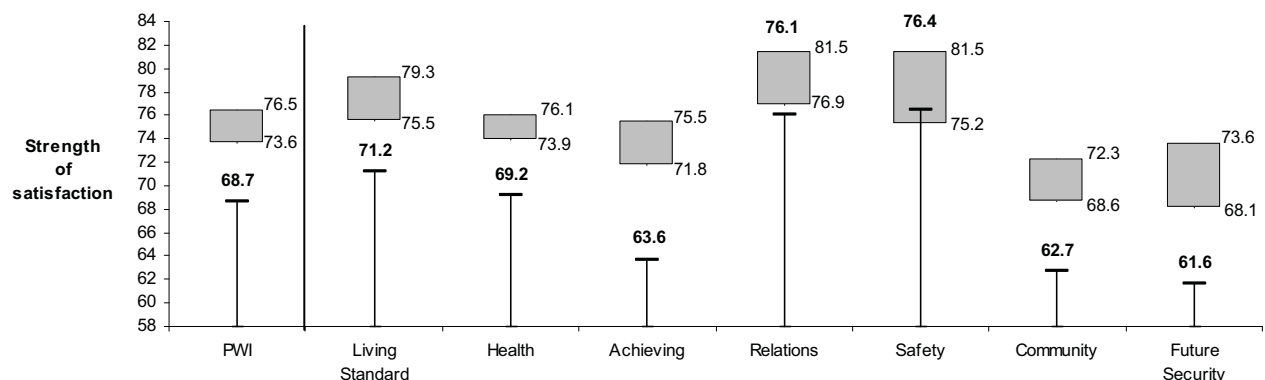


Figure 8.12: Unemployed x \$31,000-\$60,000

The Personal Wellbeing Index has risen by 4.7 points and the same four domains have shown the largest rises as Relationships (+8.1 points), Achieving (+4.1), Health (+5.4) and Living Standard (+8.4).

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=67) is as follows:

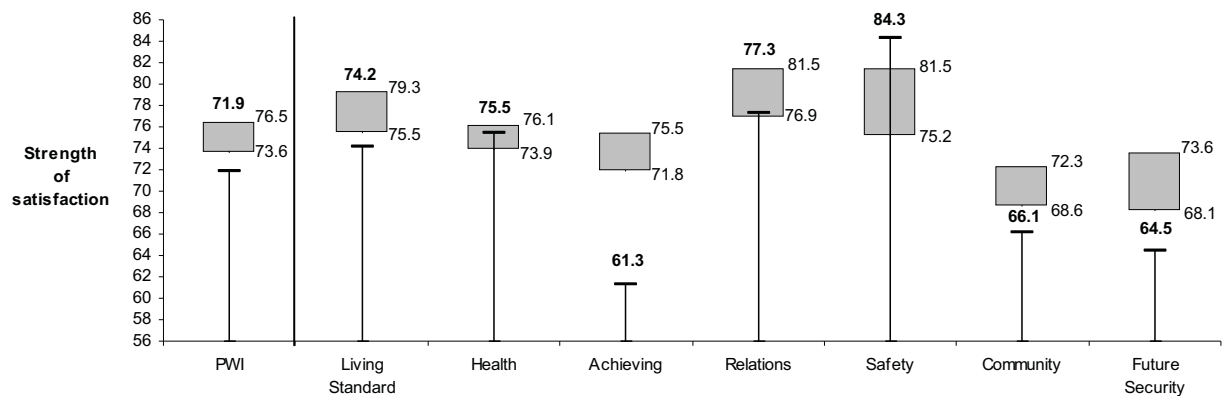


Figure 8.13: Unemployed x \$61,000-\$100,000

The Personal Wellbeing Index has risen by 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 (+6.3 points), which puts it into the normal range.
- Safety also shows a strong rise (+7.9 points) to actually lie above the normal range, while Community has risen by 3.4 points.
- All other domains have risen by 3.0 points or less.
- The most notable deficit is in Achieving which remains 10.3 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=28) is as follows:

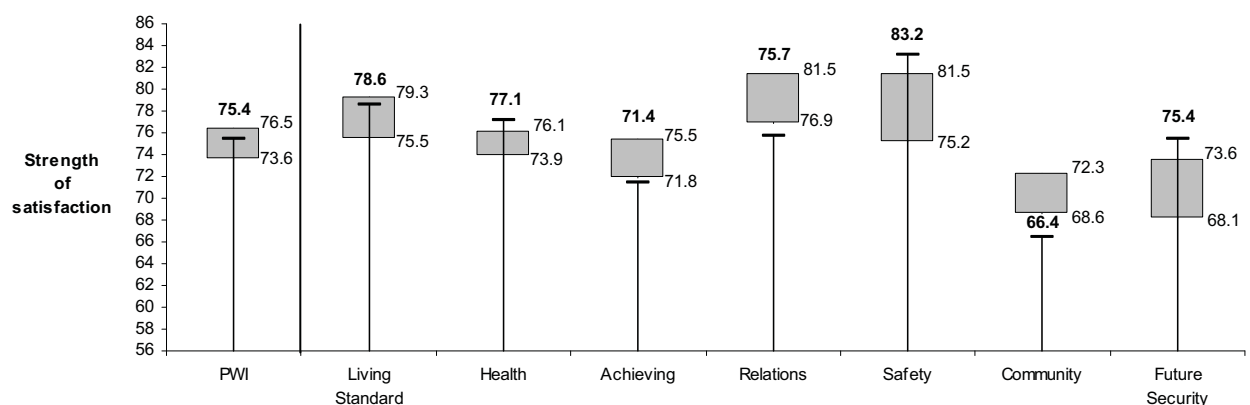


Figure 8.14: Unemployed x \$101-150K

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.

8.2.4. *Life as a Whole*

These results (Table A8.6) show much the same pattern as Figure 8.1.

8.2.5. *National Wellbeing Index*

These data are drawn from Table A8.6.

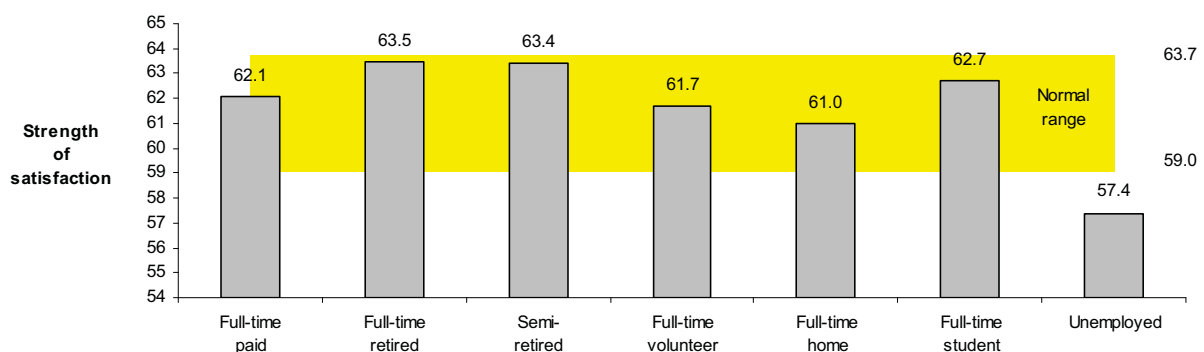


Figure 8.15: Work Status: National Wellbeing Index (combined sample)

All groups, with the exception of people who are unemployed, lie within the normative range.

8.2.6. *National Domains*

The general pattern of the national domains (Table A8.6) is similar to the National Wellbeing Index (Figure 8.15). The domain of Satisfaction with Government is shown below.

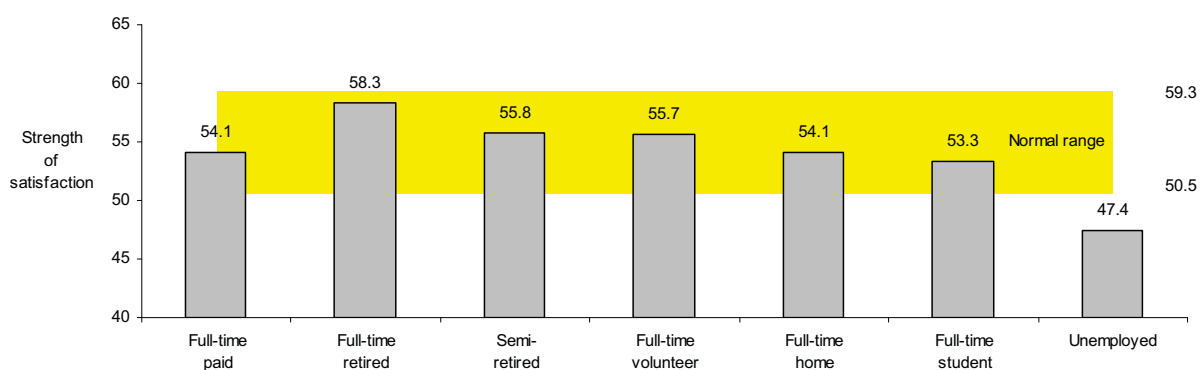


Figure 8.16: Work Status: Satisfaction with Government (combined sample)

The work-status group most satisfied with Government are the people who are full-time retired. Their level of satisfaction (58.3 points) lies 0.9 points above the normal range.

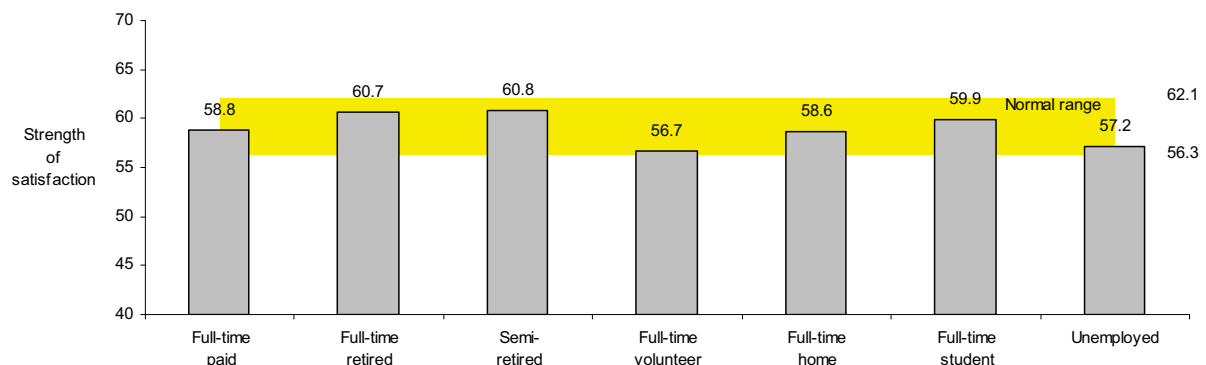


Figure 8.17: Work Status: Satisfaction with the Environment (combined sample)

It is interesting that all of these groups lies within the normal range, including people who are unemployed.

8.3. Looking for Work

8.3.1. Personal Wellbeing Index

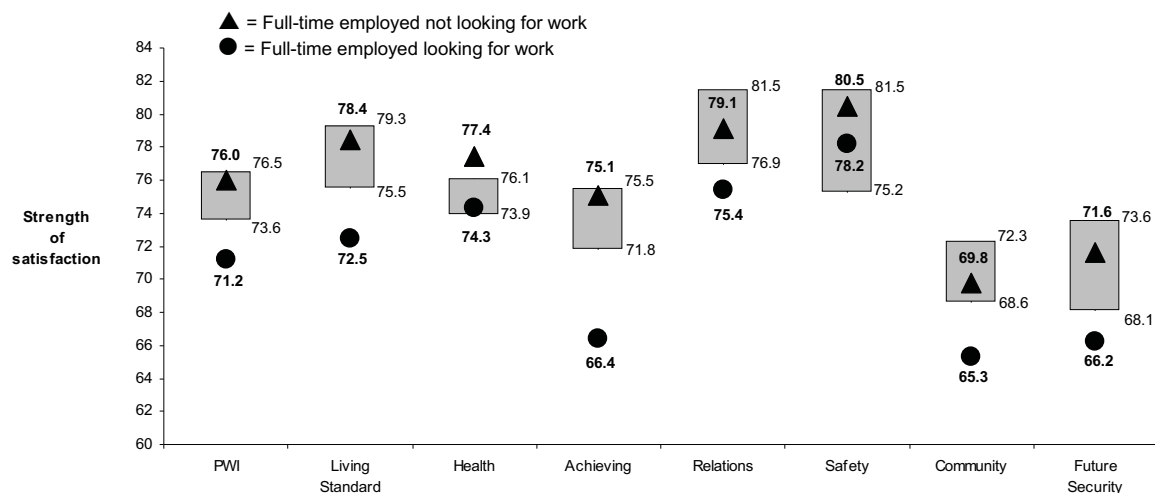


Figure 8.18: Looking for Work: Personal Wellbeing Index (combined data)

Table A8.9 and A8.10 show the Personal Wellbeing Index and distribution of people looking/not looking for work. Tables A8.11 and A8.12 show these data for people either in full-time work or unemployed. It is evident that the 10.5% of people who are employed full time and looking for work have a level of personal wellbeing that is 2.3 points below the normative range and 5.0 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.

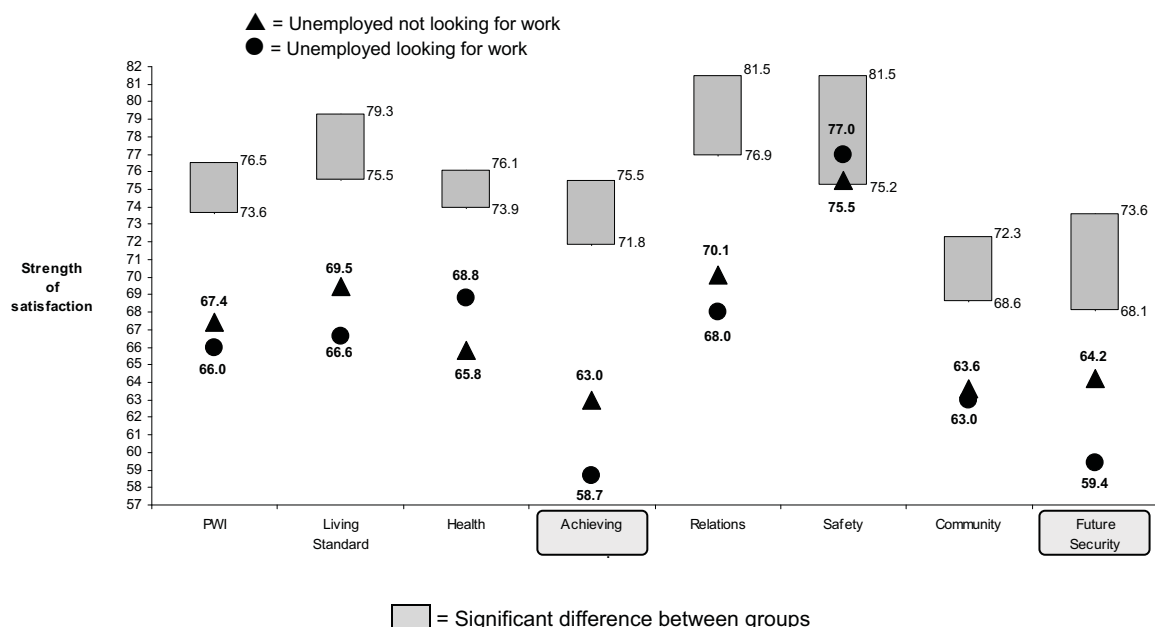
Figure 8.19 shows the domain performance of fulltime employed who are looking for work. The people employed full-time who are not looking for work have normal-range domains. For people who are looking for work, only the domain of Safety remains within the normal range.

Figure 8.19: Work Status: **Full-time Employed Looking/Not Looking for Work (combined data)**

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 A8.10 and A8.12).

Figure 8.20: Work Status: **Unemployed Looking vs. Not Looking for Work**

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.

8.4. Full-time and Work Status plus Part-time Voluntary Work

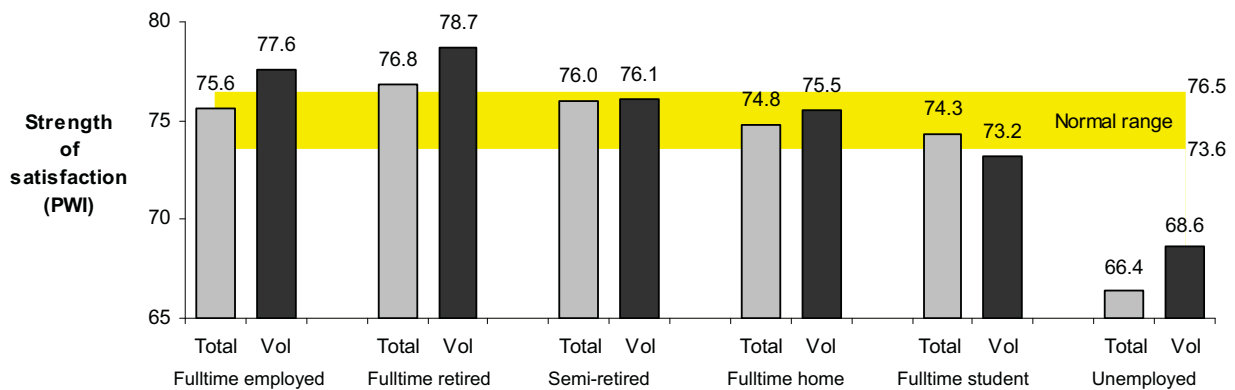


Figure 8.21: Full-time Work Status vs. Full-time Work Status plus Part-time Volunteer (combined data)

These data come from Tables A8.6 and A8.14. It can be seen that the only groups to show a reliable increase in their Personal Wellbeing Index associated with volunteering are fulltime employed (+2.2 points) full-time retired (+1.9) and unemployed (+2.2 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.

8.5. Employment Status x Gender

These results come from Table A8.15.

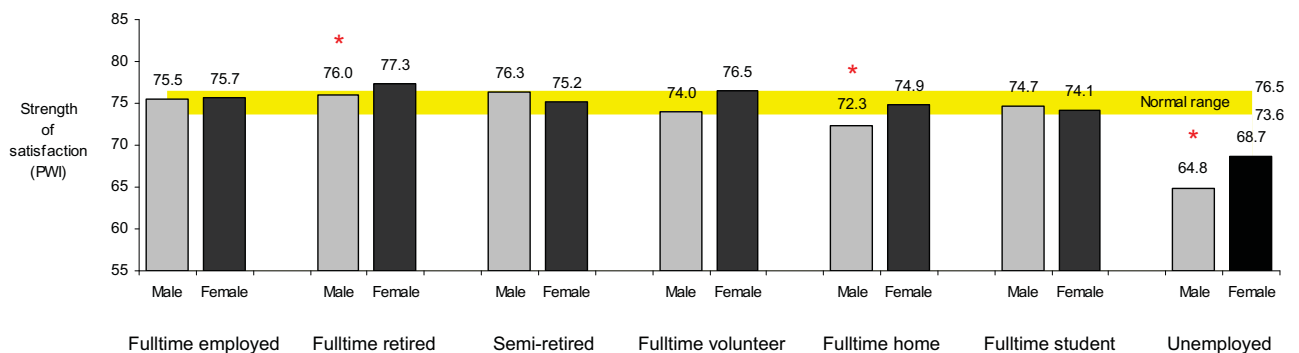


Figure 8.22: Work Status x Gender (combined data)

There are three situations in which the SWB of females significantly exceeds males. These are in full-time retirement (+1.3 points), full-time home (+2.6 points) and unemployment (+3.9 points). The most important of these is unemployment since, while both genders lie well below the normal range, males are very severely affected.

8.6. Normative Data

8.6.1. Normative Data Based on Individual Scores

These values have been taken from Table A8.16 and represent the accumulated data from Surveys 9-17. The number of people per cell range from 7,176 (Full-time, Paid employed) to 100 (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 to <50. This is somewhat surprising since their mean score is normal (75.1 points) but indicates that this group does contain some people who are at high risk of depression.

The other abnormal group, as expected, comprise people who are unemployed.

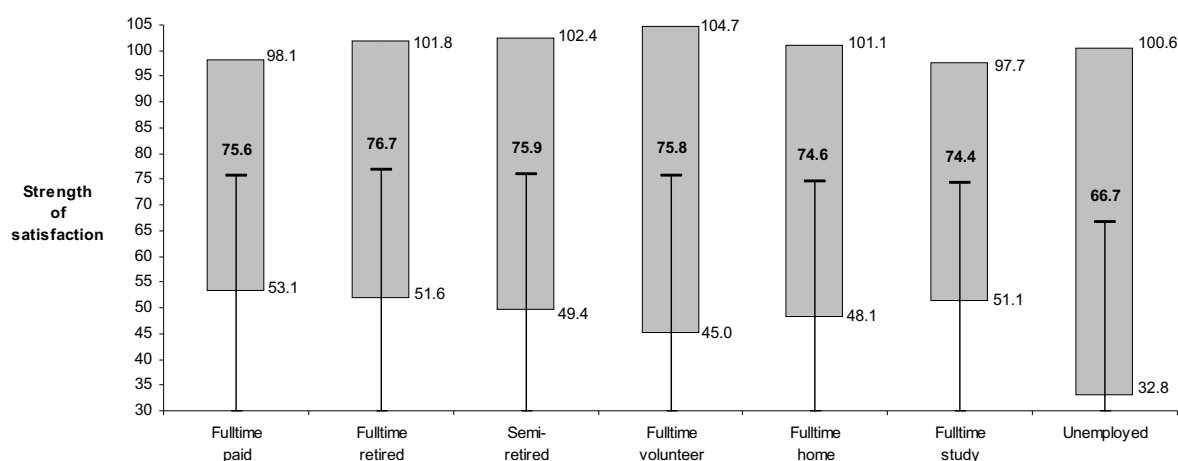


Figure 8.23: Normative Employment Status Data for Individuals

It is notable that all of the normative ranges approximately span the 50-100 range except Volunteers and Unemployed. The mean for the volunteers is quite normal and the increased range may be attributable to the small N. The Unemployed mean is far below normal and the normal range extends well into the levels <50 with heightened probability of depression.

8.6.2. Normative Data Based on Survey Mean Scores

These results are taken from Table A8.17.

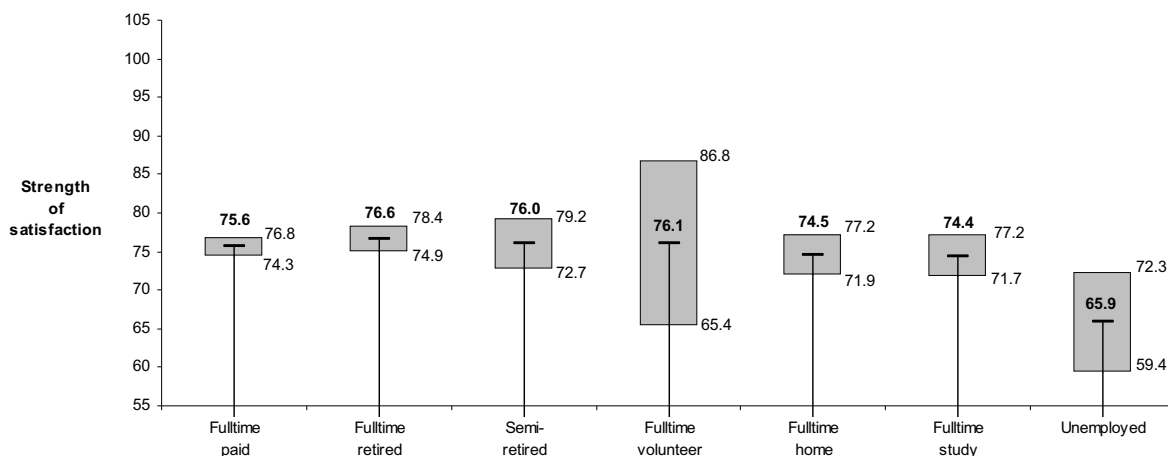


Figure 8.24: Normative Employment Status Data for Group Mean Scores

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.

8.7. 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 8.25.

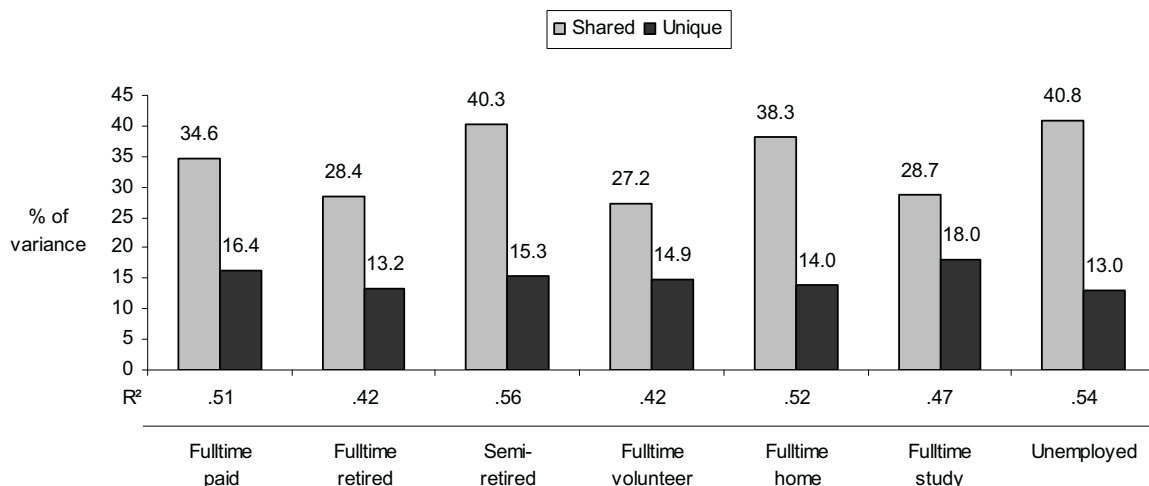


Figure 8.25: Regressions of the Personal Wellbeing Index Domains

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 R² range is 42 percent, from 42 (Retired, Volunteer) to 56 percent (Semi-retired).

The variation is mainly due to differences in shared variance with a range of 13.6 percent, from 27.2 (Volunteer) to 40.8 (Unemployed). The variation in the unique variance is only 5 percent, from 13.0 (Unemployed) to 18.0 (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.

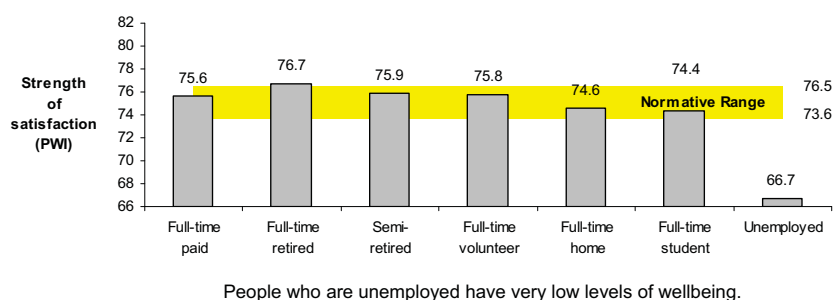
Table 8.1: The relationship between shared variance and the negativity of the downward extension group-specific normal range

Group	Rank order	
	Normal range	Shared variance
Unemployed	1	1
Volunteer	2	7
Home	3	3
Semi-retired	4	2
Study	5	5
Retired	6	6
Paid	7	4

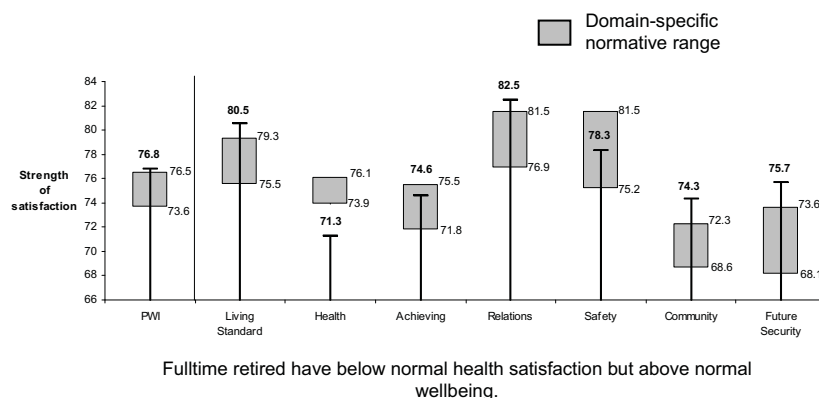
The group that are entirely out-of-sequence are the Fulltime Volunteers.

Dot Point Summary for Work Status

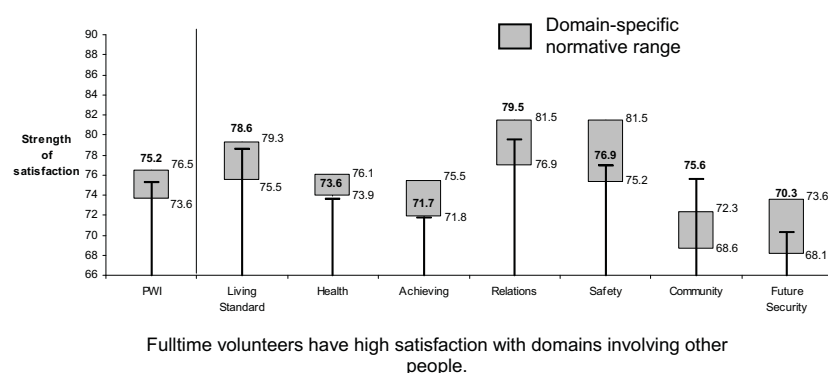
1. The personal wellbeing of most work-status groups falls in the normal range. People full-time retired lie above the normal range while people who are unemployed fall below.



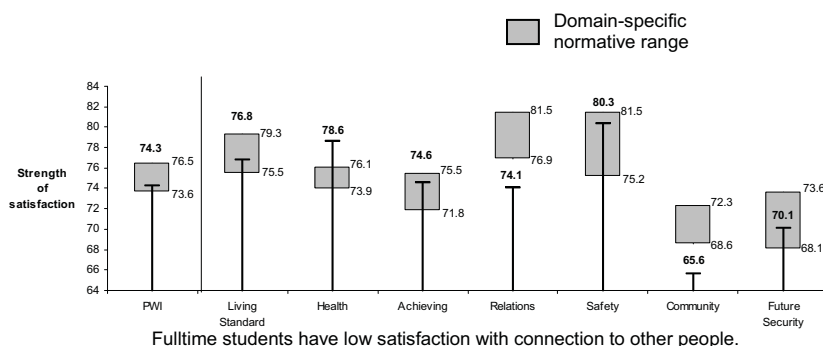
2. Even though full-time retired have lower than normal health satisfaction, their personal wellbeing is above normal (see above). This emphasises that measures of subjective health are invalid as measures of overall wellbeing.



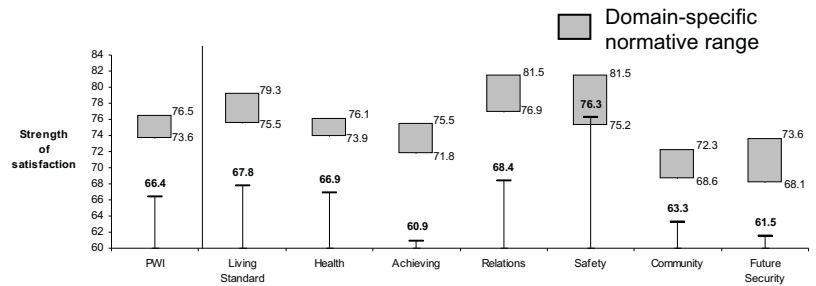
3. Even though full-time volunteers have low health satisfaction, they have higher than normal satisfaction with Community.



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.

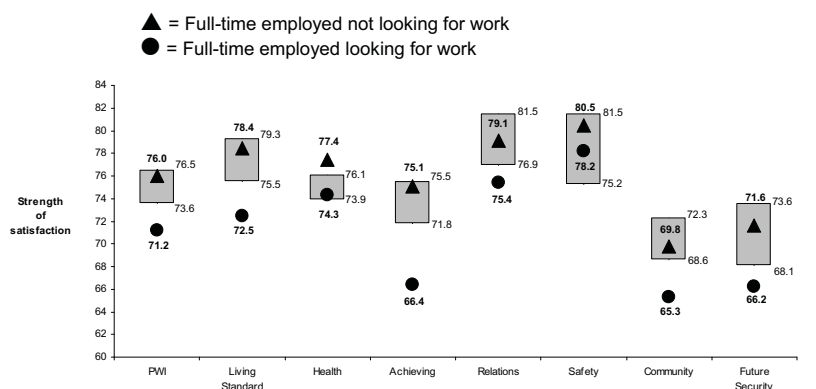


5. People who are unemployed have lower than normal wellbeing for all domains except safety.



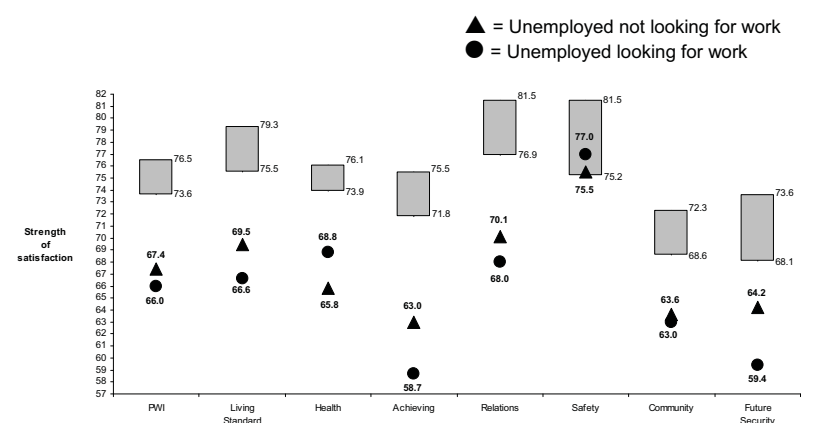
People who are unemployed have normal range satisfaction with safety.

6. The 10.5% of people who are Fulltime employed and yet 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.



Low satisfaction with 'Achieving in Life' may be diagnostic of poorly functioning employees.

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.

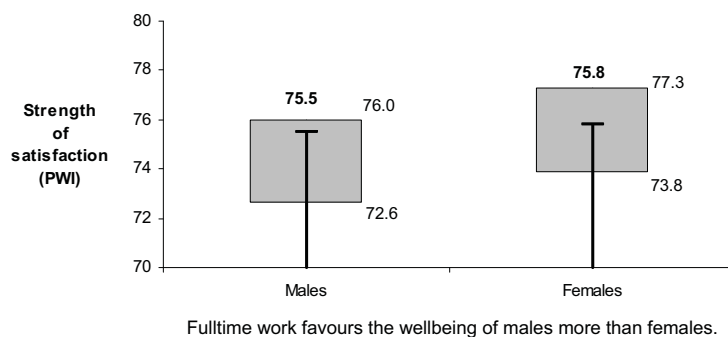


Looking for work makes no difference to the wellbeing of people who are unemployed.

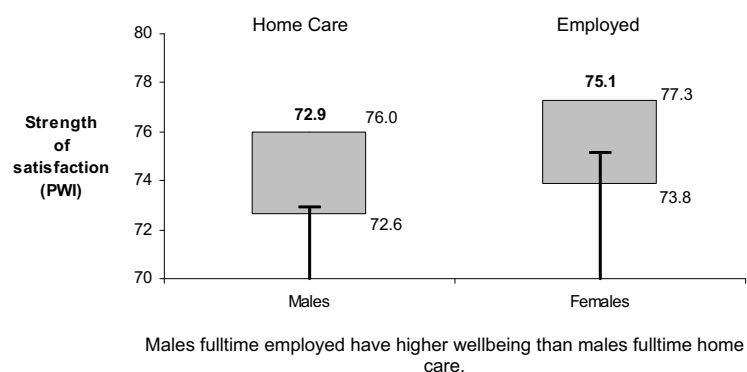
8. Engaging in part-time volunteer work has a marginal relationship with higher wellbeing for people who are unemployed. It does not bring their wellbeing into the normal range.



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



10. While males who are engaged in fulltime home or family care are positioned at the bottom of their normative range. Their wellbeing is -2.6 points below males who are fulltime employed. The wellbeing of full-time home care females is -0.7 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 A9.1). 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 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 and the Pre-Iraq war 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.

The first step in understanding this phenomenon is to document its strength relative to previous data. This is done below using the percentage values from all surveys as data to create a mean (50.7) and standard deviation (4.3) (Table A9.2).

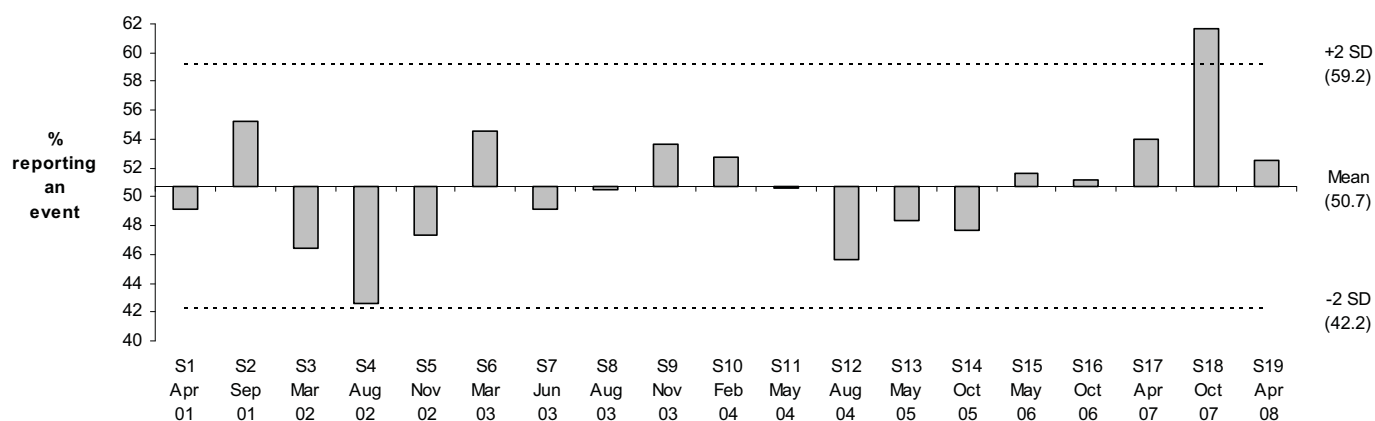


Figure 9.1: **Percentage of Respondents** Reporting the Experience of a Personal Life Event

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 no longer 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 19 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 uncertain. However, it was a period of 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:

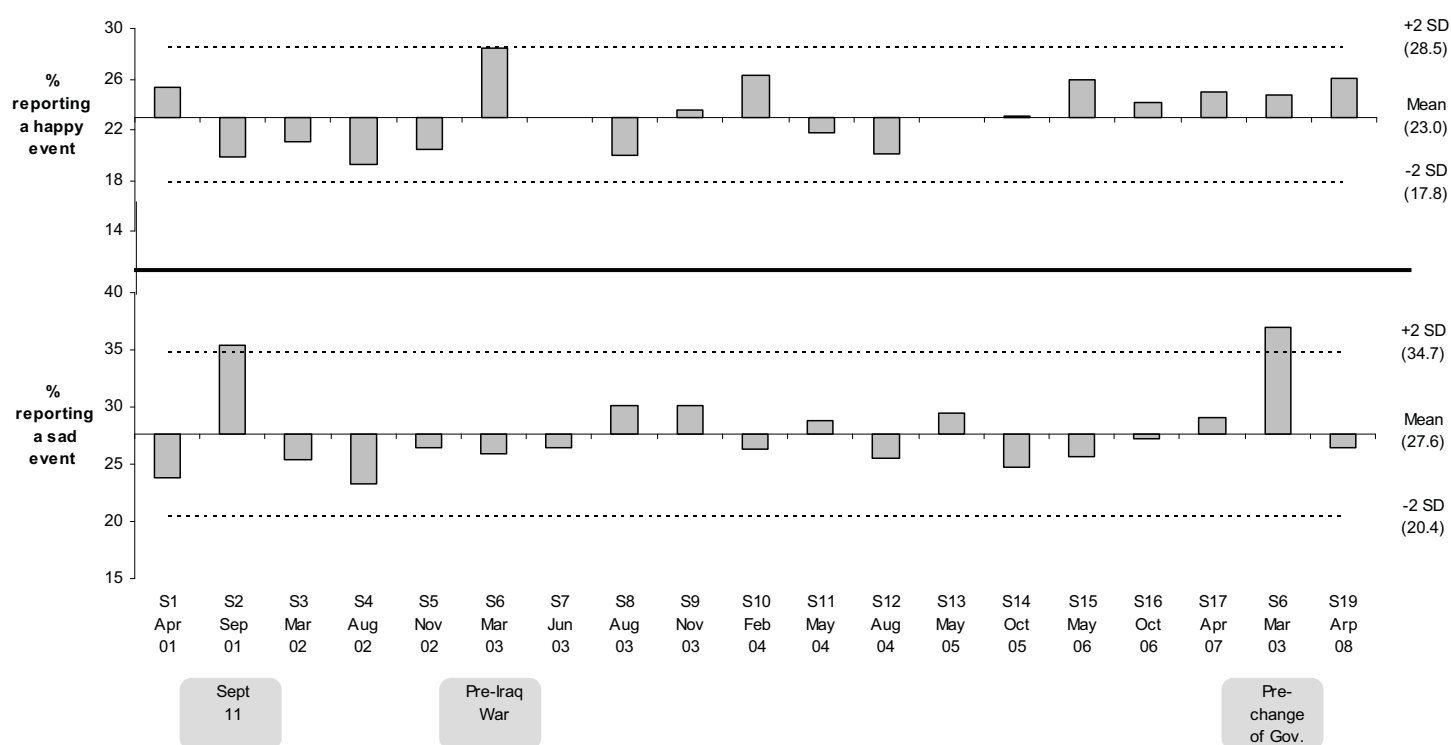


Figure 9.2: The Percentage of People Reporting a Happy or a Sad Event in Their Life

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 usually 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 $-.08$ (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 was marginally significant (the upper range was 28.3%) prior to Survey 18, now none of the changes in positive events exceed the normal range of values. It is notable that the significant rise in population wellbeing at Survey 12 (Olympic games) 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 justified, 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 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 (Total % events : Table A9.5 : Figure 9.3). Using the gender percentages from each survey as data, the overall gender difference is significant (Total: $t=3.235$, $p=.002$) (Table A9.6).

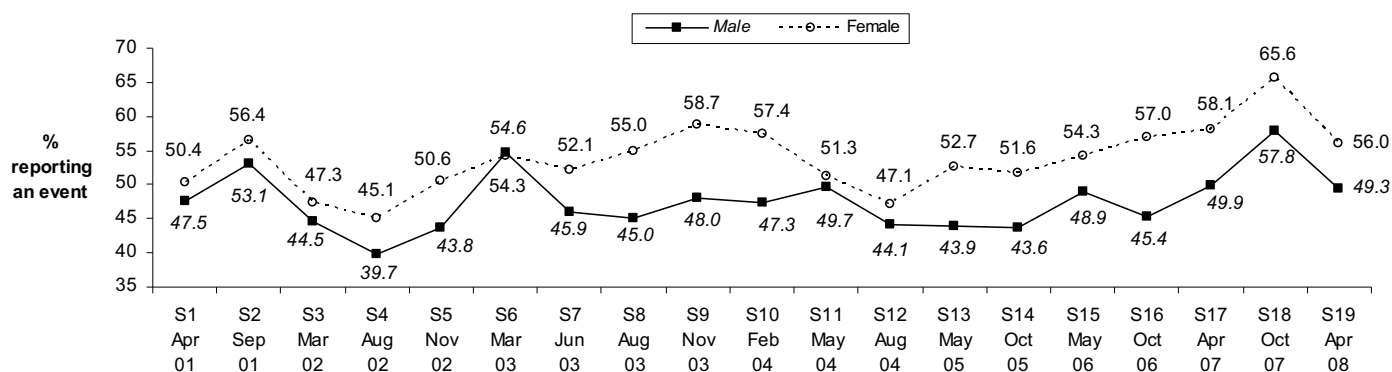
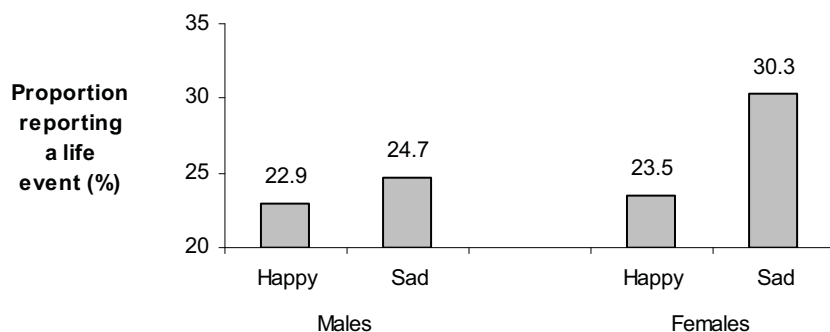


Figure 9.3: Event x Gender (event % of a total of gender in each survey)

- For the previous Survey 18, values for females were more extreme than for males. 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 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 = 4.7).
- 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 (.012) or females (.121) (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 ($t(17) = 4.629$; $p = .000$).

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**

In order to further investigate these gender differences across surveys, Figure 9.5 has been prepared from data in Table A9.5.

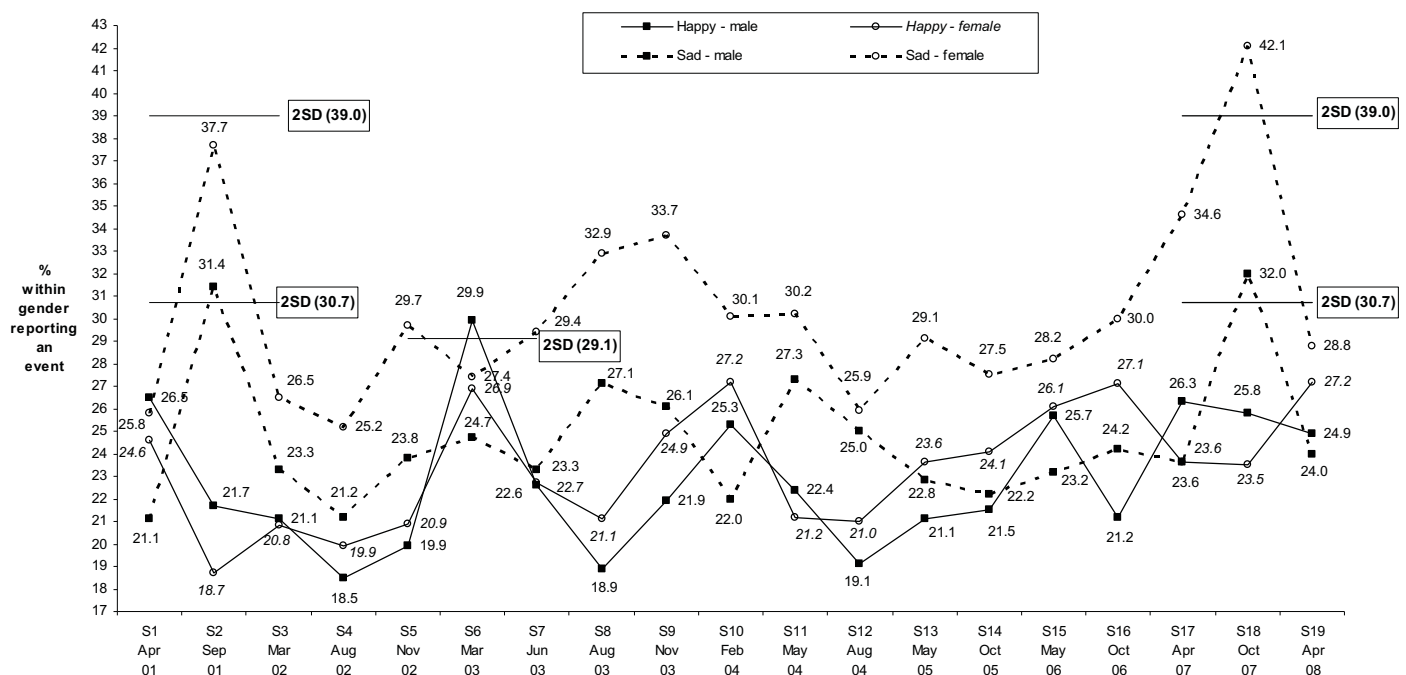


Figure 9.5: Event x Gender x Survey (% of a total of gender in each survey)

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:

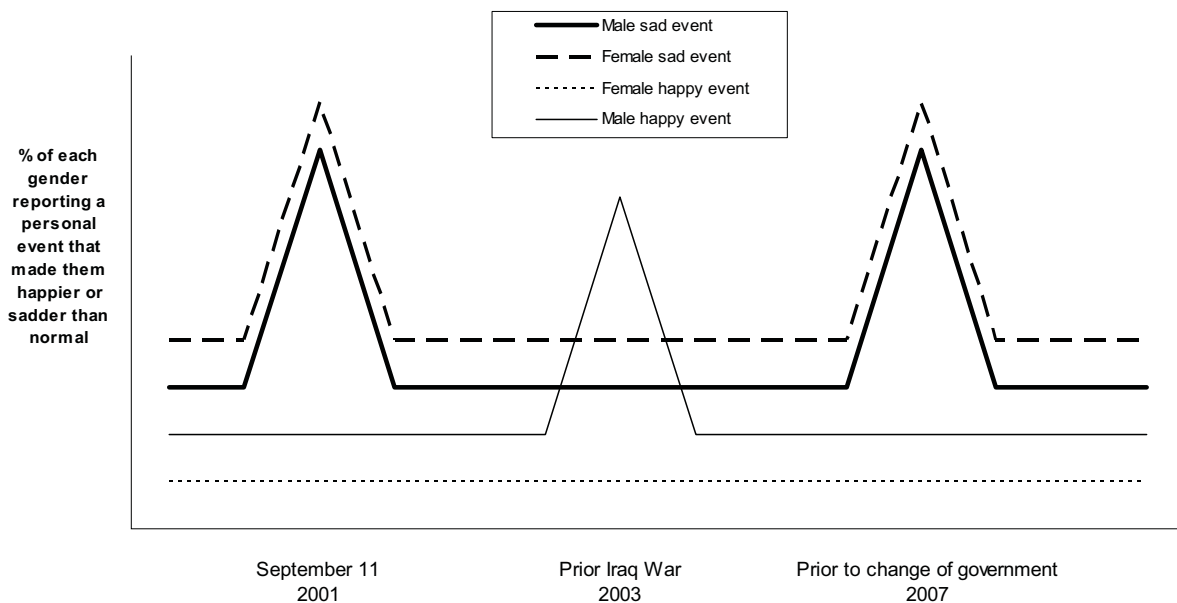


Figure 9.6: Diagrammatic Representation of Changes in the Incidence of Personal Events & Gender

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 Figure 9.5 that is interesting is the range covered by the four mean scores (gender x valence) at each survey. These ranges are shown below.

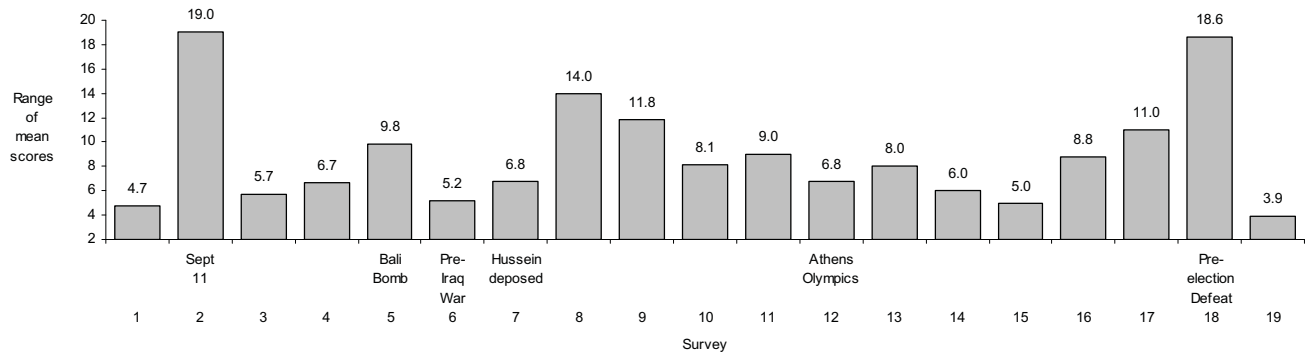


Figure 9.7: The range of gender x happy/sad mean scores (from Figure 9.5) by survey

It might be presumed that the disparity between these four mean scores within each survey (% within gender 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) and immediately prior to the election defeat (S18). From Survey 10 to Survey 17 the range was retained within 4 points (from 9.0 to 5.0).

9.1.4. Life Event Frequency x Age

Table A9.7 reports the effects of age on life events both for Survey 19 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.

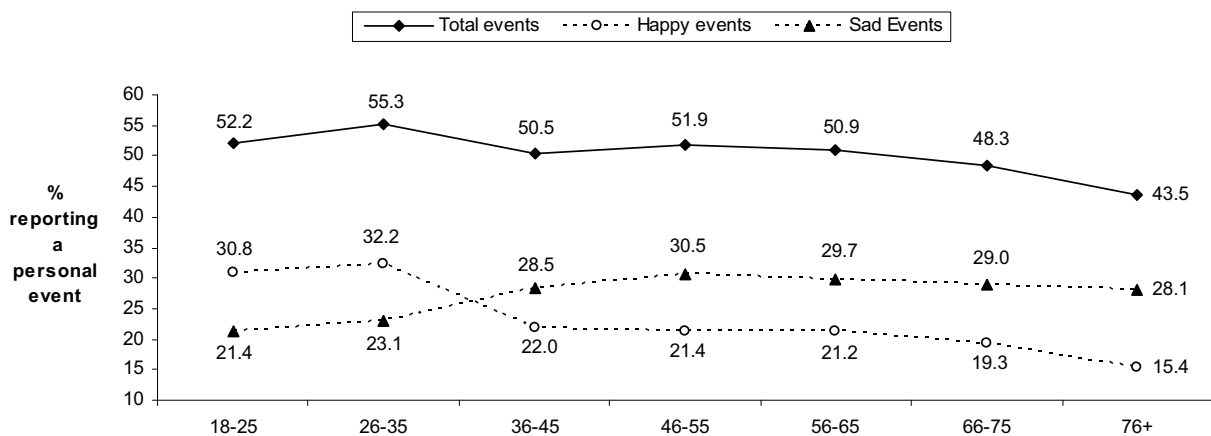


Figure 9.8: Age: Life Event Frequency (combined surveys)

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

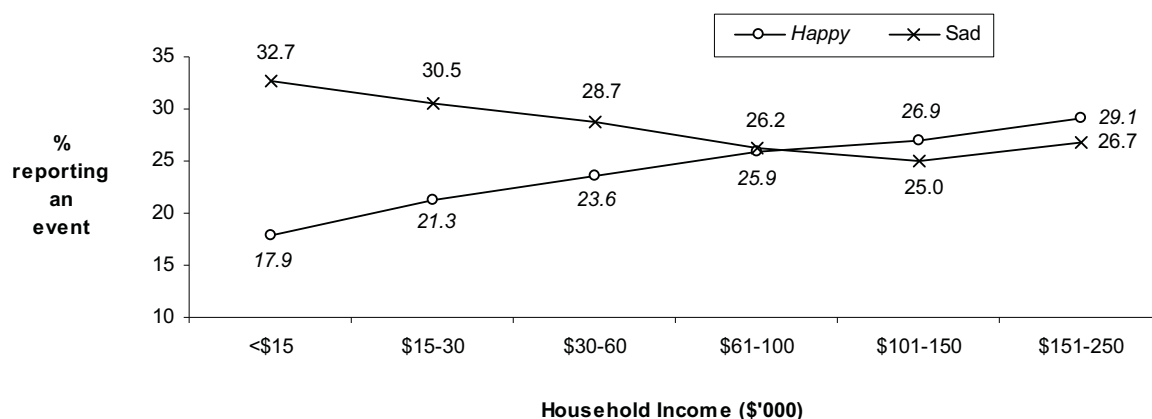


Figure 9.9: Income: **Life Event Frequency** (combined surveys)

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 \$61,000-\$100,000.

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 change in the frequency of events at incomes higher than \$61-100K is particularly interesting. The incidence of sad events shows no systematic change with increased income. This is 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 \$61-100K, with about 25% of the sample reporting such an event.

The frequency of happy events behaves quite differently, in showing a steady increase as household income increases up to \$151-250K. 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 -0.08 (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 19. It is interesting that far more people report low-intensity sad events (0-4) as significant (12.6%) than low-

intensity happy events (2.8%). This is consistent with a large literature showing that people attend more to negative than to positive experiences.

Table A9.10 shows the intensity of happy and sad events across surveys.

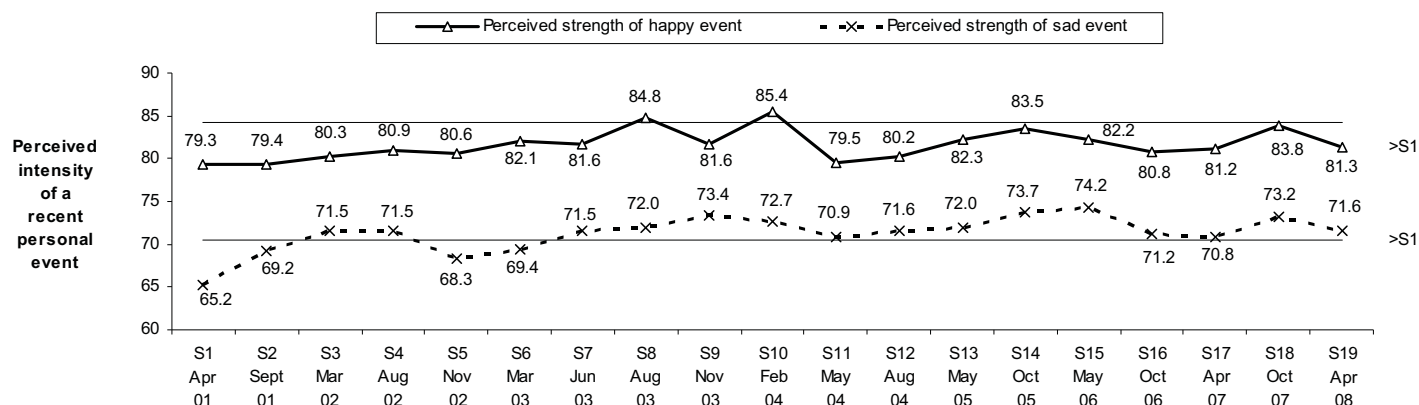


Figure 9.10: Intensity of Recent Personal Events

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 6.4 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 both individual scores within surveys (Table A9.10) and using the 19 survey mean scores as data (Table A9.11 – males; Table A9.12 – females). The correlation for the intensity of sad events with the Personal Wellbeing Index is generally not significant.

9.2.1. Household Income and Life Event Intensity

Table A9.11 reports the influence of income on life event intensity, while Table A9.12 reports this using contracted higher income categories.

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 A9.13 reports the correlations between life event intensity and the Personal Wellbeing Index (domains) for Survey 19, while Table A9.14 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 A9.12; 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 A9.8) 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

This is consistent with no systematic change in happy event intensity being present between the income groups (Table A9.14).

- (e) The relative frequency of particular domains being significantly associated with the strength of happy events is shown below (Table A9.11):

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

Domain	Number of significant associations (maximum = 5)
Standard	5
Health	4
Achieving	5
Relationships	5
Safety	4
Community	5
Future Security	4
Total	32

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

Tables A9.15 and A9.16 show that for both males and females, the recalled intensity of happy, but not the intensity of sad events, correlates significantly with the Personal Wellbeing Index. This is consistent with homeostasis theory.

The gender difference for the intensity of both happy and sad events is significant (Female > Male) (Table A9.17) with no interaction. This is a consistent finding across surveys.

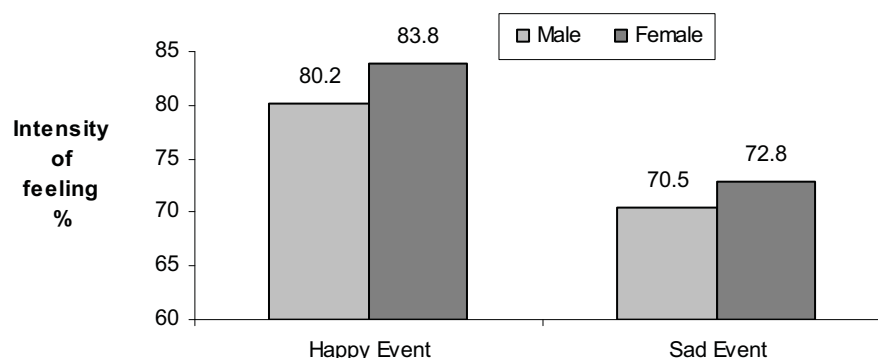


Figure 9.12: Intensity of Happiness/Sadness to a Personal Life Event

This familiar pattern of increased emotional responsiveness in females occurs for both happy and sad events (Table A9.15). 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 A9.18 shows the results for individual surveys and combined data from Surveys 1-19. 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.

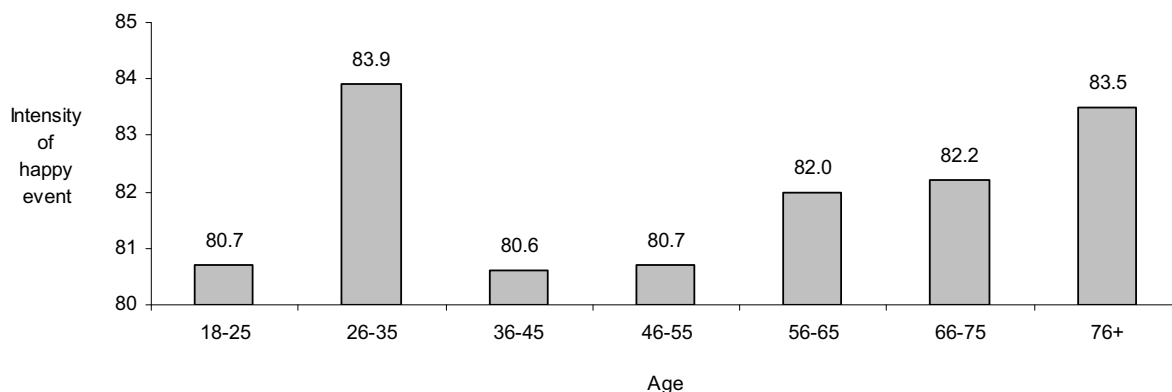


Figure 9.13: **Intensity of Happy Events x Age**

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 A9.19 shows these results for Survey 19 and Table A9.20 for the combined data.

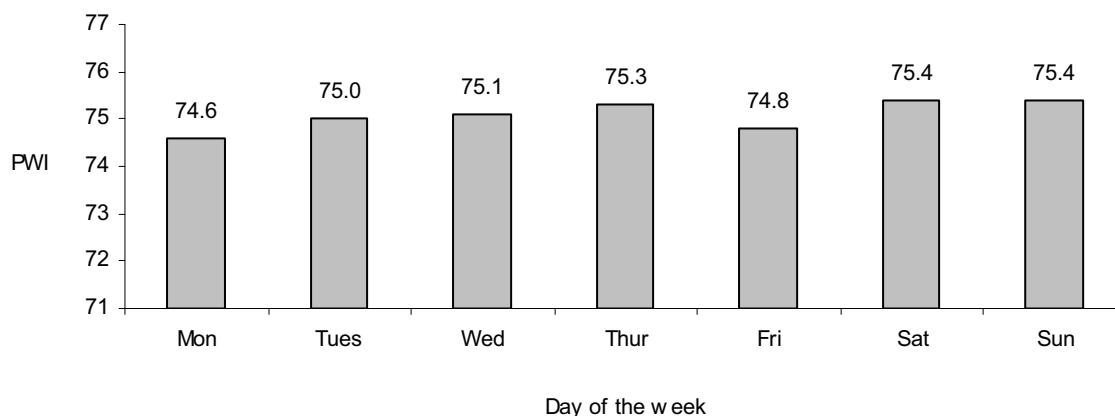


Figure 9.14: **Daily Personal Wellbeing Index (Combined data)**

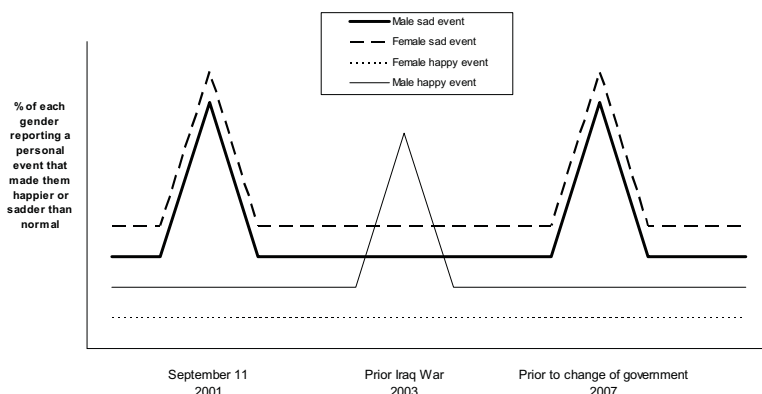
It is evident, that across the whole sample, there is no systematic change in wellbeing between the days of the week.

Table A9.21 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

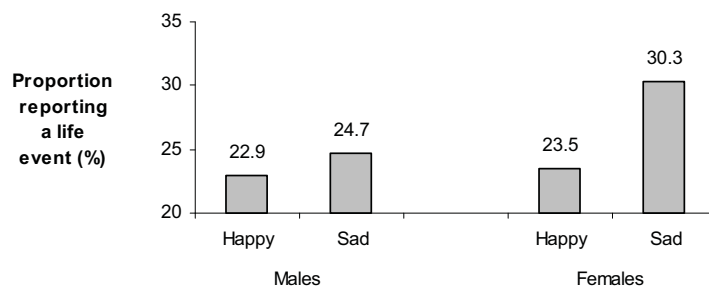
1. About half of the sample consider that a recent life event, that has happened to them, has made them feel happier or sadder than normal.

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.



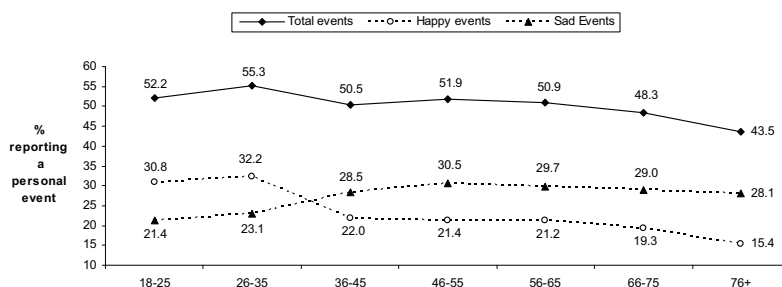
Some events make it more likely that people will recall significant personal events.

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



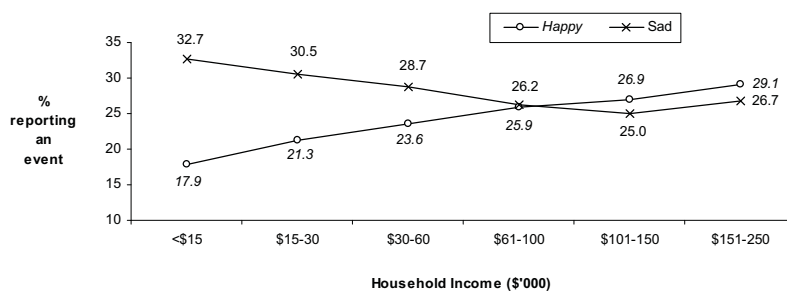
Females report more sad events in their lives than males.

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.



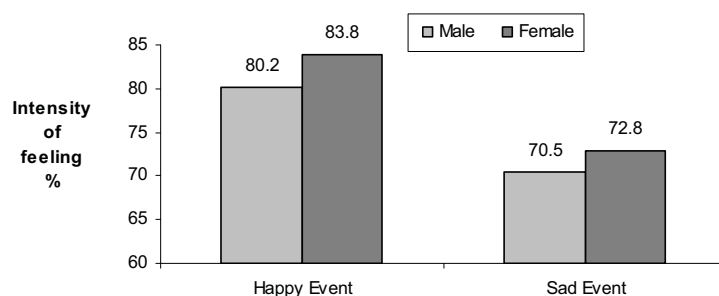
The recall of happy or sad events is age-sensitive.

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.



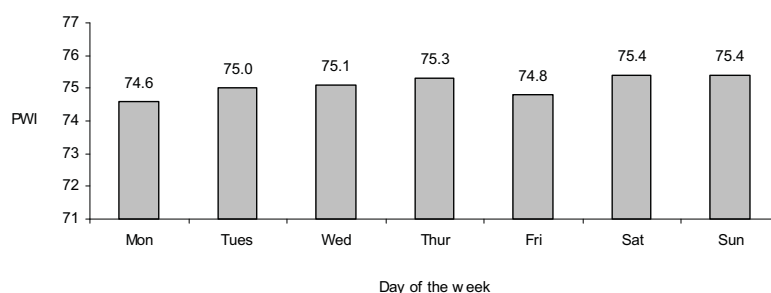
The recalled frequency of sad events is income sensitive up to an income of \$61-100K.

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.



Females report a greater felt intensity of both happy and sad events.

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.



Wellbeing does not vary with the day of the week.

10. Physical Activity and Socialization

We asked:

1. *On an average weekday, how much physical activity do you get at home or at work? There are five choices:*
 - Not much at all
 - Light activity
 - Moderate activity
 - Strong activity
 - Exhausting activity
2. *In an average week, how many days do you exercise for health or recreation?*
3. *Are you involved in any team sports or exercise with others? There are three choices:*
 - Yes
 - No
 - Usually, but not at the moment
4. *Are you involved in any organised activities with other people that do not involve exercise? There are three choices:*
 - Yes
 - No
 - Usually, but not at the moment
5. *What is your approximate height and weight?*

10.1. Level of activity on an average weekday

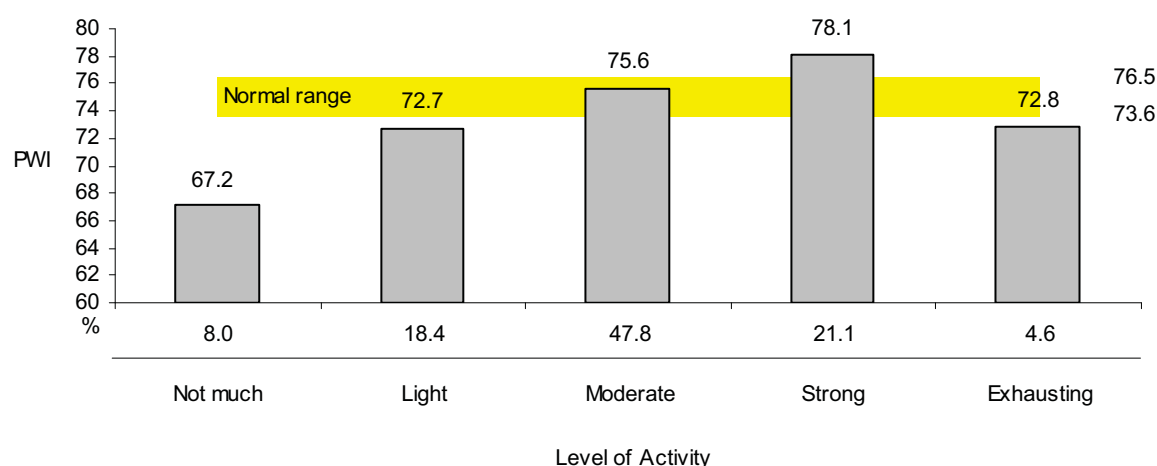


Figure 10.1: Level of Activity on an Average Weekday (Personal Wellbeing Index)

There is a clear pattern of association between the extent of physical activity and wellbeing (Table A10.1: Figure 10.1). Wellbeing rises from ‘not much’ up to ‘strong’ levels, at which wellbeing lies above the normal range. Each increment in the level of activity is associated with a significantly higher wellbeing than the previous levels and ‘Exhausting’ is lower than ‘Strong’.

The following specific observations can be made:

- (a) A majority of people (68.9%) have a level of activity that is associated with normative wellbeing or above (moderate activity – 47.8% and strong – 21.1%).
- (b) The remaining 31.3% of the sample have a level of activity that is associated with below-normal wellbeing.
- (c) The degree of association between level of activity and wellbeing is not strong. Table A10.1.1 shows that the relationship is $r = .18$ (including exhausting) and $r = .23$ (excluding exhausting). Thus, level of activity is only explaining 5.3% of the variation in wellbeing.
- (d) It is important to note that these are only associations between activity and wellbeing. They are not statements of causality. It is therefore uncertain whether strong activity causes high wellbeing or whether high wellbeing causes people to engage in strong activity. However, there are arguments for the strong activity to be the causative agent. These are:
 - (i) Exercise is known to enhance positive mood, although most studies on this topic have involved acute rather than chronic demonstrations.
 - (ii) If people with high wellbeing were normally inclined to engage in moderate/strong activity, then the variance within those groups should be lower than other groups with the same level of wellbeing. The reason would be that their activity level is a homogenising factor.

While Table A10.1 confirms this pattern, the results are contaminated by the genetic ceiling of about 82 points for the Personal Wellbeing Index group mean scores. Due to this influence, as group means rise towards this ceiling, their within-group variance decreases. Thus, this result cannot be used to inform the direction of causality.

10.1.1. *Level of Activity x Age*

Table A10.2 shows the complete results and Table A10.2.1 shows the analysis of combined and restricted categories. There is no interaction for the Personal Wellbeing Index between activity level and age. Thus, activity level shows the same pattern with wellbeing depicted in Figure 10.1 at all ages.

The percentage of each age group engaged in enhancing activity is 6.8, 9.4, 3.3, 4.9, 3.4, 2.3 and 1.3 percent respectively. Thus, the highest proportion (9.4%) are contained within the 26-35y group, and the lowest proportion are in the oldest group.

The percentage of each age group engaged in 'Not Much' activity at all are: 1.9, 5.9, 7.6, 8.1, 9.1, 11.2, 11.4% respectively. This shows a continuous trend of increasing prevalence of sedentary behaviour as people get older.

10.1.2. *Level of Activity x Gender*

Table A10.3 shows no interaction with gender.

10.1.3. *Level of Activity x Income*

The complete results are shown in Table A10.4 and the more restricted and combined results in Table A10.4.1. The interaction between activity level and income is significant ($p = .036$) and shown for the two extreme groups below.

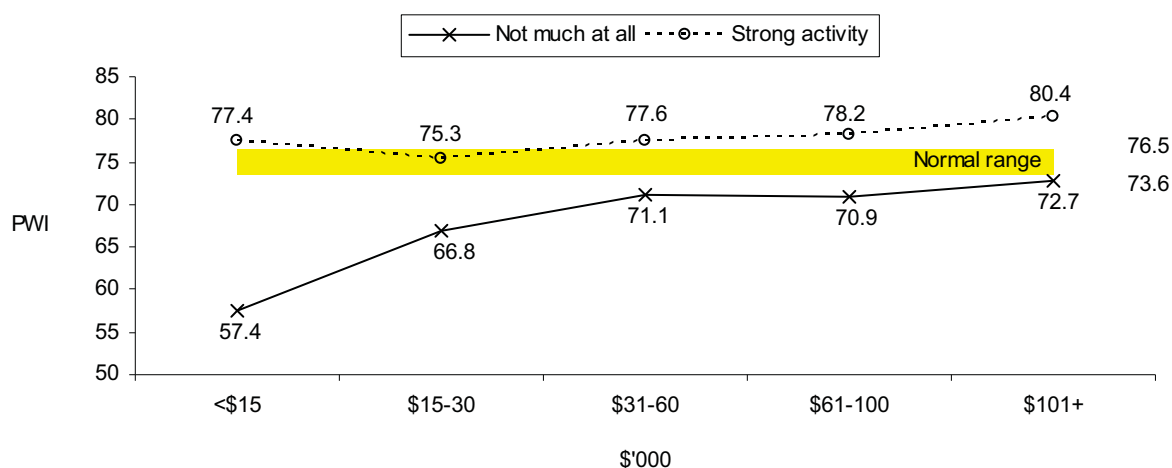


Figure 10.2: Level of Activity x Income (Personal Wellbeing Index)

The level of wellbeing for the 'strong' group does not significantly change with income. The wellbeing of the 'not much' group, on the other hand, shows a strong rise with increasing income. This pattern seems to indicate the following:

1. The strong group have a resource (much as do people who are married) that allows them to experience high wellbeing even with low household income. Whether this resource is the activity itself, or the conditions (personality, health, motivation, etc) that permit such activity cannot be determined from these data.
2. The wellbeing of the 'not much' group is far more fragile and in conditions of low income their wellbeing lies far below the normal range. Even with the highest income (\$101,000+) their wellbeing lies below the normal range. While this is evidence that money is being used as a resource to assist the maintenance of wellbeing, it is clear that this group is being influenced by some negative force that is reducing both their wellbeing and their capacity for activity.

The changing proportions of people in this 'not much' group within the rising income levels are: 17.0 (<\$15K), 10.6, 8.5, 6.3, 5.7 percent. This is as expected if this negative influence was ill-health. As income rises there are smaller proportions of people with not much activity and higher levels of wellbeing.

There may be two factors operating as:

- (a) The proportion of these people is reducing because income is buying the medical resources that allow medically or psychologically disadvantaged people to become more active.
- (b) For those people who remain inactive, the increased income allows them to purchase the resources, such as assistance with daily living, that they need in order to maintain their wellbeing.

10.1.4. Level of Activity x Relationship Status

The full results are presented in Table A10.5 and the combined categories in Table A10.5.1. The interaction is not significant.

10.1.5. Level of Activity x Body Mass Index

The full results are provided in Table A10.5.2 and the combined categories in Table A10.5.3. The interaction is not significant, however there is an interesting bi-modal pattern of wellbeing as a

function of BMI. This is most clearly shown in the combined low activity group (Not much at all and Light activity).

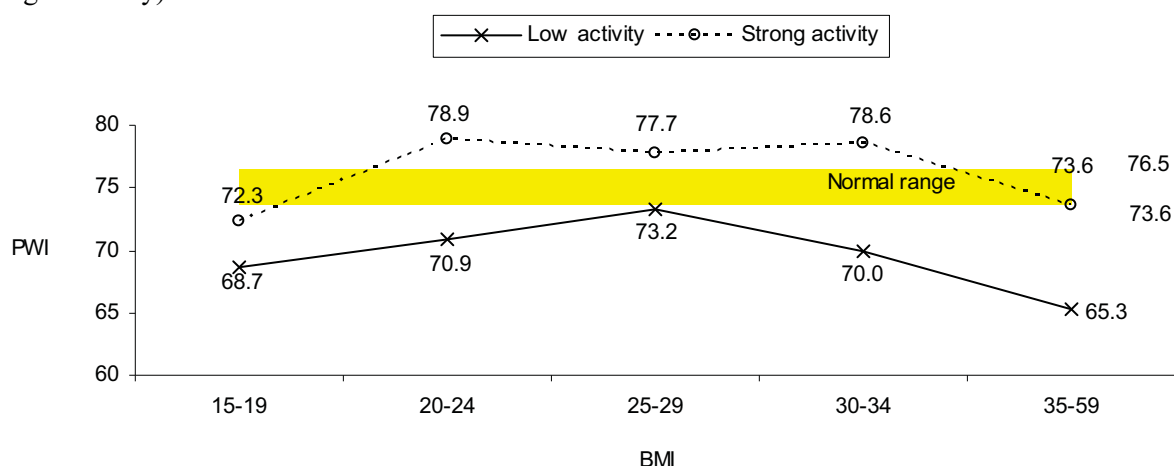


Figure 10.3: Low Activity x Body Mass Index (Personal Wellbeing Index)

This pattern probably reflects the occurrence of co-morbidity. Both very low BMI and very high BMI are associated with medical/psychological pathology which is acting to reduce wellbeing. This influence is resisted by strong activity.

10.1.6. Summary

- (a) People who engage in ‘not much’ activity (8.0% of the sample) have very low wellbeing. Those who engage in ‘exhausting’ (4.6%) or ‘light’ activity (18.4%) have below normal wellbeing. Thus, a total 31.0% of the sample have a level of activity associated with low wellbeing.

The distribution of individual scores for Survey 19 (Table A2.6) indicates that 31.2% of the sample have a level of wellbeing <70 points. Thus, the level of activity as a single criterion has identified almost all of the people with low wellbeing.

While this is an extraordinary level of correspondence, its interpretation needs to be undertaken with great care. In particular:

- (i) The standard deviation of the strong group is 10.95 points. This means that 95% of the people in this group have a level of wellbeing above 56.2 points, indicating a positive level of wellbeing for almost all of those people in this group.
 - (ii) However, this does not mean that strong exercise causes wellbeing. It could equally be the case that people who have high wellbeing seek to engage in strong exercise.
- (b) The above relationship is robust across the demographic groups. However, there is a trend such that with increasing age more people are found in the ‘not much’ group. This finding is important because wellbeing increases after the age of 56 years (Chapter 5), reinforcing the idea that level of activity and wellbeing are not necessarily related to one another.
- (c) When level of activity is related to income, the pattern of results seem to suggest that strong activity may be a resource for the maintenance of wellbeing.

Figure 10.2 shows that people who engage in strong activity have high levels of wellbeing even at very low incomes. People who engaged in ‘not much’ activity at low incomes have very low wellbeing. Again, however, the low wellbeing could be causing the low activity.

Interestingly, however, as income rises for this low activity group, wellbeing also rises to become almost normative at an income of \$101K+. This shows the power of income to act as a resource to increase wellbeing without changing the level of activity. Thus, income seems to be substituting for strong activity as a resource to maintain normal wellbeing.

If this is correct, it is evidence that strong activity is also a resource to maintain normal wellbeing.

- (d) Within the low activity group, extreme BMI values, both low and high, signal low wellbeing. However, again, strong activity appears to be a resource that protects wellbeing against the negative influence of extreme BMI.

In conclusion, while there is clearly a strong positive association between activity level and wellbeing, the direction of causation cannot be determined. However, the evidence from low income and extreme BMI groups indicates that strong activity under these adverse conditions can reduce their impact to reduce wellbeing.

Whether the people in these adverse conditions who have low activity could be induced to engage in strong activity is an important and undetermined issue. It is quite possible they would resist such an attempt, and that their low wellbeing is linked to other psychological factors, also under a strong genetic influence, that includes a low motivation to be active.

10.2. Frequency of Exercise for Health or Recreation

The relationship between the number of days each week people exercise for health or recreation, and their level of wellbeing, is shown below:

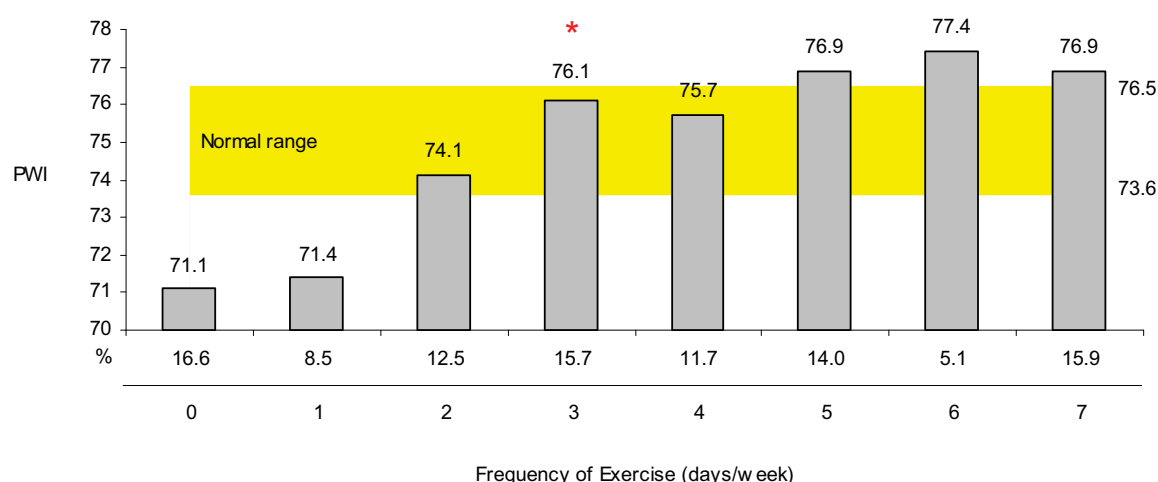


Figure 10.4: Frequency of Exercise (Personal Wellbeing Index)

The following observations can be made (Table A10.7):

1. The spread of percentages, as proportions of the sample, across the eight frequencies is remarkably constant, varying from 5.1% to 16.6%.
2. Only two groups (0 and 1) lie below the normal range.
3. All frequencies >2 have a level of wellbeing above frequencies 0-1. These are the only significant differences.

Conclusion

People who exercise on three days each week have a level of wellbeing that is as high as people who exercise more frequently. People who exercise on one day each week, or who exercise not at all, have low wellbeing.

10.2.1. Frequency of Exercise x Age

The full results are shown in Table A10.7 and the combined categories in Table A10.7.1. The interaction is not significant. However, the normal dip in wellbeing in middle-age is exacerbated with a low frequency of exercise. This is shown below in relation to the two extreme combined groups.

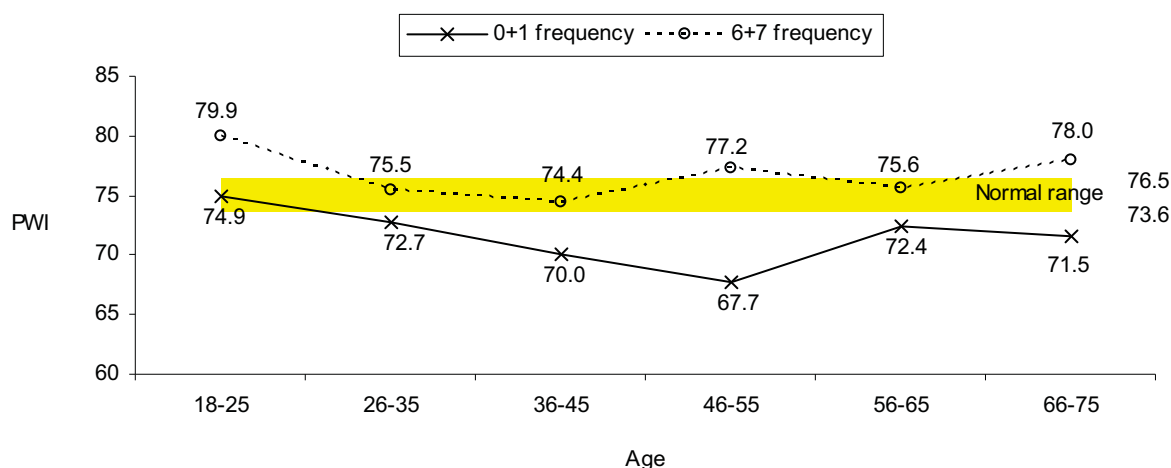


Figure 10.5: Frequency of Exercise x Age

The range of values for the low frequency (0 + 1) group is 7.2 points and for the high frequency group is 5.4 points. Thus daily exercise is associated with not only higher overall wellbeing but also less of a fall in wellbeing in middle age. The direction of causation is, however, uncertain.

10.2.2. Frequency of Exercise x Gender

The complete results are provided in Table A10.8. There is no effect of gender and the interaction is non-significant.

10.2.3. Frequency of Exercise x Income

The complete results are provided in Table A10.9 and the combined categories in Table A10.9.1. The interaction is significant ($p = .041$). This indicates that income has its greatest influence on people with the lowest frequency of activity and two illustrative, comparative groups are shown below.

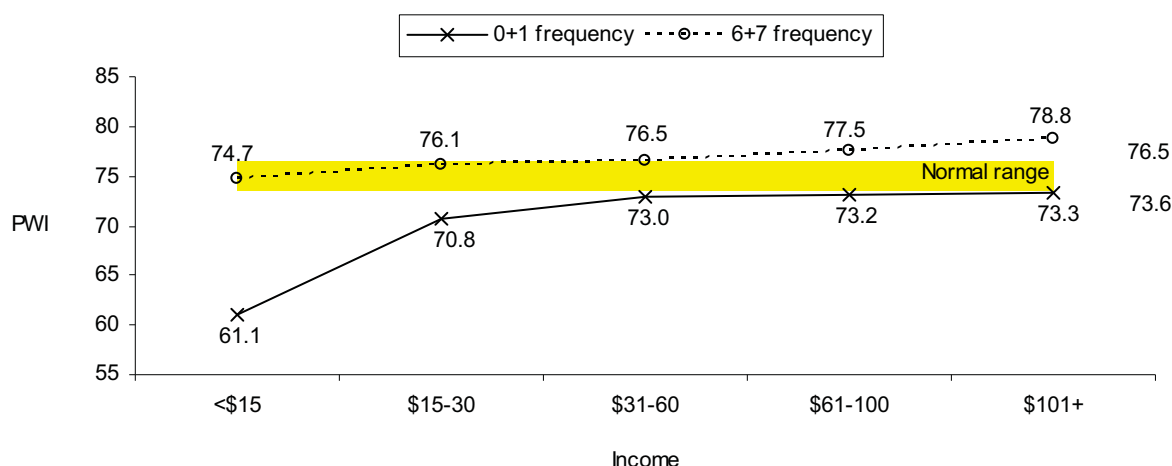


Figure 10.6: Frequency of Exercise x Income

The influence of income as a resource to maintain wellbeing is very clear, with the Personal Wellbeing Index of the (0+1) group rising sharply over the first two increments in income. The rise in the (6+7) group, by contrast, is much more gradual.

Conclusion

Increased income is most effective in raising the wellbeing of people who are sedentary.

10.2.4. Frequency of Exercise x Relationship Status

The complete results are provided in Table A10.10 and the combined groups in Table A10.10.1. The interaction is not significant.

10.2.5. Frequency of Exercise x Body Mass Index

The combined groups are shown in Table A10.10.2 and the interaction is not significant.

10.2.6. Summary

- (a) People who exercise for health or recreation three or more days each week maximize their wellbeing through this association. There is no reliable increase in wellbeing associated with exercising more frequently than three days a week.

Doing no exercise or exercising for one day each week is associated with below normal wellbeing. Since the 8.5% of the sample who exercise for one day each week are capable of exercise, it would be interesting to see if they could be induced to exercise more frequently and, if they did, whether that would affect their wellbeing.

- (b) The normal dip in the wellbeing of people aged 36-55y does not occur for people who exercise 6-7 times each week. This is quite suggestive that frequent exercise for this group may act to maintain normal wellbeing. Again, this is indicative of exercise as a causal resource for normal wellbeing.
- (c) The low wellbeing of people in the lowest income group is counteracted by an exercise frequency of 6-7 times each week. This result is similar to the association with strong exercise (Figure 10.2).

Overall, these results are certainly consistent with the idea of frequent exercise as a resource to maintain normal levels of exercise for people living in difficult circumstances.

10.3. Involvement in organised activities with other people that do not involve exercise

Table A10.11 shows the percentage of people who are, or are not, involved in non-exercise activities with other people, and their level of wellbeing. The three groups are shown below.

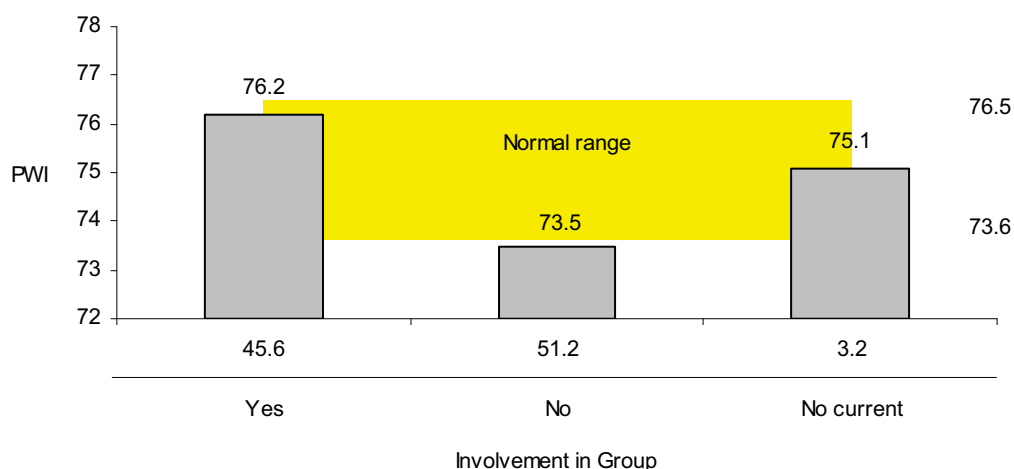


Figure 10.7: Involvement in Organised Non-exercise Activities with Other People

People who are involved in a no-exercise group have higher wellbeing than people who are not involved. So a key issue is whether the differences in wellbeing are due to the exercise or the social engagement. This is resolved in Table A10.11.1 and shown below:

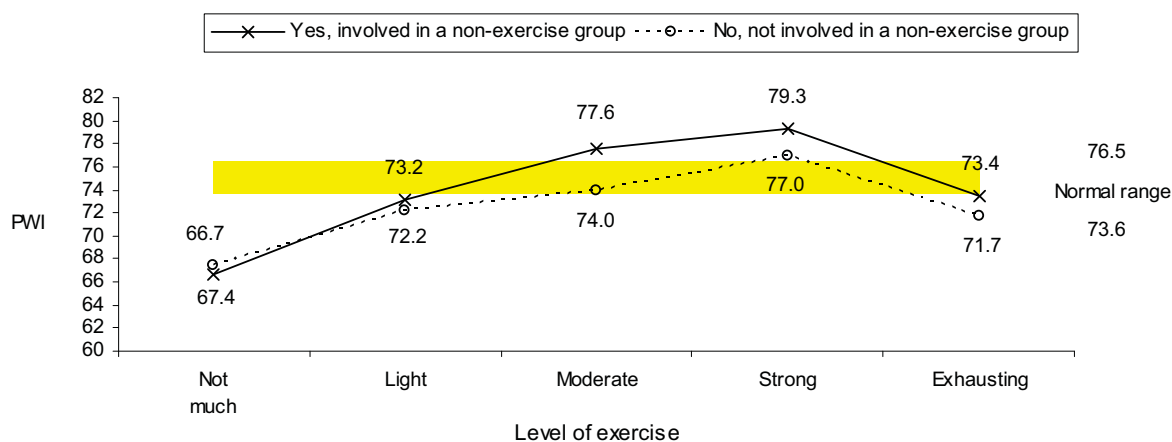


Figure 10.7.1: Non-exercise Activities vs Level of Exercise

The lowest cell numbers are in the Exhausting group (Yes = 36; No = 50). All other cells have >57 respondents, and so are probably reliable.

There is a strong effect for level of exercise ($p = .000$), a weak effect for group involvement ($p = .045$) and no interaction ($p = .251$). This indicates that the level of exercise is much more strongly associated with wellbeing than is group involvement, but the two effects seem to be additive.

10.3.1. Non-exercise Activities x Age

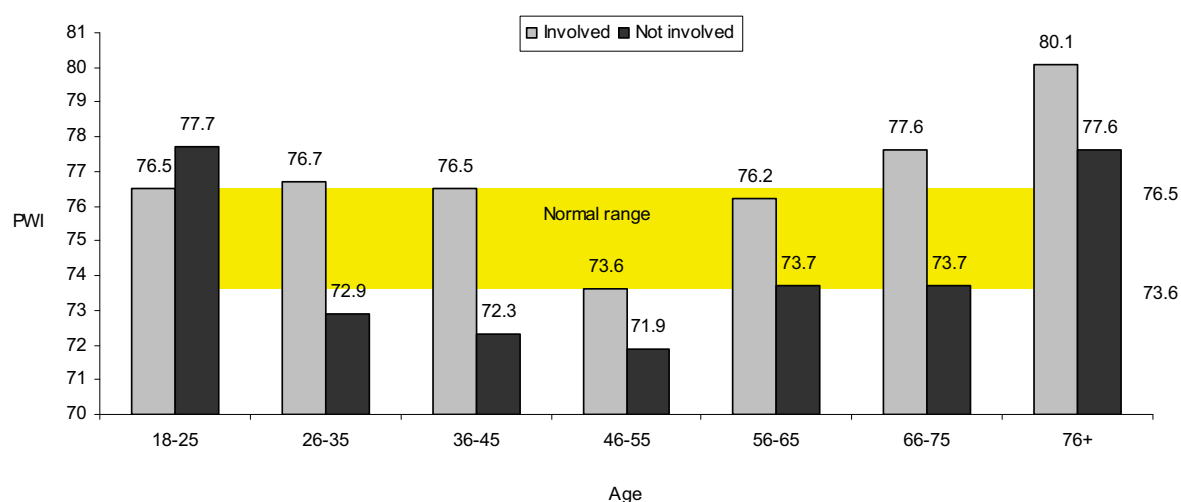


Figure 10.8: Non-exercise Group x Age

It is apparent (Table A10.12) that there is no difference between the involved and not involved groups at the youngest age. In all older groups the engaged groups have higher wellbeing. While, the interaction is not significant using all age groups, when the analysis is restricted to the two youngest groups, the interaction is significant (Table A10.12.1).

This is very interesting. The lack of difference at 18-25y indicates that there is no necessary relationship between involvement and wellbeing. This is consistent with Figure 10.7.1, that the active association for high wellbeing is more with level of activity than group membership.

Other observations are as follows:

1. The 46-55y group have very low wellbeing in this sample. This is normally a vulnerable group due to the risk of unemployment and financial pressures (mortgage, teenage or young-adult dependent children). However, they do not usually lie below the normative range.

It can also be seen that the benefit of non-exercise group membership is minimal (+1.7 points) and non-significant. It is as though the resource provided by group membership is not sufficiently strong to counteract the sources of stresses and strains, which is consistent with the earlier results in this section.

2. Whereas the normal pattern with age is for wellbeing to rise after 55 years, here the rise is initially restricted to people who have group membership. Non-group members' wellbeing does not rise until 76+ years.

While the generally higher wellbeing of group members may be attributed to the fact that many of them are engaged with exercise group. Thus, the most likely explanation for this pattern is that the forces at work are as follows:

- (a) Wellbeing naturally rises in older age due mainly to a reduced intensity of negative affect (as confirmed by the literature).
- (c) As people age beyond 55 years, they suffer an increasing probability of loss in income and status (retirement) and partner support (disablement or death). Thus, group membership exercise has a buffering influence against the effects of such negative influences on wellbeing.

- (c) The rise in both groups at 76+ years may be due to selective mortality, with the least disabled and most positively disposed people living the longest.

10.3.2. *Non-exercise Activities x Gender*

It is notable (Table A10.13) that females are 5.4% more likely than males to belong to such groups. This reflects the normally greater social engagement of females. The interaction between activity involvement and gender is non-significant.

10.3.3. *Non-exercise Activities x Income*

The complete results are presented in Table A10.14 and the restricted groups in Table A10.14.1. The interaction is not significant.

10.3.4. *Non-exercise Activities x Relationship Status*

The complete results are presented in Table A10.15 and the restricted groups in Table A10.15.1. The interaction is not significant.

10.3.5. *Non-Exercise Activities x BMI*

The restricted groups are presented in Table A10.15.2 and the interaction is non-significant.

10.3.6. *Summary*

- (a) People who are involved with others in organised activities that do not involve exercise have normal level wellbeing. People who are not involved have wellbeing just below the normal range.
- (b) The association between group membership and wellbeing is mainly due to exercise. That is, belonging to groups that exercise is associated with higher wellbeing, while belonging to groups that do not exercise is associated with less benefit.
- (c) The normal dip in wellbeing for people aged 36-55y is offset by exercise group involvement, to the extent that the involved group have normal-level wellbeing.

10.4. Involved in Team Sports or Exercises

We asked: "Are you involved in any team sports or exercise with others?"

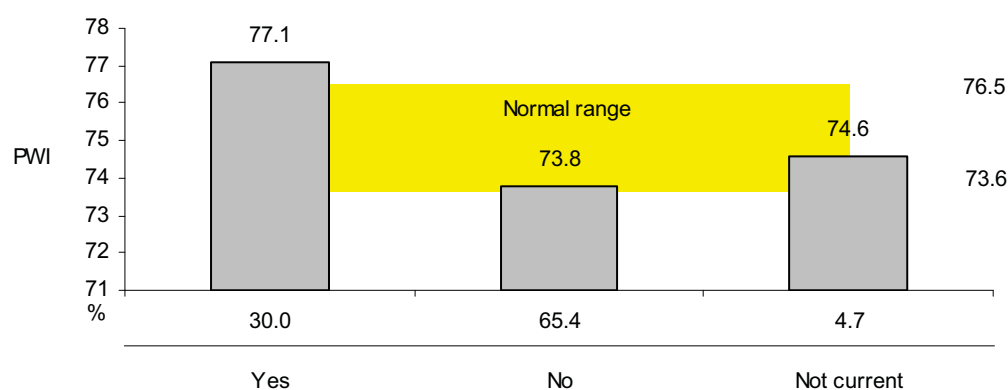


Figure 10.9: Team Membership

Team membership is associated with higher wellbeing (Table A10.16). However, the wellbeing of the 30.0% of people who are members of teams is no higher than that of people (45.6%) who are members of non-exercise groups (77.1 vs 76.2 points respectively). Thus, it is the fact of group membership, rather than group exercise, that is the important element.

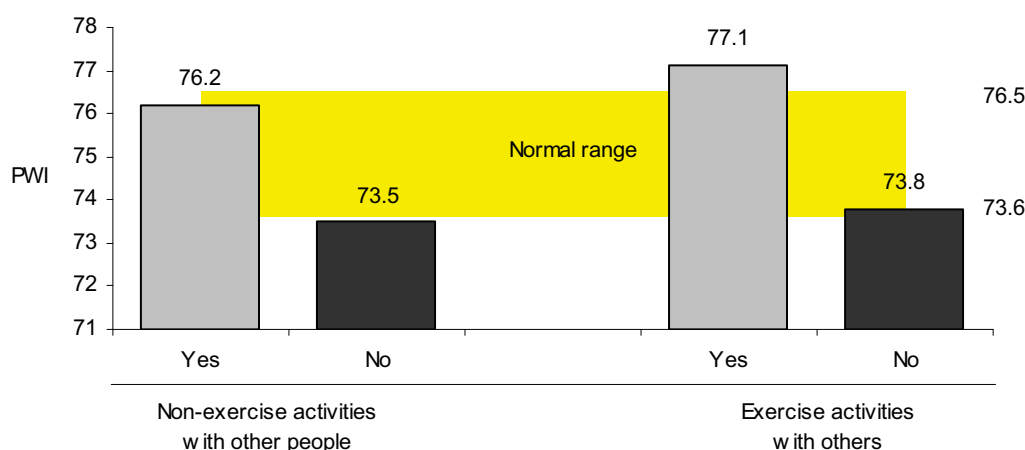


Figure 10.10: Comparison Involving Exercise and Social Involvement

The above results are drawn from Table A10.11 (non-exercise activity groups) and Table A10.16 (exercise groups). The profile of the non-exercise and exercise groups are not statistically different from one another. However, as shown in Figure 10.7.1, it is mainly the exercise component of group membership that associates with higher wellbeing.

10.4.1. Team Membership x Age

See Tables A10.17 and A10.17.1. The interaction is non-significant.

10.4.2. Team Membership x Gender

See Table A10.18. The interaction is non-significant.

10.4.3. Team Membership x Income

See Tables A10.19 and A10.19.1. The interaction is non-significant.

10.4.4. Team Membership x Relationship Status

See Tables A10.20 and Tables A10.20.1. The interaction is non-significant. In order to boost cell numbers, Table A10.20.2 combines Never Married, Separated and Divorced. However, the interaction remains non-significant.

10.4.5. Team Membership x Body Mass Index

See Table A10.20.1. The interaction is not significant.

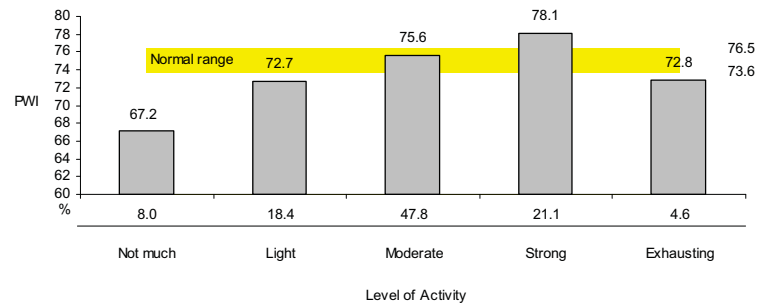
10.4.6. Summary

While involvement in team sports or exercise with others is associated with high levels of wellbeing, these levels are not higher than those people involved in non-exercise activities. Thus, it appears that the social component of activity involvement may be a strong resource to maintain normal wellbeing. However, since the personality trait of extroversion is known to be associated with both high

wellbeing and gregariousness, the extent to which this trait is responsible for the wellbeing of the non-exercise activity group is uncertain, i.e. introverted people are more likely to join groups. Further study is required to resolve this issue.

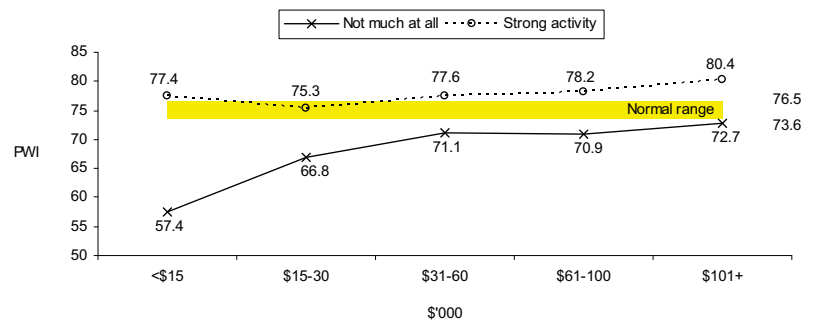
Dot Point Summary for Physical Activity and Socialization

1. Strong activity is associated with above normal wellbeing. Whether the activity causes high wellbeing or high wellbeing causes strong activity is uncertain.

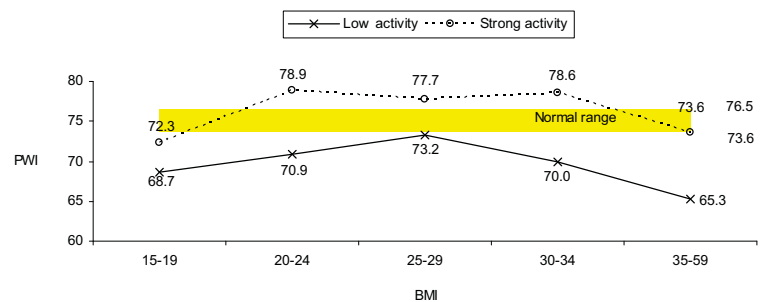


2. The association between strong activity and wellbeing is marked for people with low household income.

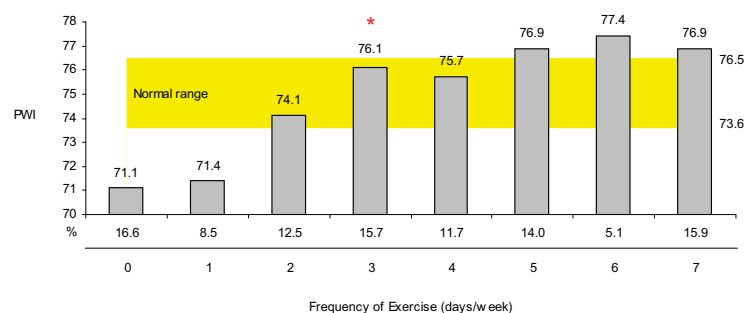
The strong group have a resource (much as do people who are married) that allows them to experience high wellbeing even with low household income. Whether this resource is the activity itself, or the conditions (personality, health, motivation, etc) that permit such activity cannot be determined from these data.



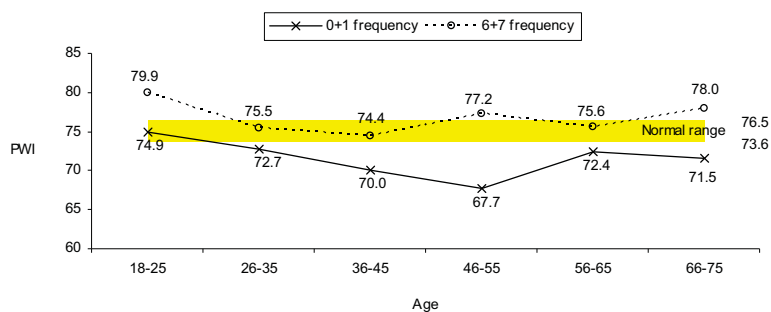
3. The negative influence of extreme BMI values on wellbeing is counteracted by strong exercise.



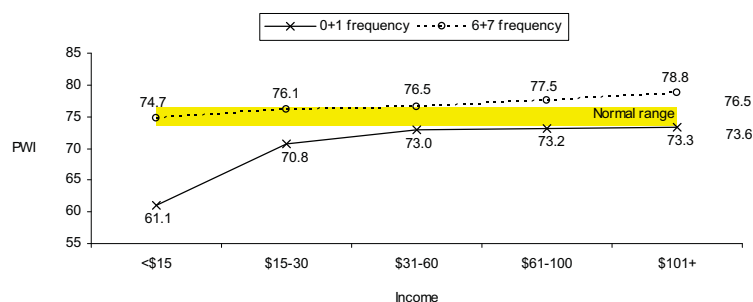
4. Exercising for 3 days each week is associated with the maximum benefit for wellbeing. Exercising more frequently confers no additional benefit for the sample as a whole.



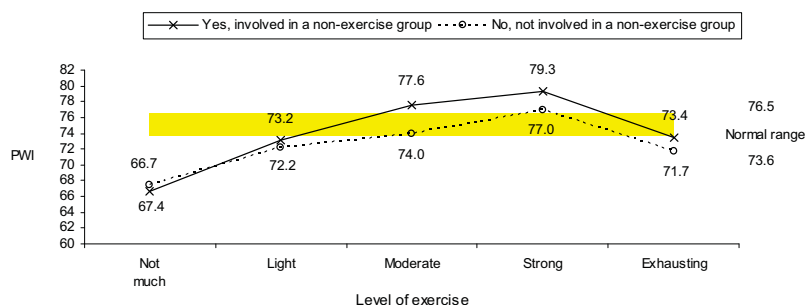
5. The normal dip in wellbeing for people in middle age does not occur for those who exercise 6-7 times each week.



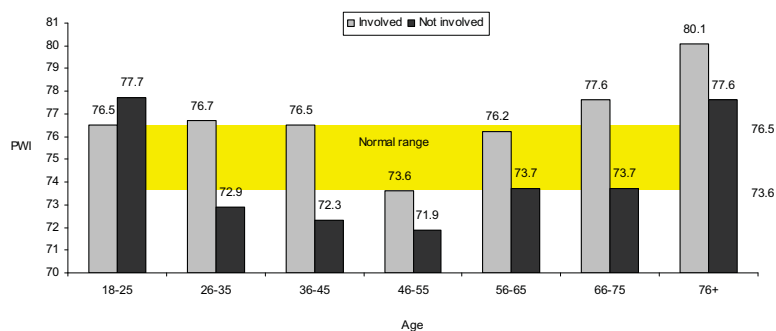
6. The association between frequent exercise and wellbeing is marked for people with low household income.



7. Involvement with groups, of itself, is weakly associated with higher wellbeing. It is the exercise component, undertaken either with or without a group, that strongly associates with high wellbeing.



8. Involvement with groups that exercise, offsets the normal dip in wellbeing of people in middle age.



11. Drinking and Smoking

We asked: *“How often do you have an alcoholic drink?”*

Never

Special occasions only

About once a week

Almost every day

“When you drink alcohol, on average, how many drinks do you have?” [record number]

‘Do you smoke cigarettes?’

Yes

I have never smoked

I am an ex-smoker

[If ‘Yes’] ‘On average, how many cigarettes do you have a day?’ [record number]

11.1. Frequency of Drinking Alcohol

11.1.1. Demographics

Table A11.4 shows the proportion of people who drink alcohol in each of the demographic groups. The following trends are evident:

1. Males are more likely (35.4%) to drink every day than females (21.0%).
2. The incidence of drinking every day increases with age, from 9.7% (18-25y) to 33.4% (46-55y). It then remains between 31-38% for all the older age groups.
3. The incidence of ‘Never drink’ remains at between 14-20% for all ages except the oldest (76+y) where it rises to 25.5%.
4. The incidence of daily drinking does not vary much with marital status (24.5 to 34.2%) except being very low in Never Married (13.7%).
5. Household Structure: The incidence of drinking every day is low for people living with their parents (8.6%) or other adults (16.2%). In both cases this is likely due to young age.
6. Income: The incidence of drinking every day increases with income, from 18.6% (<\$15K) to 41.3% (\$151-250K). The cell numbers are too small to gauge the effects of higher income than this.
7. Fulltime Work Status: The incidence of drinking every day is notably lower in people engaged in Family/Home care, study and who are unemployed. While the latter two may be linked to young age and low income, the reason for low drinking among full-time home or family carers is less certain.

Summary

People are more likely to drink every day if they are males, on high incomes.

People are less likely to drink every day if they are female, on low income, aged 18-25 years, never married, living with parents or other adults, engaged in fulltime family care, study, or who are unemployed.

The highest incidence of never drink (>20%) are found among females, aged 26-35y, aged 76+ years, never married, widowed, live alone, live with other adults, income <\$15K, fulltime home/family care, and unemployed.

Conclusion

The incidence of drinking is systematically influenced by gender, income and age. Thus, these will need to be used as co-variates when analysing the effects of drinking on wellbeing.

11.1.2. Frequency of Drinking and Wellbeing

The frequency of drinking and the associated Personal Wellbeing Index values (Table A11.2) are shown below:

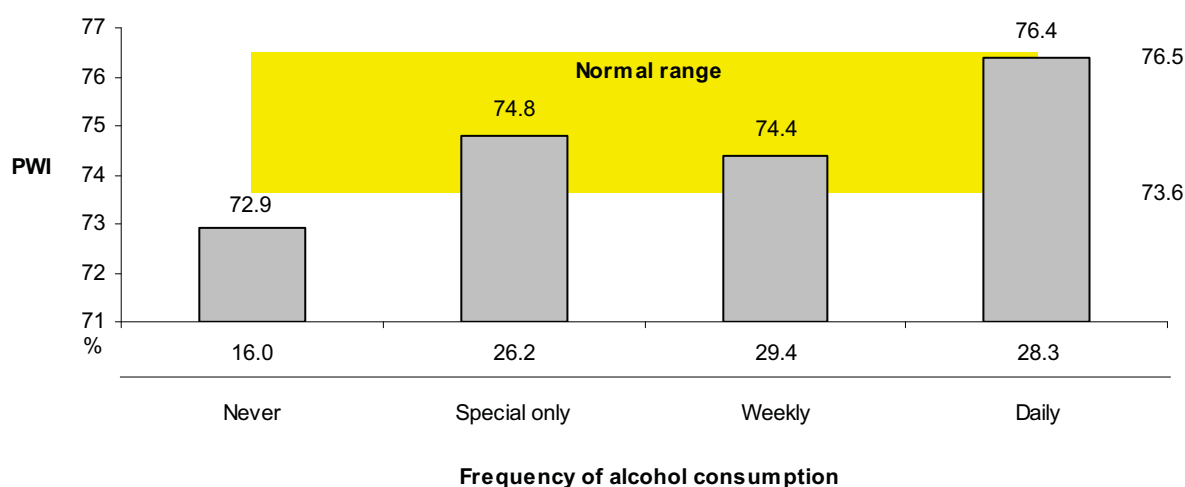


Figure 11.1: Frequency of Drinking (Personal Wellbeing Index)

It is notable that only 16% of the total sample (N=1,913) never have an alcoholic drink and that they have the lowest level of wellbeing compared with the drinking groups (Table A11.2). In terms of significance, the Personal Wellbeing Index of Daily > Never and Weekly.

The above results could be due to the influence of demographic variables being unevenly represented within these four groups. Specifically, males drink more than females, the incidence of drinking increases with age and it also increases with income (Table A11.1). Thus, to control for these influences, an analysis of covariance was conducted.

This analysis did not change the result (Table A11.2.2). Thus the result appears reliably attributed to genuine group differences. That is, people who drink alcohol 'almost every day' have higher wellbeing than people who never drink alcohol and people who drink about once a week.

11.1.3. Gender

The frequency of drinking x gender is given in Table A11.3. Figure 11.2 uses the values after income and age have been used as covariates (Table A11.3.3).

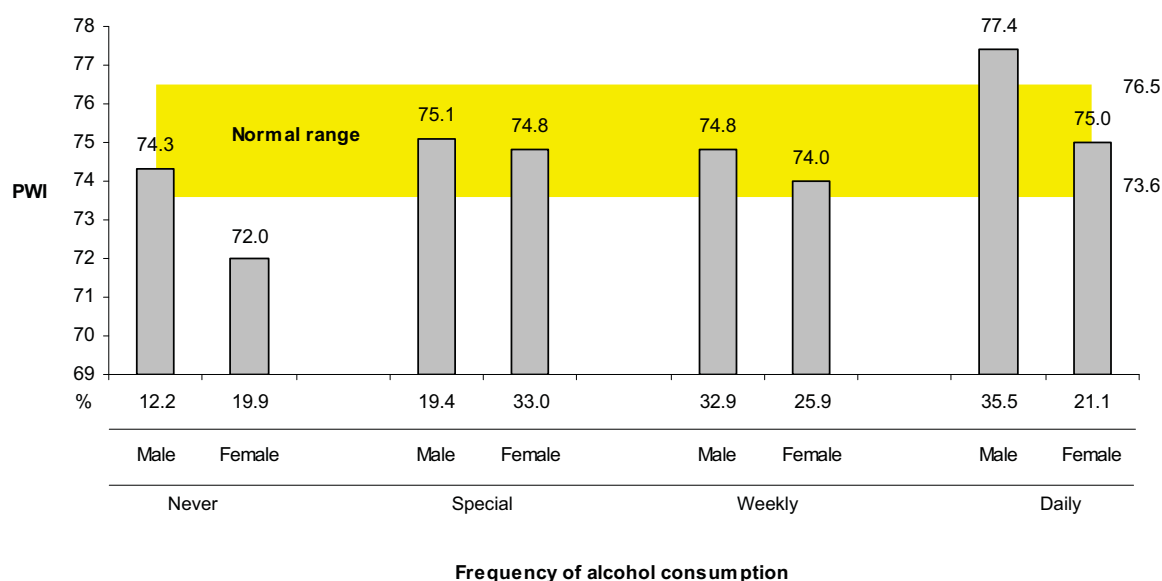


Figure 11.2: Frequency of Drinking x Gender (Personal Wellbeing Index)

Males are more likely to consume alcohol than females. Far fewer males than females never drink (12.2 vs 19.9%) and far more males than females drink daily (35.5 vs. 21.1%).

In terms of wellbeing, the two groups that stand-out as lying outside the normal range are the females who never drink (below the range) and males who drink daily (above the range). However, Table A11.6 shows that these differences are statistically different only for males and the most different group are the 35.5% of males who drink daily. Their wellbeing is higher than all other groups, including females who drink daily. Female wellbeing does not differ between the four consumption groups.

The differences in male wellbeing persist with the use of income as a covariate (Table A11.3.1) and Age as a covariate (Table A11.3.2), and when income and age are both used together as covariates (Table A11.3.3).

Summary

The frequency of drinking alcohol is related to the wellbeing of males but not females. For males, those who drink 'Almost every day' have higher wellbeing than those who drink 'Never' or 'About Once a Week'.

11.1.4. Age

These results are presented in Table A11.4.

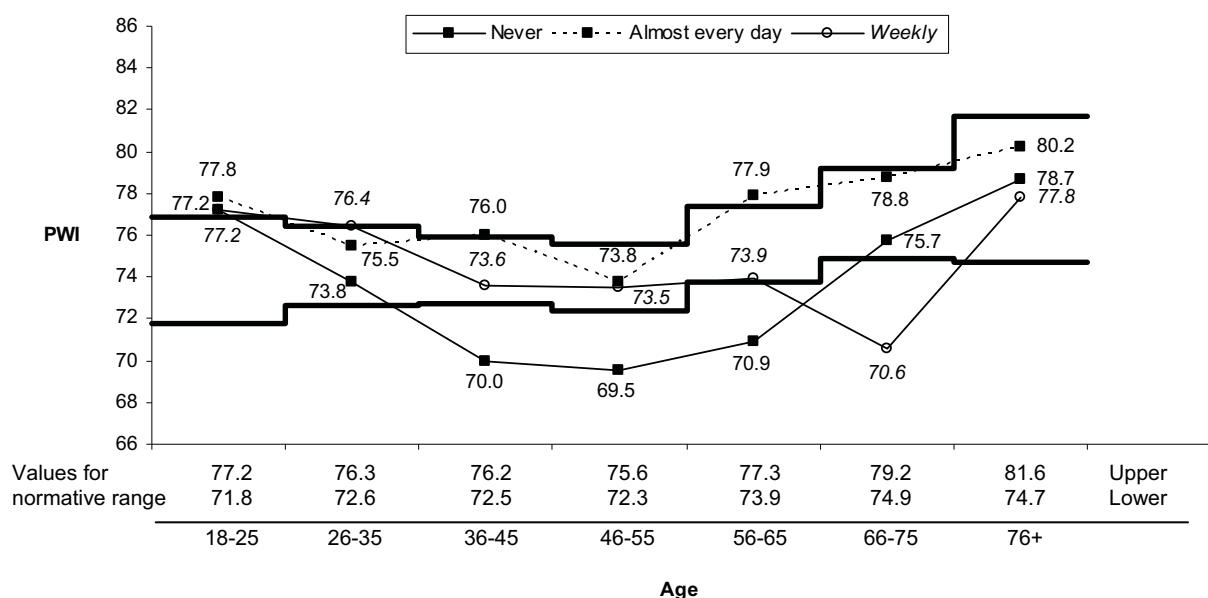


Figure 11.3: Frequency of Drinking x Age

Table A11.4 shows a good distribution of scores with only two cells with an $N < 20$ and the minimum $N = 17$. So the analysis is fairly reliable.

The most interesting comparison is in terms of the extreme drinking groups, and these are shown in Figure 11.3 with income used as a covariate (Table A11.4.1). This shows a significant effect of both frequency and age but no interaction. The levels of significance associated with frequency are less powerful due to the smaller cell sizes. In terms of the normal range for age, Figure 11.3 indicates that:

1. All three groups approximate the normal range for the youngest (18-25y, 26-35y) and oldest group (76+y). This is interesting because it indicates that the effects of frequency on wellbeing are not absolute but age-dependent.
2. The Never group falls well below the normal range for the three middle-age groups (36-45y, 46-55y, 56-65y).
3. The Weekly group approximates the lower-margin of the normal range for these three same age groups, but lies well below the normal range for the 66-75y group.

This latter result is odd. The sample size ($N = 48$) is large enough to be reliable, the level of wellbeing is very low (70.8 points), and it is markedly lower than that of the immediately younger 'Weekly' group (56-65y: 74.2 points) and the immediately older group (77.8 points).

One speculative explanation is that people in this group have received medical advice to reduce their drinking and that their low wellbeing is a result of the loss of an enjoyable activity or the effects of the medical condition that led to the advice. If this was so, it might be evidenced by a proportional shift of people at this age from the 'Daily' to the 'Weekly' group. However, this is not so as shown by Table 11.1.

Table 11.1: The Percentage of Each Age Group that Comprises the Drinking Groups

Age	Never	Special	Weekly	Daily
18-25	17.3	31.4	41.3	9.9
26-35	20.1	24.4	36.3	19.2
36-45	13.6	27.3	31.8	27.3
46-55	14.2	22.1	30.6	33.0
56-65	15.8	25.8	26.7	31.7
66-75	14.2	27.6	20.6	37.5
76+	23.5	30.3	12.8	33.3

The following observations can be made:

1. In terms of their proportional representation within each age group, the Never nor the Special groups show any systematic change with age. Each of these groups are likely comprised of people who have made a determined life-style choice that has persisted through their life. However, the wellbeing of the Never group does decrease below normal in middle age (36-65 years). So this effect is unlikely to be related to some selective process that causes people with low wellbeing not to drink. It is more consistent with the idea that not drinking alcohol in these age groups disadvantages wellbeing.
2. The proportion of each age group in the Weekly group show a systematic decrease with age. In the younger years this is caused by a flow to the Daily group, but after 46 years it is most likely distributed between the other three groups. However, discounting the anomalous 66-75 year result, wellbeing remains within the normal range for all ages.
4. The proportion of people comprising the daily drinking group increases to 46-55 years and then remains stable. Their wellbeing remains in or above the normal range at all ages.
5. It is notable that the proportion of the sample comprising the Daily group does not systematically decrease after 46-55y. This indicates a lack of differential mortality in this group.

Summary

It appears from these results that not drinking alcohol during the middle ages 36-65 years disadvantages wellbeing.

The reason for this is uncertain but could, possibly, be linked to coping. Middle age can be a stressful period of life when people are managing families, work and mortgages. Perhaps the consumption of alcohol during this time is an important coping strategy for many people. At these ages around 2/3 of the sample drink alcohol at least weekly (Table 11.1).

11.1.5. Marital Status

These results are shown in Table A11.7 and in Figure 11.4.

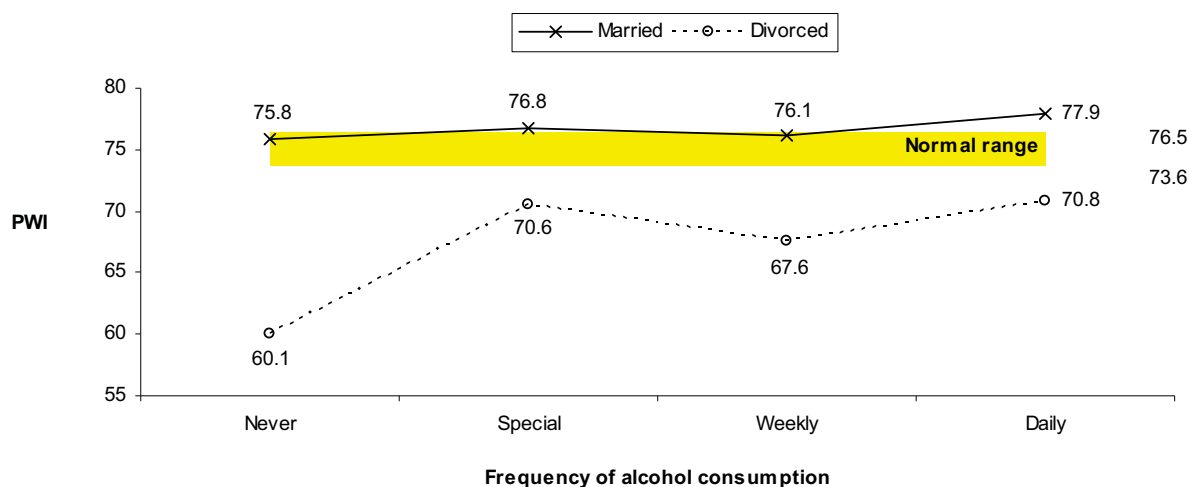


Figure 11.4: Frequency of Drinking x Marital Status (Personal Wellbeing Index)

These results show that the married groups show little variation in (2.1 points) in wellbeing associated with alcohol consumption. This is a typical result for this group who seem to be little influenced by demographic factors.

All of the other groups show much more variation and divorced has been chosen as the exemplar. Here it can be seen the variation is 10.7 points, caused by the very low wellbeing of the abstinent group and this difference remains when gender, age and income are used as covariates (Table A11.5.1). Again, this finding, for this disadvantaged group, seems to indicate the benefits to wellbeing of drinking alcohol daily.

11.1.6. Household Composition

The most dramatic result here (Table A11.6) is shown by the sole parents. In Figure 11.5 they are compared to parents who live with their partner and children.

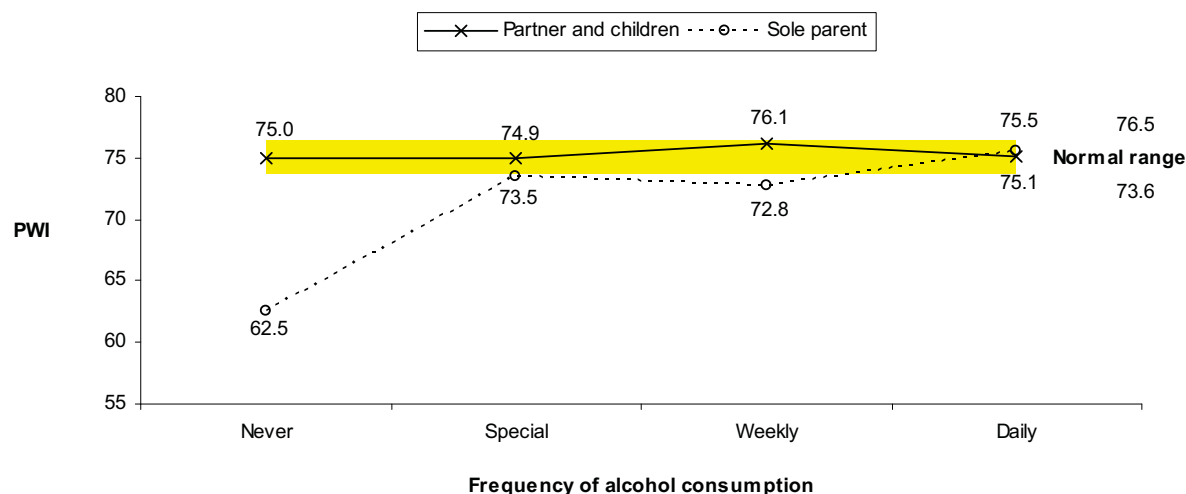


Figure 11.5: Frequency of Drinking x Household Composition (Personal Wellbeing Index)

The rise in wellbeing with increased frequency of alcohol consumption for sole parents is significant. Once again, this result seems to indicate that the group (single parents) who are subjected to the greatest demands on their personal resources benefit their wellbeing by consuming alcohol daily.

11.1.7. Income

The income groups shown in Table A11.7 generally show the familiar pattern, with wellbeing rising with the frequency of alcohol consumption.

It is evident from this table that the frequency of alcohol consumption rises with income, no doubt due in part to the concentration of elderly people in the lowest income groups. This suggests that the differences so far seen in the previous figures may be due in part to differential income.

Table A11.7.1. shows the contracted groups and Table A11.7.2. uses covariates. These continue to show main effects for frequency and income, but no interaction.

11.1.8. Work Status

Here (Table A11.8) shows simple results and Table A11.8.1 uses covariates. While the groups tend to show the familiar pattern, the numbers per cell are generally too small to show significance. One group that retains significance are Full-time retired, and they are shown, together with a comparative group, in Figure 11.6.

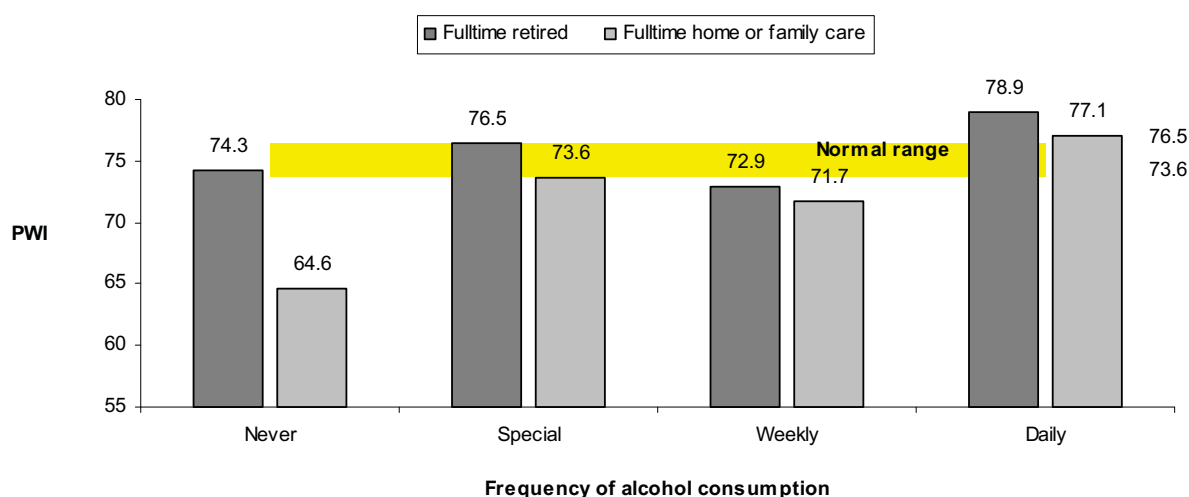


Figure 11.6: Frequency of Drinking x Work Status (Personal Wellbeing Index)

Both groups show the highest wellbeing with daily alcohol intake. However, while the Retired group remain close to the normal range for all frequencies of drinking, this is not true of the full-time home/family care group. These people, who are likely to have a demanding and perhaps isolated life, have substantially lower wellbeing if they do not drink.

11.1.9. Conclusions

These results are quite consistent in showing that, across the various demographic groups, not drinking alcohol is associated with low wellbeing.

This result is most evident for groups who are likely to have heavy demands placed on them due to their life style. These include people in middle age (35 to 65 years), people who are divorced, sole parents, and those engaged in full-time home or family care. For each of these groups the data are consistent with the view that daily alcohol consumption is a coping resource that assists the maintenance of normal levels of wellbeing.

11.2. Number of Drinks Per Session

11.2.1. Average Number of Alcoholic Drinks Consumed per Session

The raw frequencies are shown in Table A11.9 and show that the majority of drinkers (61.9%) consume 1-2 drinks per session. Only 5.1% consume seven or more drinks per session.

For the purpose of further analysis, six categories will be used as: 1, 2, 3, 4, 5-6, 7+ drinks per session.

11.2.2. Demographics

These results are shown in Table A11.10. They indicate

1. Males consume more drinks per session than do females. Whereas 18.5% of male drinkers have one drink per session, this is 35.5% for females.
2. Age: The percentage of drinkers consuming one drink per session rises with age, from 6.8% at 18-25y to 51.4% at 76+ years.
3. Marital Status: The drinkers most likely to drink one glass per session are married (30.0%) and widowed (46.7%). The group least likely to do this are never married (11.2%).
4. Household Structure: The groups least likely to have one drink per session are those who live with their parents (8.4%) or other adults (16.8%). All other groups have 25.0 to 30.0% having just one drink.
5. Income: The group most likely to have a single drink are those with the lowest income (33.8%). The incidence decreases with increasing income to be 16% at \$151-250K.
6. Fulltime Work Status: Whereas 19.0% of full-time employed have one drink per session, this changes to 40.1% for full-time retired.

Conclusion

The groups most likely to have just one drink per session (criterion >35% of the group) are females, 56+ years, widowed, retired, and full-time home/family care.

The groups most likely to drink 5+ glasses per session (criterion >20% of the group) are males, aged 18-35y, live with parents or other adults, full-time study, and unemployed.

11.2.3. Gender

Table A11.11 shows the results depicted below:

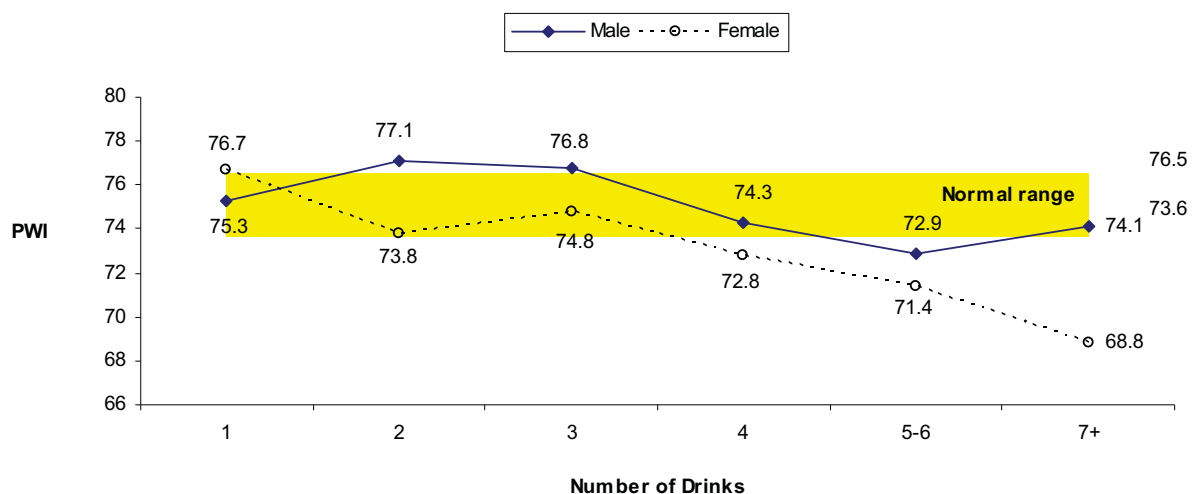


Figure 11.7: Number of Drinks x Gender (Personal Wellbeing Index)

About half of males and three-quarters of females state they drink 1-2 glasses per session (49.8 and 74.3%). Far more males than females state they consume five or more glasses per session (20.9 and 7.2%).

With the use of age and income as covariates, the interaction between number of drinks and gender becomes significant (Table A11.11.1). This shows that there is no systematic change in male wellbeing with the number of drinks consumed. Females, however, show lower wellbeing as the number of drinks per session exceeds three. It is interesting that 86.5% of the females who drink, and 67.7% of males, consume 1-3 glasses per session.

11.2.4. Age

See Table A11.12. There is a marked change with age in the number of people who drink engaged in light and heavy drinking. Figure 11.8 shows the percentage of each age-group engaged in this.

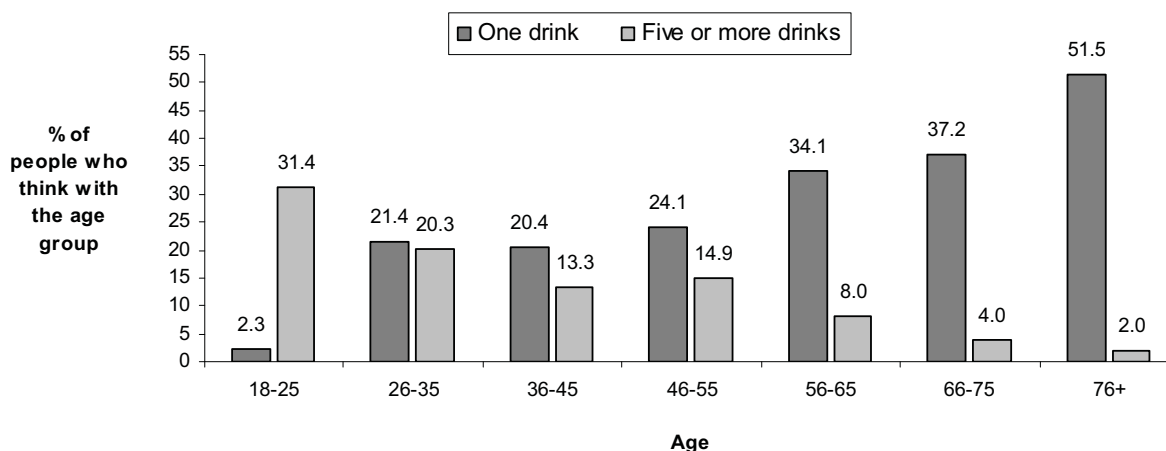


Figure 11.8: The Percentage of People who Drink Engaged in Light and Heavy Drinking x Age (Percentage)

It is uncertain from these data whether this pattern reflects changing preference with age or differential mortality due to heavy drinking.

There is a trend through this table for the heavy drinkers to have lower wellbeing. This is significant for the 46-55y group but not for the 18-25y group as shown below:

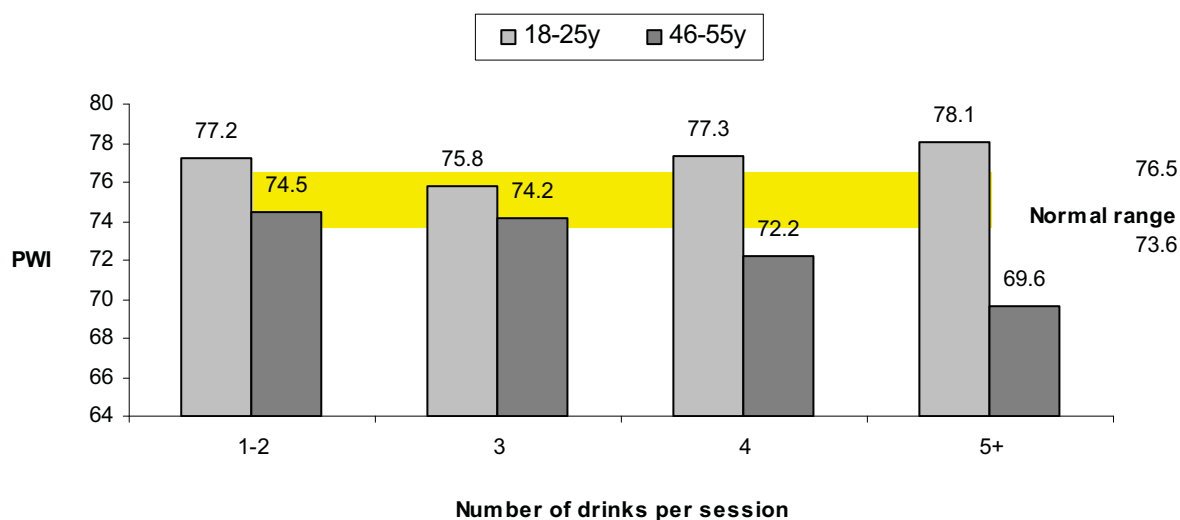


Figure 11.9: Number of Drinks Per Session for the 18-25 and 46-55y Group (Personal Wellbeing Index)

If the number of respondents in each cell was increased and the results remained as shown, the level of consumption associated with lower wellbeing is four glasses per session for the 46-55y group. Notably, however, no such association is present for the 18-25y group.

What this seems to indicate is that the decreased wellbeing is not a direct cause of the alcohol. The decrease may be due to:

- Poor health or life circumstances in the 46-55y group being associated with heavy drinking. If so, it is interesting that this association is not evident in the younger group.
- Developing poor health or life circumstances causally related to heavy drinking. While this would explain the lack of such an association with the younger groups, it does not explain the normal-range wellbeing of the heavy-drinking 56-65y group (73.4 points).

Table A11.12.1 shows the use of covariates and Table A11.12.2 shows the contracted table. There is no overall interaction but this would likely become significant if it was restricted to the two groups above.

11.2.5. Marital Status

See Table A11.13. The number of respondents are sufficient to reach significance in the case of people who are married. The results for many cells in this table are unreliable with a $N < 20$.

Table A11.13.1 shows the use of covariates and Table A11.13.2 uses contracted groups. Here the interaction is highly significant. This shows no significant change with number of drinks across Defacto, Never Married and Divorced, but a significant decrease with Married. These patterns are illustrated below:

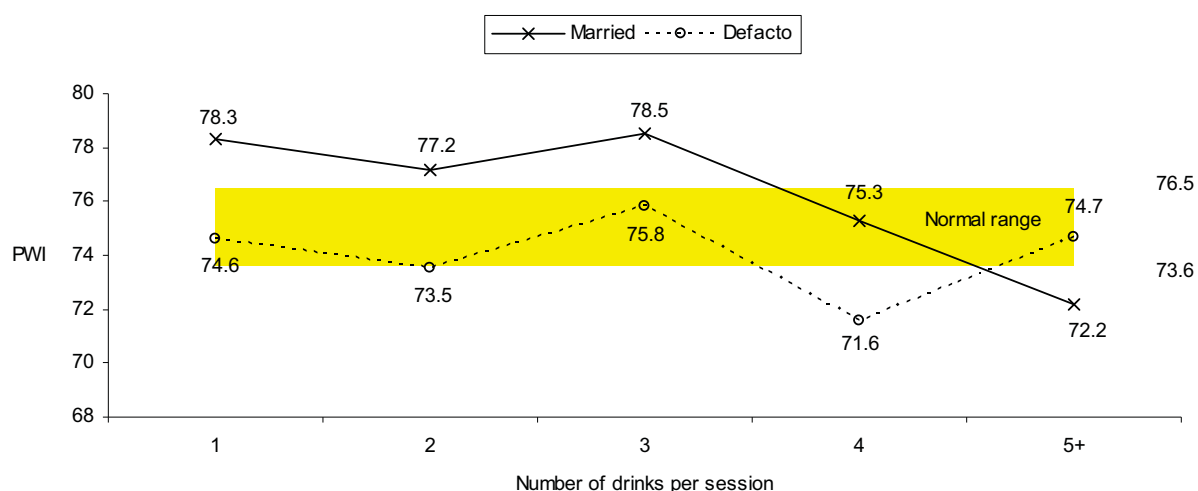


Figure 11.10: Number of Drinks per Session x Marital Status (Personal Wellbeing Index)

Whereas there is no significant change for De facto, the 5+ drinks for married (N=72) have lower wellbeing than 1-3 drinks. Indeed at 5+ drinks the wellbeing of the married group is no different from Divorced.

One possible explanation of this result is that the heavy drinking in the married group is associated with a dysfunctional relationship. This does not occur within the De facto group because such difficulties can be resolved more easily by the partners separating from one another.

11.2.6. Household Structure

See Table A11.14. The two kinds of living circumstances show no change as Live with Partner Only and Live with Partner and Children. The former is shown below:

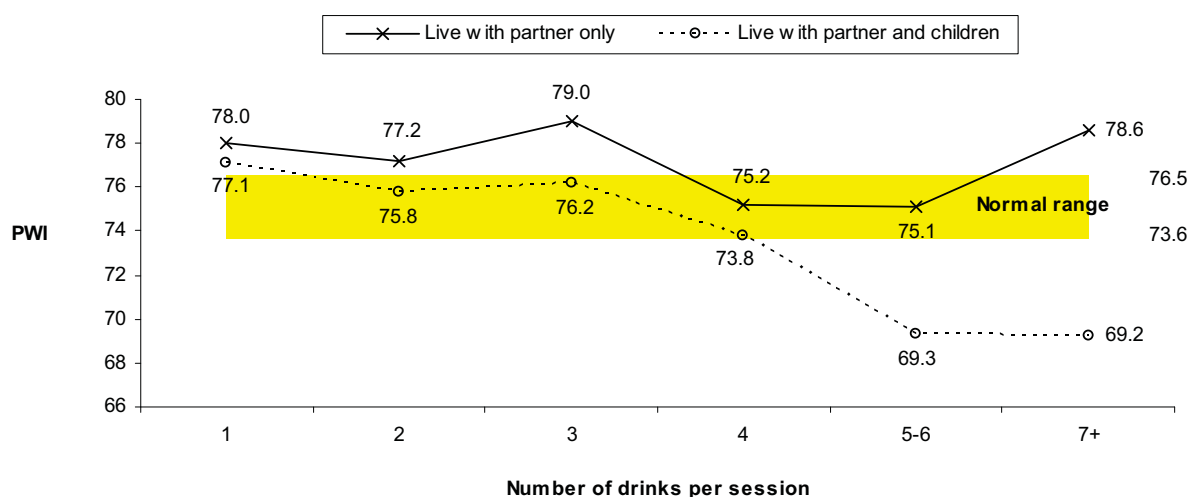


Figure 11.11: Number of Drinks per Session x Household Structure (Personal Wellbeing Index)

Table A11.14.1 shows the use of covariates and Table A11.14.2 shows the reduced categories. The interaction is significant.

One possible interpretation of this is similar to that of the previous section. When no children are involved in the relationship, the partners can more easily separate if the relationship becomes dysfunctional. However, the presence of children not only makes separation more difficult but also

adds a source of stress. It may be for these reasons that the 5+ drinks group exhibits heavy drinking as a coping strategy. It is also possible, of course, that heavy drinking is causing relationship dysfunction and low wellbeing.

11.2.7. Income

See Table A11.15 for the full results, Table A11.15.1 for the reduced categories and Tables A11.15.2 and A11.15.3 for the use of covariates.

There appear to be no obvious trends with income and the interaction is not significant. The proportion of people having 1-2 drinks versus those taking 5+ drinks does not differ much between people with an income of \$15-30K (67.0 and 13.6%) and those at \$151-250K (53.5 and 17.2%). The individual income groups tend to show decreased wellbeing at 5+ drinks (see Figure 11.9).

11.2.8. Work Status

See Table A11.16 for the full results, Table A11.16.1 for the use of covariates and Table A11.16.2 for reduced categories. The interaction is not significant.

There appears to be little systematic effect of work status. Where the cell sizes are sufficient to be reliable (Fulltime Employed, Fulltime Retired, Fulltime Study) there is no change in wellbeing between 1-2 drinks and 5+ drinks).

The fact that Table A11.16.2 shows no decrease in wellbeing for the groups who are employed, retired and studying is interesting. It seems to indicate that the fact of consuming 5+ drinks per session is not, of itself, damaging to wellbeing. This reinforces the interpretation given earlier that the associations with low wellbeing are symptomatic of a coping response to a dysfunctional living situation.

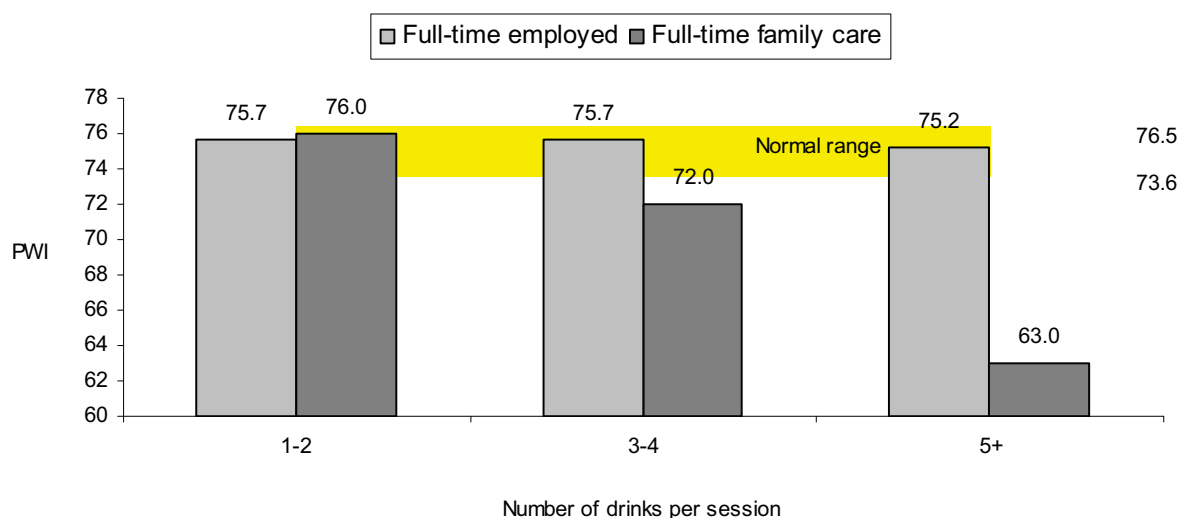


Figure 11.12: Number of Drinks per Session for people who are Full-time Employed and Family Care

This interpretation is also reinforced by people engaged in full-time family care. It is important to note that this result is not significant due probably to the small number of cases in the family-care group (3-4 drinks N=17; 5+ drinks N=9). So the results are indicative only. However, they are consistent with the interpretation of heavy drinking being associated with a difficult living situation.

Summary

While 1-3 drinks per session is associated with normal-range wellbeing, there is evidence that drinking 5+ glasses per session may be associated with psychopathology.

However, there is also important evidence that drinking 5+ glasses per session is not of itself a cause of low wellbeing. Many groups show no evidence of this decrease. They include males in general (Table A11.11.1), people aged 18-24y (Table A11.12.2), people living defacto (Table A11.13.2) and with their partner only (Table A11.14.2), those with a household income of \$61,000+ (Table A11.15.3), and people who are full-time employed or retired (Table A11.16.2).

On the other hand, the groups who show normal-range wellbeing at 1-2 glasses per session and below-normal wellbeing at 5+ glasses per session are as follows: people aged 46-55 years (Table A11.12.2); people who are married (Table A11.13.2) or living with their partner and children (Table A11.14.2).

All of these three groups may identify people living in distressing circumstances from which they cannot easily escape. People aged 46-55y are generally prone to low wellbeing (see Chapter 5) which may be due to high demands arising from adolescents' education expenses, a demanding job, loss of partner intimacy, mortgage and car repayments, etc. People who are married may have difficulty escaping from a dysfunctional relationship, while the daily grinds of caring for children may be distressing for some people.

Given the balance of these results it seems most likely that people who engage in heavy drinking do so as a coping mechanism. If this is correct, the heavy drinking is not the reason for their low wellbeing. Their drinking is symptomatic of distressing living circumstances and represents a coping mechanism.

11.3. Current Smoking Status

11.3.1. *Demographics*

These are provided in Table A11.17. The following observations can be made:

1. Gender: While slightly more males (18.1%) than females (14.5%) are current smokers, the opposite is true for people who have never smoked (Males 48.2%; Females 58.8%). This seems to indicate that females are more successful in quitting than males.
2. Age: The proportion of each age group who are current smokers lies between 15.7% and 24.7% up to the age of 65 years. It falls sharply at older ages, perhaps reflecting differential mortality.

If this was correct, the older age groups should show a lower proportion of ex-smokers and a higher proportion of never smoked. In fact, there is no evidence of a lower proportion of ex-smokers.

At 56-65 years the proportion of ex-smokers rises slightly to 33.4%, at 66-75 years the proportion peaks at 41.6% and then decreases somewhat to 36.9% at 76+ years.

In terms of Never Smoked, the proportion of these people remains steady up to 66-75 years, but then jumps to 57.7% at 76+ years.

These changes are consistent with the following explanation: From about 56-65 years, smokers experience obvious health concerns attributed to their smoking. This causes many of them to become ex-smokers. From 76+ years there is a higher mortality within the current and ex-smoker groups resulting in a proportional survival advantage to the people who have never smoked.

It is also of interest to observe that the highest proportion of Never Smoked (70.9%) come from the youngest group (18-25 years). This confirms that smoking among young people is becoming less popular.

3. Marital Status: The lowest proportions of current smokers are Widows (7.5%), probably due to their older age, and Married (12.1%), possibly influenced by family pressure not to smoke.

The highest incidence of smoking is among people who are divorced (31.2%). This high incidence is not due to ex-smokers reverting to smoking because the proportion of ex-smokers in the divorced group (31.2%) is much the same as Married (33.4%) and Defacto (33.6%). Moreover of the proportion of Never Smoked is the lowest of any group (37.6%). This association, between smoking and divorce, must be moderated by an unknown third variable.

The highest incidence of Never Smoked (62.2%) is within the Never Married and is probably due to their youth.

4. **Household Structure:** The highest proportion of current smokers are within those people living with other adults who are not their parents or partner.
5. **Income:** The proportion of current smokers does not change between <\$15K to \$31-60K (17.6 to 19.8%). At higher incomes there is some indication that the incidence is lower (\$101-150K; 13.6%).
6. **Work Status:** The highest incidence is among people who are unemployed (22.0%). However, they are not very different from Fulltime Employed (18.3%) and Home Care (20.6%).

Summary

There are far more ex-smokers (30.2%) than current smokers (16.3%) showing that many people are able to quite. However, females are more successful at quitting than are males.

In terms of age, the results suggest that from about 56-65 years, smokers quit because of obvious health concerns and from 76+ years there is a higher mortality within this group. On the positive side, the youngest group (18-25y) have the highest proportion of people who have never smoked (70.9%).

In terms of other demographics, the groups most likely to be current smokers are divorced (31.2%), living with other adults (24.6%), with a household income of \$31-60K (19.8%), Unemployed (22.0%), Fulltime home/Family care (20.6%), and living only with children (21.6%). It is notable that these may be considered stressful living circumstances and so the smoking may be a coping mechanism.

11.3.2. Smoking Status and Wellbeing

See Table A11.18 for the raw results and Table A11.18.1 for the use of covariates.

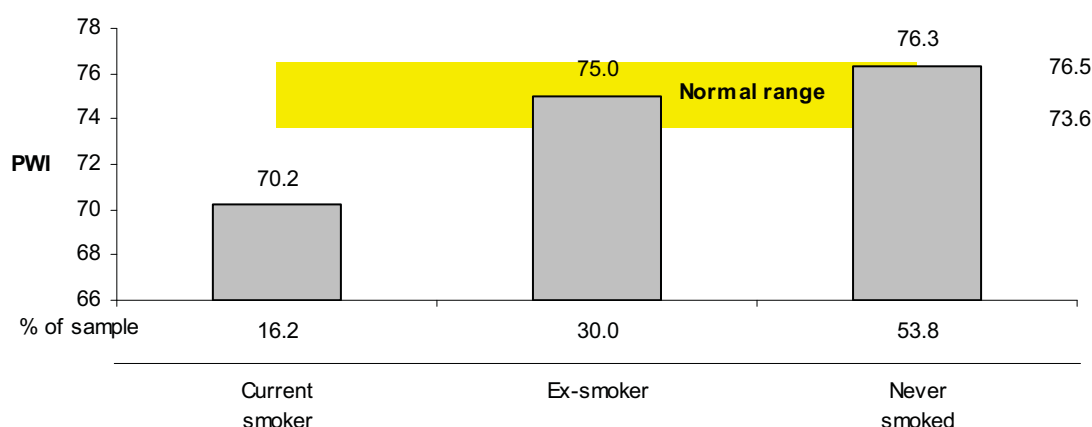


Figure 11.13: Smoking Status (Personal Wellbeing Index)

It is evident that the current smokers have low wellbeing and that this difference persists when gender, age and income are used as covariates (Table A11.18.1). However, given the indication in the

previous section, that the stressed demographic groups are more likely to smoke, it is unlikely that it is the smoking that reduces wellbeing. Rather, it is likely that people living under stressful conditions are more likely to smoke as a coping mechanism and that their low wellbeing is due to their living circumstances.

11.3.3. Gender

Table A11.19.1 shows the raw results and Table A11.19.2 shows the effects of covariates. Both genders show the same pattern as Figure 11.13 and the interaction is not significant. However, ex-smoking females have lower wellbeing than ex-smoking males.

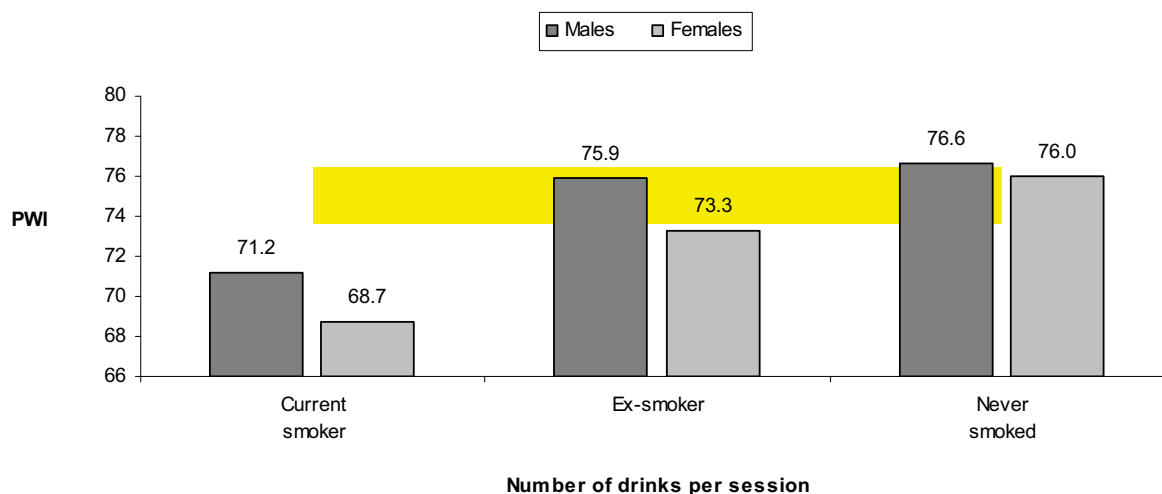


Figure 11.14: Smoking Status x Gender (Personal Wellbeing Index)

11.3.4. Age

See Table A11.20 for the raw results and Table A11.20.1 for covariates.

When the covariates are used (Table A11.20.1) the lower wellbeing of smokers is evident at each age group. The interaction is not significant.

11.3.5. Marital Status

See Table A11.21 and with covariates Table A11.21.1. These results show much the same pattern as Figure 11.13 and the interaction is not significant.

11.3.6. Household Composition

See Table A11.22 and with covariates Table A11.22.1. These results show much the same patterns as Figure 11.13 and the interaction is not significant.

One remarkable result, however, is shown below:

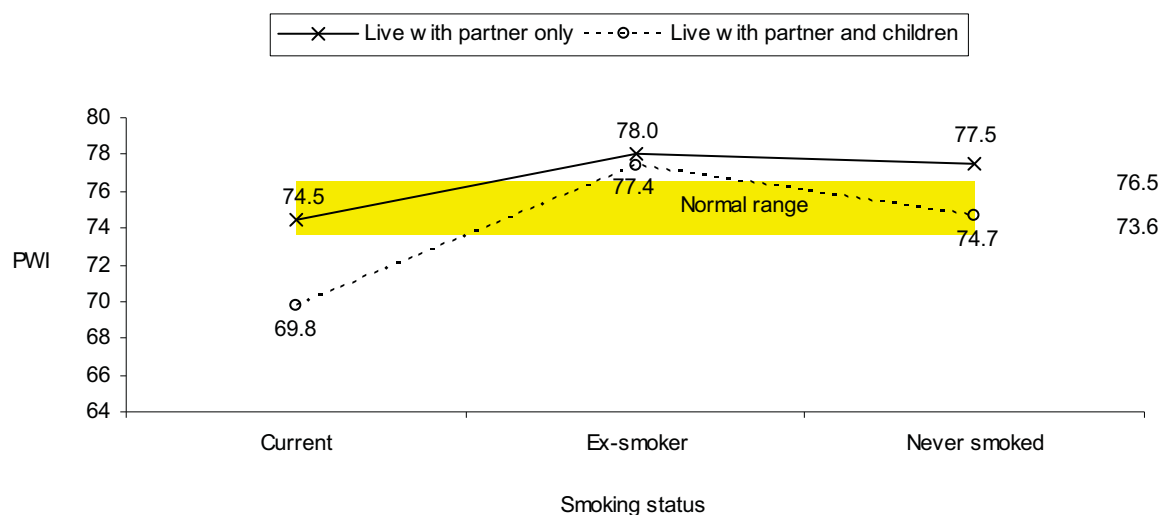


Figure 11.15: Smoking status x Live with Partner/Children (Personal Wellbeing Index)

The number of observations per cell is high (minimum N=70) and so the result is likely to be reliable. It shows that smoking is not necessarily associated with low wellbeing. The interpretation of this result rests on an assumption that smoking is an acceptable, and probably shared, activity of both partners. This, then, may generate an ‘us-against-them’ mentality which enhances bonding social capital and enhanced wellbeing.

11.3.7. Income

The raw results are shown in Table A11.23 and the covariate analysis in Table A11.23.1. There is no interaction. Current smokers have below-normal wellbeing at every level of income.

The percentage of current smoking status within each income group is shown in Table 11.2 below.

Table 11.2: Smoking Status x Income

Income	Current	Ex	Never	Total %
<\$15,000	18.8	29.6	51.6	100
\$15,000-\$30,000	17.0	34.8	48.2	100
\$31,000-\$60,000	19.5	32.2	48.3	100
\$61,000-\$100,000	14.8	30.8	54.4	100
\$101,000-\$150,000	13.6	27.6	58.8	100
\$151,000-\$250,000	15.7	25.9	58.3	100
\$250,000+	0.0	18.2	81.8	100

While the changes with income are generally not large, there does seem to be an advantage to people from high income households. Fewer are current smokers, fewer are ex-smokers, and more have never smoked.

11.3.8. Work Status

The percentage of smoking status within each work status group is shown in Table 11.2 below:

Table 11.3: Smoking Status x Work Status

Work status (F/T)	Current	Ex	Never	Total %
Employed	18.1	26.8	55.1	100
Retired	11.3	38.1	50.6	100
Semi-retired	9.4	48.4	42.2	100
Volunteer	8.3	33.3	58.3	100
Home/Family Care	21.1	34.6	44.4	100
Study	14.9	14.9	70.3	100
Unemployed	22.8	26.6	50.6	100

The groups with the highest levels of current smokers are those who are employed, engaged in home/family care, and unemployed. The highest proportion of ex-smokers are people who have retired.

In terms of wellbeing, all of the groups show much the same pattern as Figure 11.13 (Table A11.24) and the reduced-group comparisons (Table A11.24.1) show a significant interaction, which is maintained in the presence of the covariates (Table A11.24.2). The interaction is probably caused by the small extent of difference smoking status makes to the wellbeing of people who are full-time employed.

While the ex-smoker and never groups lie well within the normal range, the current smoker group lies marginally below the normal range (73.5 points) and at least 1.5 points below the other two groups. Thus, smoking is associated with reduced wellbeing among people who are full-time employed also.

11.3.9. Summary

The association between current smoking and reduced wellbeing is very consistent through these results. This is not surprising. While the smoking of itself may or may not damage wellbeing through its effects as a hazard to health and a drain on financial resources, it is probably the social stigma that is the most powerful influence. With smoking now banned in all public spaces there has developed a strong negative attitude towards smokers that is quite generally held throughout the population. This means that smokers will likely encounter prejudice within their families, at work and in most social groups. Such prejudice has the potential to threaten wellbeing.

The only group to show strong resistance to this influence are people living only with their partner. Such people, presumably being of a like mind, stand against the prevailing view, in regarding smoking as acceptable. This shared attitude likely draws the partners closer together, bonded against the prejudice of others, and this is a powerful resource to maintain their wellbeing.

11.4. Number of Cigarettes Smoked Each day

11.4.1. Number of Cigarettes (Frequency)

Table A11.25 shows the frequency distribution for the whole sample. Within the whole sample of 1,984 people who responded to this question, 323 (16.3%) are current smokers.

About 10% of these smokers use 1-3 cigarettes per day and about 20% use 5 or less. A further 20% use 6-10 per day and a further 40% smoke 11-20 per day. 15% smoke more than 20 per day. Thus, the most common usage among smokers is 10-20 cigarettes per day (52.7% of the sample).

11.4.2. Demographics

These results are shown in Table A11.26 as the raw frequencies and in Table A11.26.1 for combined categories.

Gender

Males tends to be heavier smokers than females. Of those smoking 10-20 per day, the proportion are 56.5% of Males and 48.0% of Females. The respective proportions for those smoking >20 per day are 19.0% and 11.8%.

Age

The proportion of each age-group who are current smokers is as follows:

18-25y	-	16.3%
26-35y	-	24.7%
36-45y	-	18.0%
46-55y	-	19.4%
56-65y	-	15.7%
66-75y	-	9.0%
76y+	-	5.4%

It is evident that the peak age for smoking is 26-35y, with the proportion decreasing at older ages.

Marital Status

The proportion of each Martial Status group who are current smokers is:

Married	-	12.1%
Defacto	-	22.6%
Never married	-	22.0%
Separated	-	24.2%
Divorced	-	31.2%
Widowed	-	7.5%

The highest proportions of smokers are found within the most obviously stressed groups of people; those who are separated or divorced. The lowest proportions are found among people subjected to the highest levels of social control (married) and people who are the oldest (widowed).

Household Composition

The proportion of each household composition group who are current smokers is:

Live alone	-	20.4%
Partner only	-	12.8%
Partner and children	-	16.0%
Sole parents	-	22.2%
Parents	-	21.8%
Other adults	-	40.0%

The highest proportion is people living with other adults while the lowest are people living with their partner only (12.8%) or together with children (16.0%).

Income

The proportion of each income group who are current smokers is:

<\$15K	-	17.6%
\$15-30	-	18.4%
\$31-60	-	19.8%
\$61-100	-	15.1%
\$100-150	-	13.6%
\$151-250	-	15.6%
\$251+	-	2.9%

The proportion of smokers remains fairly constant up to a household income of \$50,000 and then progressively declines.

Work Status

The proportion of each work status group who are current smokers is:

Full-time employed	-	18.6%
Retired	-	11.8%
Semi-retired	-	10.9%
Volunteer	-	8.3%
Home/Family	-	21.1%
Study	-	15.8%
Unemployed	-	22.8%

The highest proportion of smokers is found within people who are unemployed (22.8%) or Home/Family care (21.1%). The lowest proportions are found among people who are full-time volunteers (N=12, 8.3%) and people who have retired 11.8%.

Summary

The groups most likely to contain smokers (>20%) are:

- 26-35y
- Defacto, Never Married, Separated, Divorced
- Live alone, Sole parents, Live with parents or other adults
- Home/Family care, Unemployed

Apart from the age group of 26-35y, all other groups are likely to contain a high proportion of people who are living in difficult circumstances. Thus, these people may be using smoking as a coping device. These groups also explain the association between smoking and low wellbeing. It is the difficult circumstances of living, rather than the smoking itself, that is the most likely cause of the low wellbeing.

The groups least likely to contain smokers (<15%) are:

- 66-75y, 76y+
- Married, Widowed
- Live with partner only
- \$100-150K; \$251K+
- Retired, Semi-retired; Volunteer

These groups are probably best characterised as being under strong social control through marriage, being elderly, and being wealthy.

11.4.3. Gender

Table A11.27 provides the full results, Table A11.27.1 shows the contracted groups, while Tables A11.27.2 and A11.27.3 show the use of covariates. The results are shown in Figure 11.16.

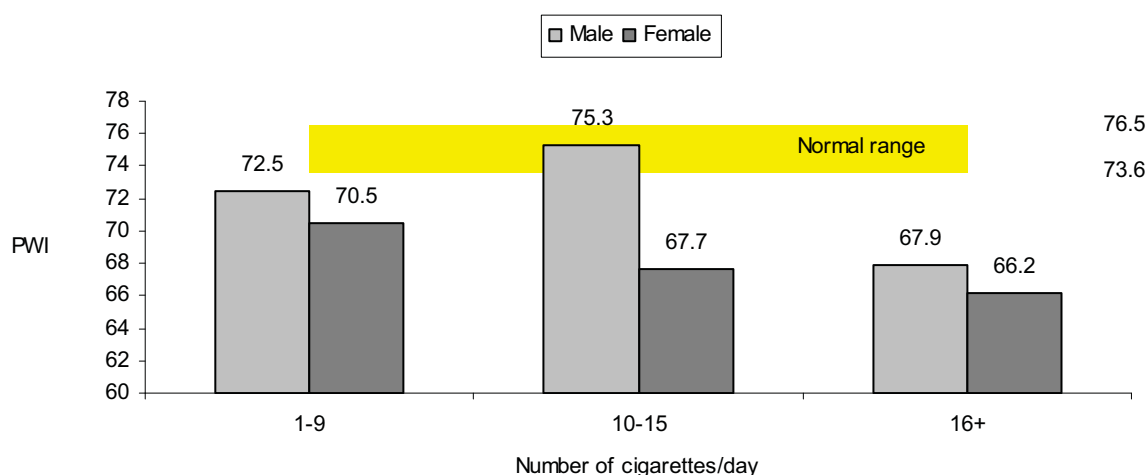


Figure 11.16: Number of Cigarettes x Gender (Personal Wellbeing Index)

There is a significant effect for gender (males > females) but no significant difference overall for the number of cigarettes smoked and no interaction. The gender difference is significant for 10-15 cigarettes per day.

The most notable result from this is that females who smoke have lower wellbeing than males who smoke even when wealth and age have been used as covariates. The reason for this may come from the demographic grouping cited earlier. Of the groups most likely to contain smokers, Sole parents and Home/Family care contain far more females than males. Thus, the reason for lower wellbeing among female smokers may be tied to the fact that more females than males are living in very difficult circumstances.

11.4.4. Age

The full results are found in Table A11.28 and the compressed categories in Table A11.28.1. There is neither an age effect nor an interaction.

11.4.5. Marital Status

Table A11.29 shows the only two marital status groups where the cell sizes are sufficient to support a reliable analysis (Married and Never married). Table A11.29.1 shows the use of covariates. There are no significant main effects or interactions.

11.4.6. Household Composition

Table A11.30 shows the full results and Table A11.30.1 the compressed categories. Tables A11.30.2 and A11.30.3 show the use of covariates. The main effect for smoking is significant as the Personal Wellbeing Index of 1-9 > 16+, but the interaction is not significant.

11.4.7. Income

Table A11.31 shows the complete results while Table A11.31.1 shows the compressed categories. The Personal Wellbeing Index of 10-15 > 16+ but the interaction is not significant.

11.4.8. Work Status

The full results are given in Table A11.32 and the compressed results in Table A11.32.1. The covariate analyses are provided in Tables A11.32.2 and A11.32.3. The interaction is not significant and there are too few respondents in most cells for reliable analysis.

11.4.9. Summary

The only demographic separation to show a determined effect is gender, where smoking females have lower wellbeing than smoking males. This may well be linked to the fact that more females than males live in very difficult circumstances as sole parents and home/family care. For these people, smoking is a coping resource. Thus, their lower wellbeing is a consequence of their living conditions rather than the smoking itself.

The rest of the analyses showed no significant interactions and the analyses overall were weakened by the small number of respondents.

Dot Point Summary Drinking and Smoking

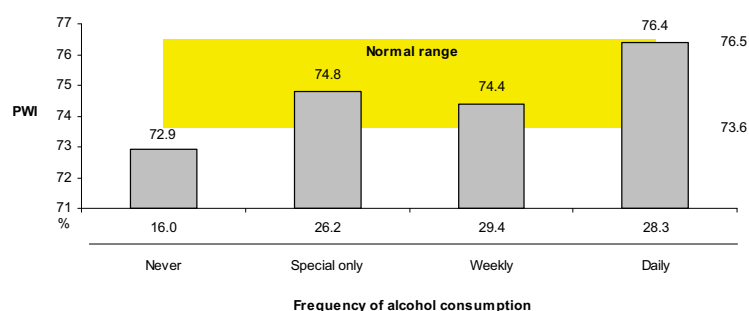
Frequency of Drinking Alcohol

1. People are more likely to drink every day if they are males, on high incomes.

People are less likely to drink every day if they are female, on low income, aged 18-25 years, never married, living with parents or other adults, engaged in fulltime family care, study, or who are unemployed.

The highest incidence of never drink (>20%) are found among females, aged 26-35y, aged 76+ years, never married, widowed, live alone, live with other adults, income <\$15K, fulltime home/family care, and unemployed.

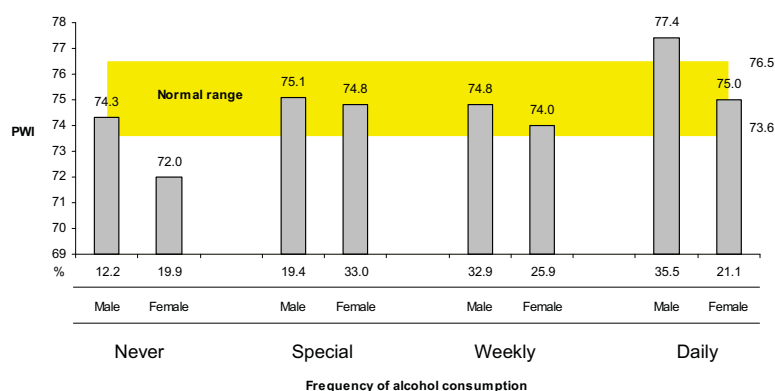
2. The 28.3% of the sample who drink alcohol every day have the highest wellbeing. The 16.0% of the sample who never have an alcoholic drink have below normal wellbeing.



3. Males are more likely to consume alcohol than females. Far fewer males than females never drink (12.2 vs 19.9%) and far more males than females drink daily (35.5 vs. 21.1%).

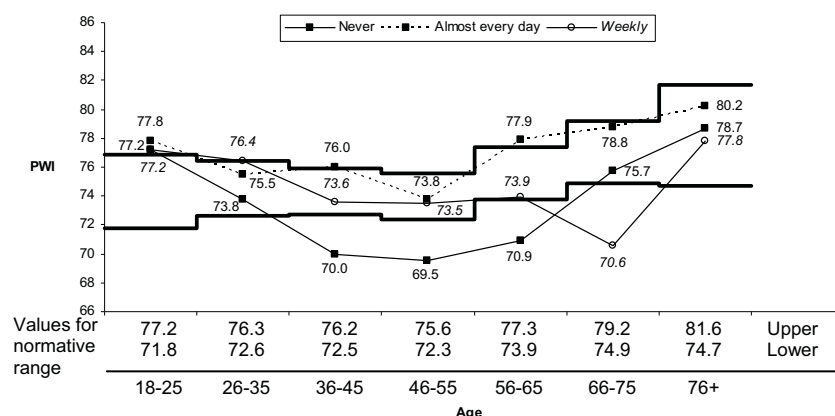
Males who never drink have normal levels of wellbeing. Females who never drink have below normal wellbeing.

Males who drink everyday have above normal wellbeing. Females who drink everyday have normal level wellbeing.



4. Not drinking alcohol during the middle ages 36-65 years disadvantages wellbeing.

The reason for this is uncertain but could, possibly, be linked to coping. Middle age can be a stressful period of life when people are managing families, work and mortgages. Perhaps the consumption of alcohol during this time is an important coping strategy for many people. At these ages around 2/3 of the sample drink alcohol at least weekly (Table 11.1).



5. Not drinking alcohol disadvantages the wellbeing of people who are divorced, who are sole parents, and who are engaged in full-time home/family care.

Conclusion:

These results are quite consistent in showing that, across the various demographic groups, not drinking alcohol is associated with low wellbeing.

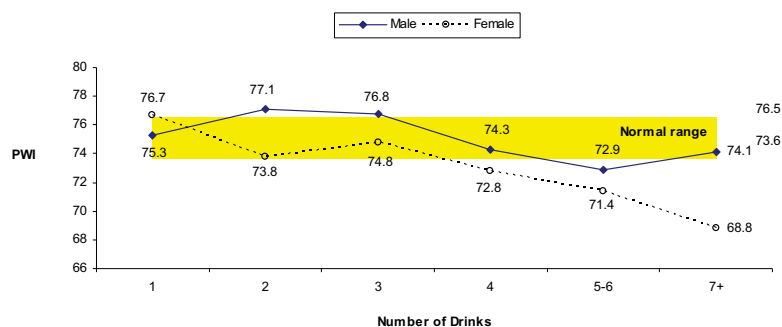
This result is most evident for groups who are likely to have heavy demands placed on them due to their life style. These include people in middle age (35 to 65 years), people who are divorced, sole parents, and those engaged in full-time home or family care. For each of these groups the data are consistent with the view that daily alcohol consumption is a coping resource that assists the maintenance of normal levels of wellbeing.

Number of Drinks Per Session

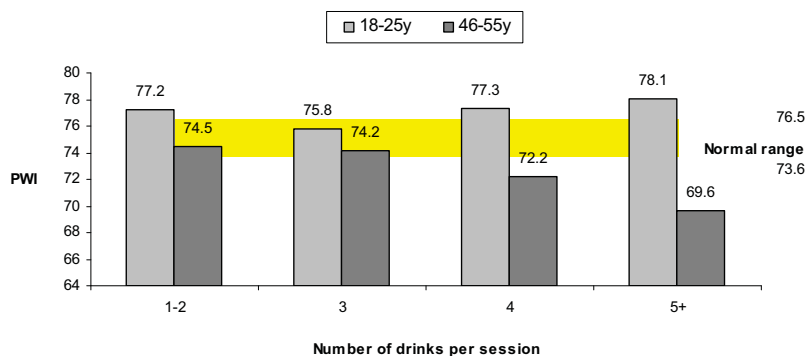
The groups most likely to have just one drink per session (criterion >35% of the group) are females, 56+ years, widowed, retired, and full-time home/family care.

The groups most likely to drink 5+ glasses per session (criterion >20% of the group) are males, aged 18-35y, live with parents or other adults, full-time study, and unemployed.

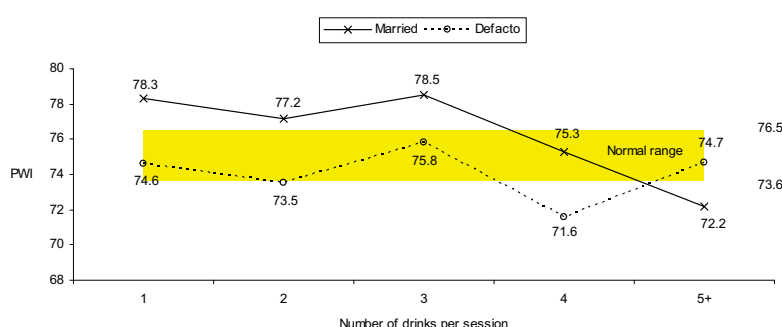
6. There is no systematic change in male wellbeing as the number of drinks per session exceeds three. Female wellbeing falls at more than three per session.



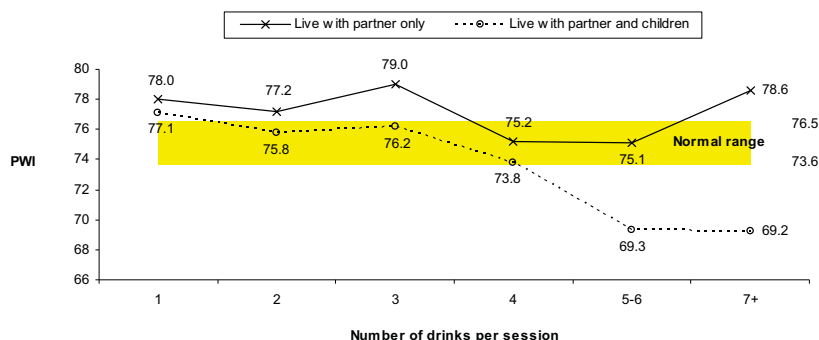
7. As the number of drinks per session exceeds three, the wellbeing of the 46-55y group goes down, while the wellbeing of the 18-25y group does not change and remains high. This result for the 18-25y group shows that the decreased wellbeing is not a direct consequence of the alcohol.



8. The wellbeing of the married group decreases with more than three drinks per session. This does not occur for the other marital status groups. One explanation is that the heavy drinking is associated with a dysfunctional relationship.



9. With more than four drinks per session, the wellbeing of people living only with their partner remains within the normal range whereas the wellbeing of people living with their partner and children decreases.



Conclusion:

While 1-3 drinks per session is associated with normal-range wellbeing, there is evidence that drinking 5+ glasses per session may be associated with psychopathology.

However, there is also important evidence that drinking 5+ glasses per session is not of itself a cause of low wellbeing. Many groups show no evidence of this decrease. They include males in general (Table A11.11.1), people aged 18-24y (Table A11.12.2), people living defacto (Table A11.13.2) and with their partner only (Table A11.14.2), those with a household income of \$61,000+ (Table A11.15.3), and people who are full-time employed or retired (Table A11.16.2).

On the other hand, the groups who show normal-range wellbeing at 1-2 glasses per session and below-normal wellbeing at 5+ glasses per session are as follows: people aged 46-55 years (Table A11.12.2); people who are married (Table A11.13.2) or living with their partner and children (Table A11.14.2).

All of these three groups may identify people living in distressing circumstances from which they cannot easily escape. People aged 46-55y are generally prone to low wellbeing (see Chapter 5) which may be due to high demands arising from adolescents' education expenses, a demanding job, loss of partner intimacy, mortgage and car repayments, etc. People who are married may have difficulty escaping from a dysfunctional relationship, while the daily grinds of caring for children may be distressing for some people.

Given the balance of these results it seems most likely that people who engage in heavy drinking do so as a coping mechanism. If this is correct, the heavy drinking is not the reason for their low wellbeing. Their drinking is symptomatic of distressing living circumstances and represents a coping mechanism.

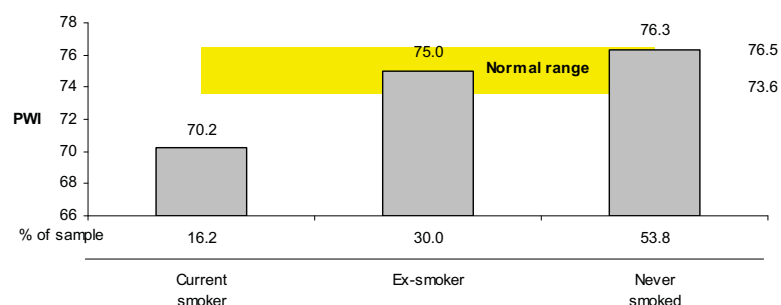
Current Smoking Status:

There are far more ex-smokers (30.2%) than current smokers (16.3%) showing that many people are able to quite. However, females are more successful at quitting than are males.

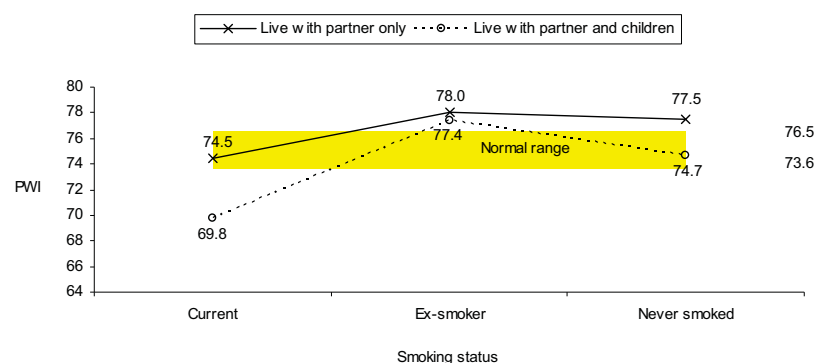
In terms of age, the results suggest that from about 56-65 years, smokers quit because of obvious health concerns and from 76+ years there is a higher mortality within this group. On the positive side, the youngest group (18-25y) have the highest proportion of people who have never smoked (70.9%).

In terms of other demographics, the groups most likely to be current smokers are divorced (31.2%), living with other adults (24.6%), with a household income of \$31-60K (19.8%), Unemployed (22.0%), Fulltime home/Family care (20.6%), and living only with children (21.6%). It is notable that these may be considered stressful living circumstances and so the smoking may be a coping mechanism.

10. Current smokers have lower wellbeing. However, since people living in difficult circumstances are more likely to smoke, it is more likely their poor living conditions, than their smoking, that is causing the decreased wellbeing.



11. The exception to the rule, that smoking is associated with low wellbeing, comes from the group who live only with their partner. Their wellbeing remains in the normal range. If smoking is acceptable to both people, this may generate an 'us-against-them' mentality which enhances their bonding and enhances wellbeing.



Conclusion:

The association between current smoking and reduced wellbeing is very consistent through these results. This is not surprising. While the smoking of itself may or may not damage wellbeing through its effects as a hazard to health and a drain on financial resources, it is probably the social stigma that is the most powerful influence. With smoking now banned in all public spaces there has developed a strong negative attitude towards smokers that is quite generally held throughout the population. This means that smokers will likely encounter prejudice within their families, at work and in most social groups. Such prejudice has the potential to threaten wellbeing.

The only group to show strong resistance to this influence are people living only with their partner. Such people, presumably being of a like mind, stand against the prevailing view, in regarding smoking as acceptable. This shared attitude likely draws the partners closer together, bonded against the prejudice of others, and this is a powerful resource to maintain their wellbeing.

Number of Cigarettes Smoking Each Day

Within the whole sample, 16.3% are current smokers.

About 10% of these smokers use 1-3 cigarettes per day and about 20% use 5 or less. A further 20% use 6-10 per day and a further 40% smoke 11-20 per day. 15% smoke more than 20 per day. Thus, the most common usage among smokers is 10-20 cigarettes per day (52.7% of the sample).

Summary

The groups most likely to contain smokers (>20%) are:

- 26-35y
- Defacto, Never Married, Separated, Divorced
- Live alone, Sole parents, Live with parents or other adults
- Home/Family care, Unemployed

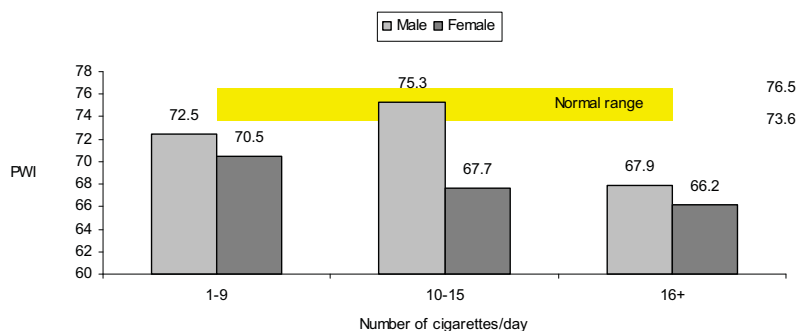
Apart from the age group of 26-35y, all other groups are likely to contain a high proportion of people who are living in difficult circumstances. Thus, these people may be using smoking as a coping device. These groups also explain the association between smoking and low wellbeing. It is the difficult circumstances of living, rather than the smoking itself, that is the most likely cause of the low wellbeing.

The groups least likely to contain smokers (<15%) are:

- 66-75y, 76y+
- Married, Widowed
- Live with partner only
- \$100-150K; \$251K+
- Retired, Semi-retired; Volunteer

These groups are probably best characterised as being elderly, wealthy, and under strong social control through marriage.

12. Females who smoke have lower wellbeing than males who smoke. This may be because more females than males are living in very difficult conditions.



12. Insights into Homeostasis

12.1. Health Satisfaction

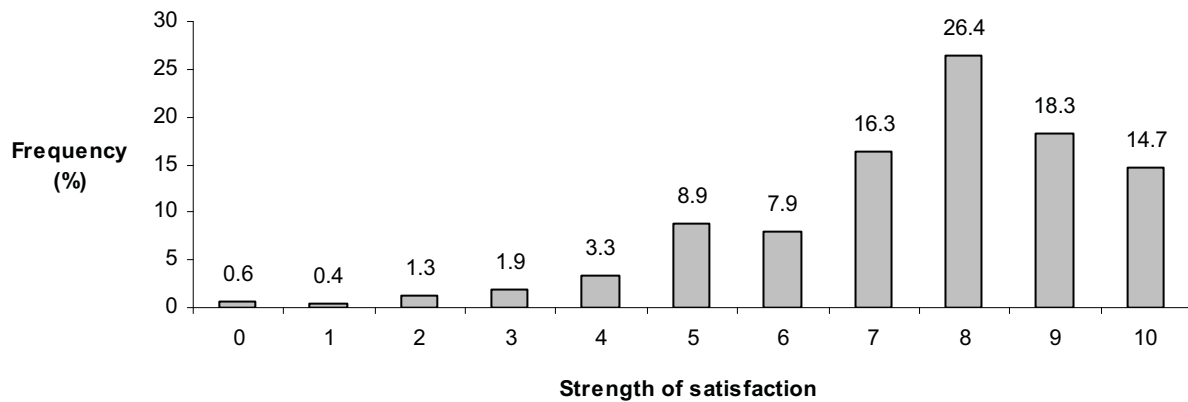


Figure 12.1: Satisfaction with Health (Frequency: combined sample)

Figure 12.1 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 37,330 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 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 12.2 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).

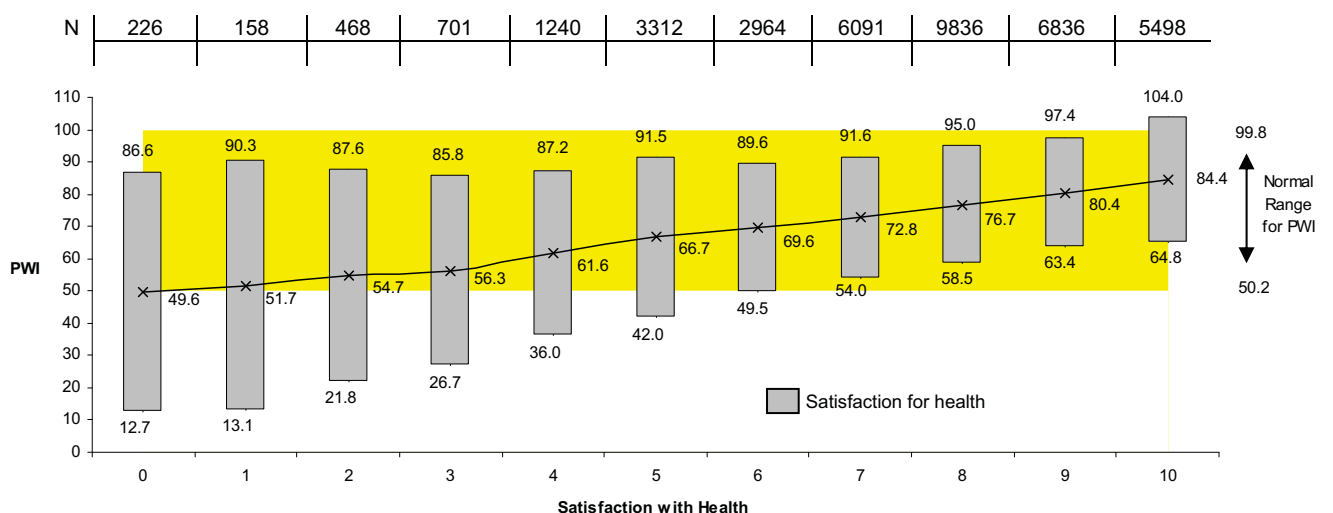


Figure 12.2: Satisfaction with Health x **Personal Wellbeing Index**

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 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 12.2 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 49.6 to 56.3, an increment of 6.7 points. In contrast, over the next four ratings (3-6) the Personal Wellbeing Index increments by 13.3 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 12.3.

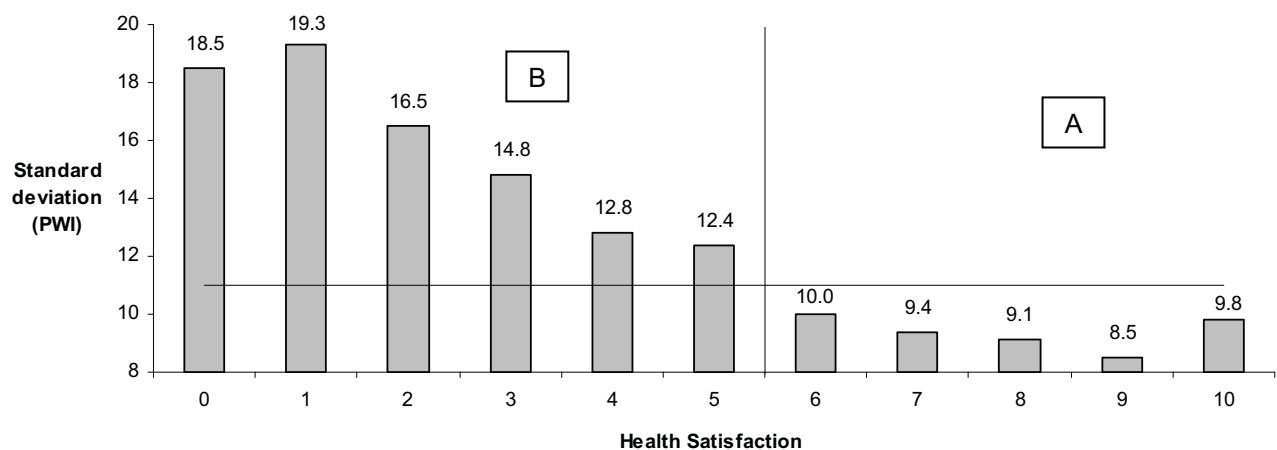


Figure 12.3: Health Satisfaction x Personal Wellbeing Index Standard Deviations

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 12.2) but is independent of the Personal Wellbeing Index variance at each level ($r = -.310$; Figure 12.3).

- (c) This pattern 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.
- (d) 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.

- (e) So, what creates the Personal Wellbeing Index variance at each level of health satisfaction and why is it so constant?
 - (f) 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.
 - (g) 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.
 - (h) 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.
 - (i) 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 $\pm 2SD$ 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.
 - (j) 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.
- (k) 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 (i)), the $\pm 2SD$ 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 12.2. 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 $\pm 2SD$ 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.
- (l) 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.
- (m) 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.
- (n) Also consistent with the homeostatic model, the variance changes shown in Figure 12.3 are caused by larger incremental increases in the bottom than in the top of the $\pm 2SD$ ranges (Figure 12.2). 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.
- (o) 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 from 0-1 plus increment from 1-2). If the increments are used individually their error of measurement obscures the pattern. Figure 12.4 shows the result.

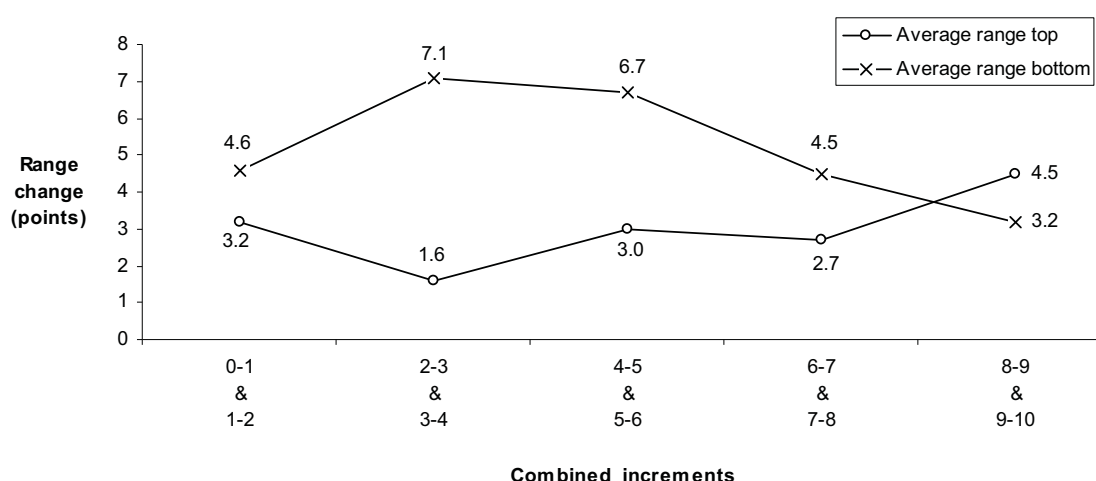


Figure 12.4: Changes in the top and bottom of the $\pm 2SD$ range for the Personal Wellbeing Index using combined scale increments

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 12.2 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 12.2 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 12.3 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 12.2) and this causes the sample variance to increase (Figure 12.3). 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 $\pm 2SD$ 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.

- (d) Figure 12.4 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 12.4. 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 12.2). 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.

12.2. Relationship Satisfaction

These results come from Table A12.4.

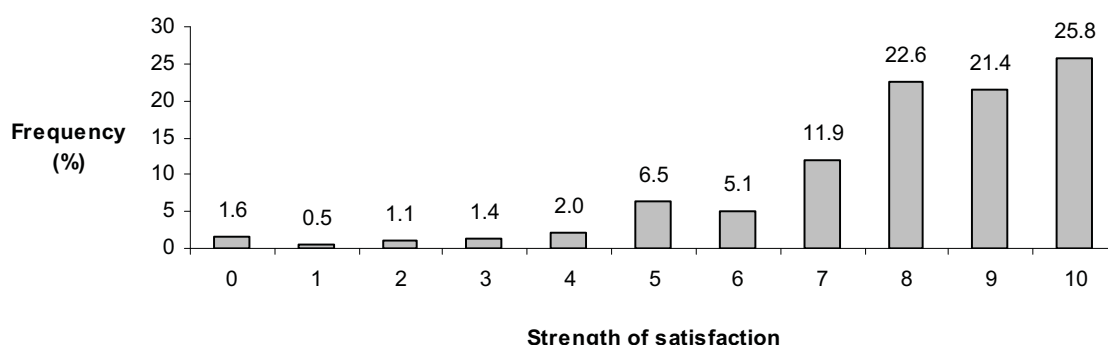


Figure 12.5: Satisfaction with Relationships (Frequency: combined sample)

A major difference from Figure 12.1 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.

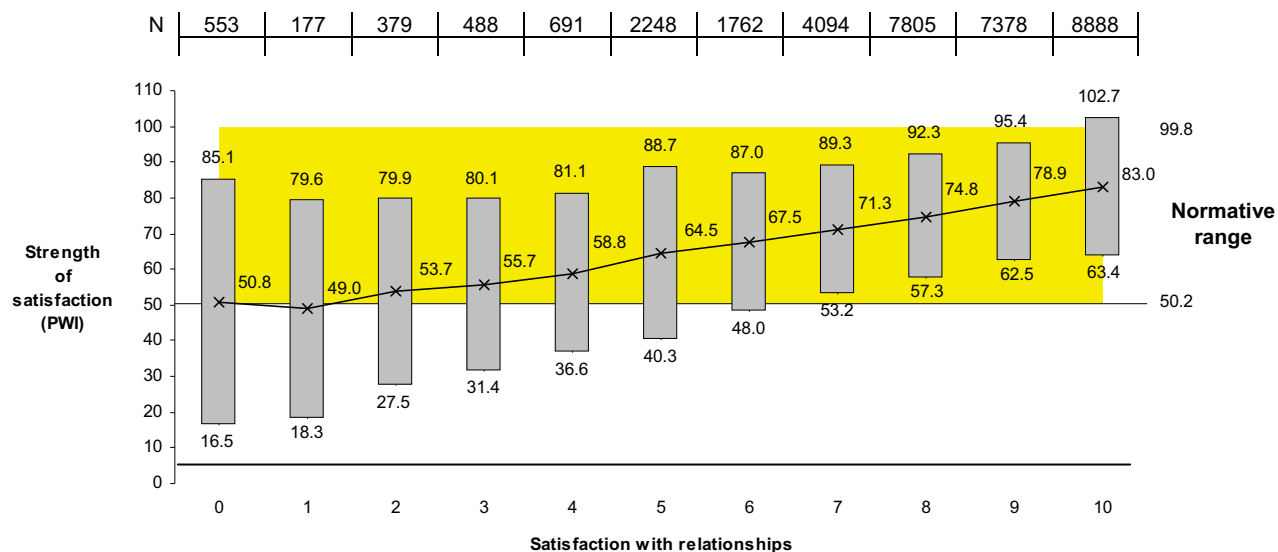


Figure 12.6: Satisfaction with Relationships x Personal Wellbeing Index

- (a) Once again, in terms of mean scores, there is an almost perfect linear relationship between relationship satisfaction and personal wellbeing. However, again, there is evidence of homeostatic defence at the lowest levels of relationship satisfaction. Over the four lowest ratings of relationship satisfaction (0-3) the Personal Wellbeing Index approximates the bottom of the normal range and increments 4.9 percentage points. Over the four intervals 3-6 the Personal Wellbeing Index increments by 11.8 points, and over the four intervals 6-10 it increments 15.5 points. This is evidence for a homeostatic plateau at the bottom of the normal range for relationship satisfaction.

While the proportion who rate their relationship satisfaction as $^{10}/_{10}$ is almost double that for health (25.8% vs. 14.8%), the proportion of people within each domain who rate their level of satisfaction between 5-10 is almost identical (Health: 83.7%, Relationships: 86.8%). Thus, either the actual objective circumstances of health are more harsh, such that people are rating it 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 $\pm 2SD$ 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.

12.3. Standard of Living Satisfaction

These results come from Table A12.5.

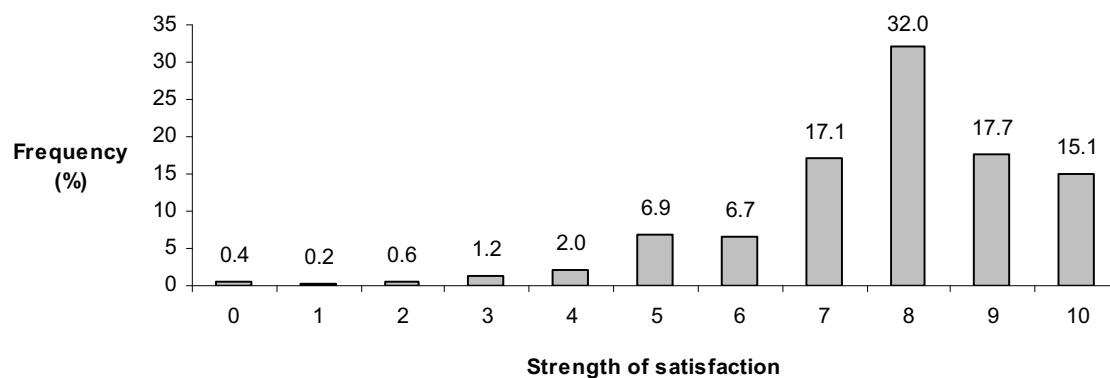


Figure 12.7: Satisfaction with Standard of Living (Frequency: combined sample)

This pattern is similar to Health in having a median at 8/10.

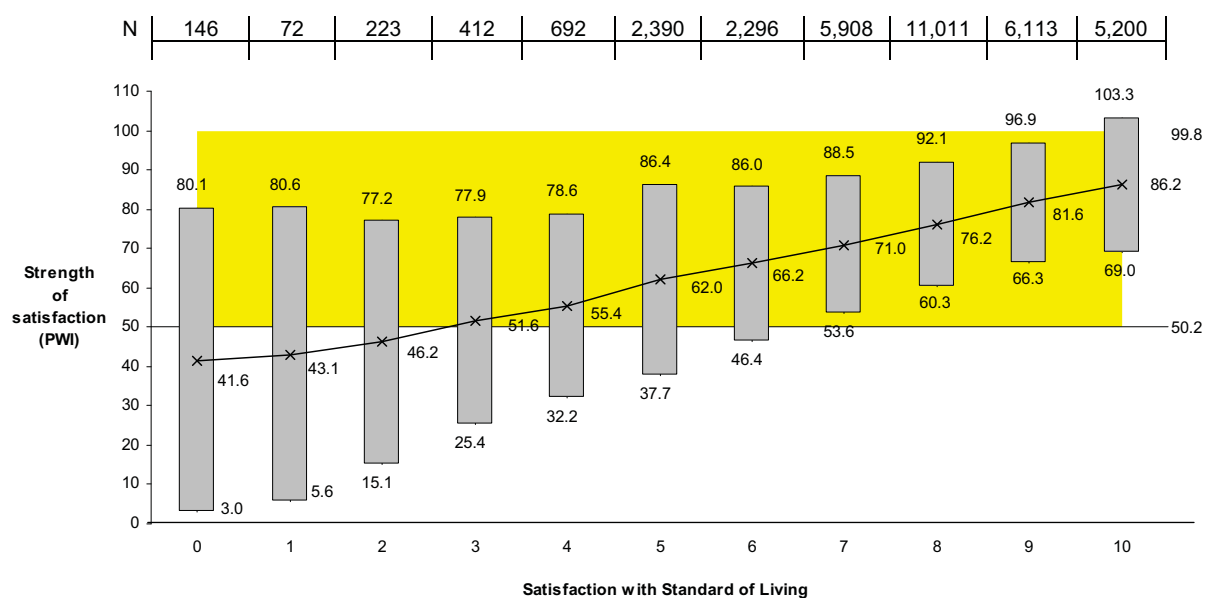


Figure 12.8: Satisfaction with Standard of Living x Personal Wellbeing Index

12.4. Combined Data

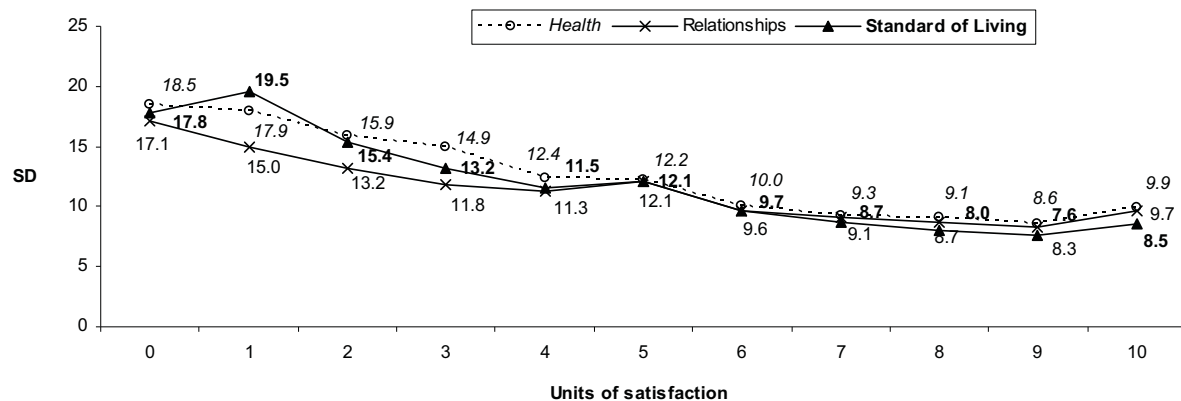


Figure 12.9: Standard Deviation (Domains)

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 12.6 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.

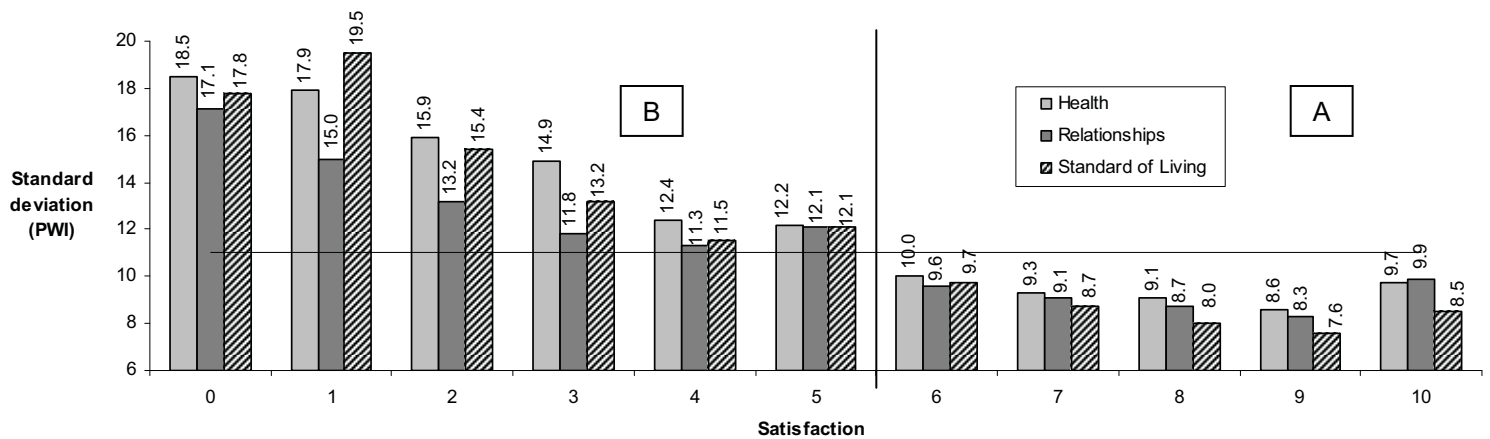


Figure 12.10: Health and Relationship Satisfaction x Personal Wellbeing Index Standard Deviations

12.5. Personal Wellbeing Index Mean Scores vs. Domain Ratings

These results are taken from Table A12.10.

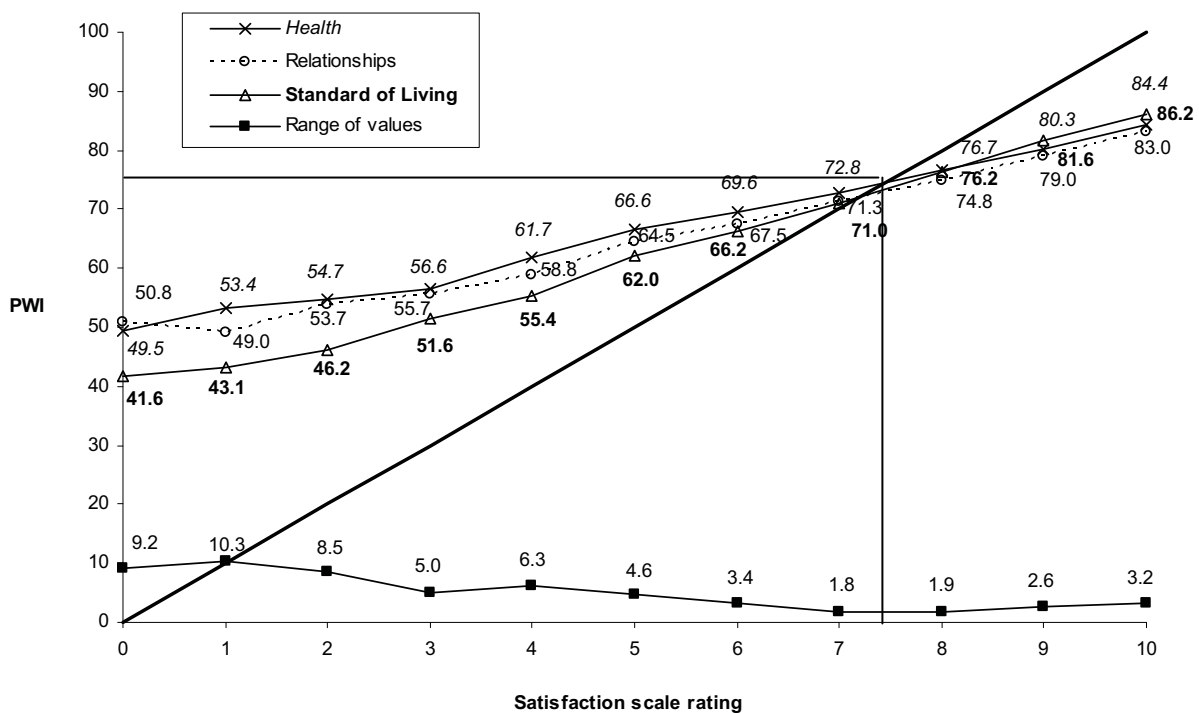


Figure 12.11: Personal Wellbeing Index Mean Scores vs. Domain Ratings (combined data)

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).

12.6. **Demographic Influences and Predictions from Homeostasis Theory**

This chapter tests predictions from homeostasis theory against various demographic data.

12.6.1. *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.

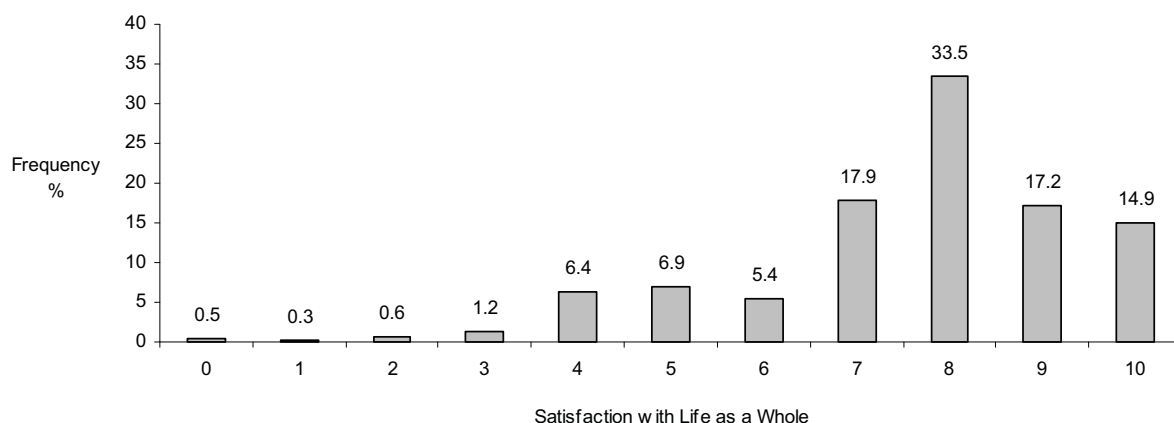


Figure 12.12: Frequency Distribution for Life as a Whole

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 12.12). 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.

12.6.2. 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.

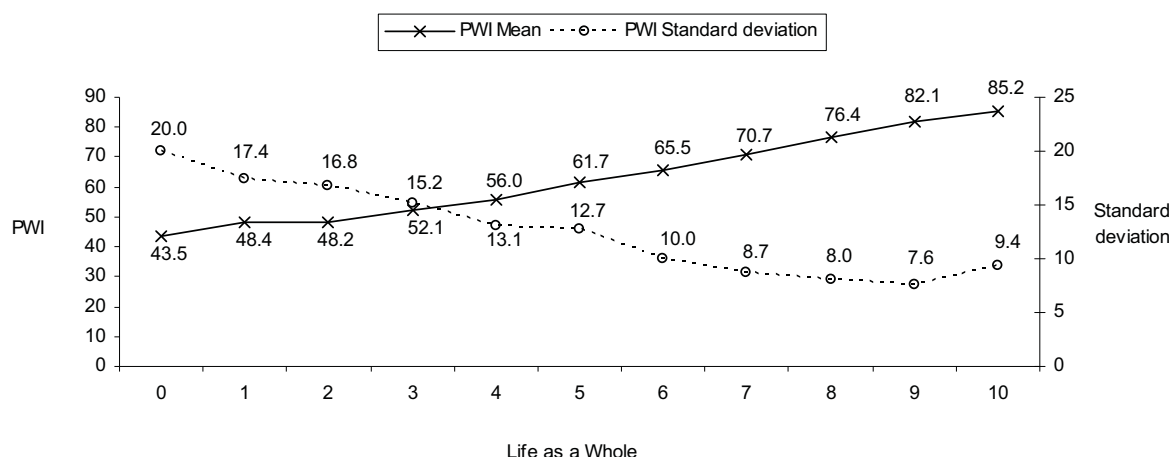


Figure 12.13: Life as a Whole vs. PWI Mean and Standard Deviation (cumulative data)

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.

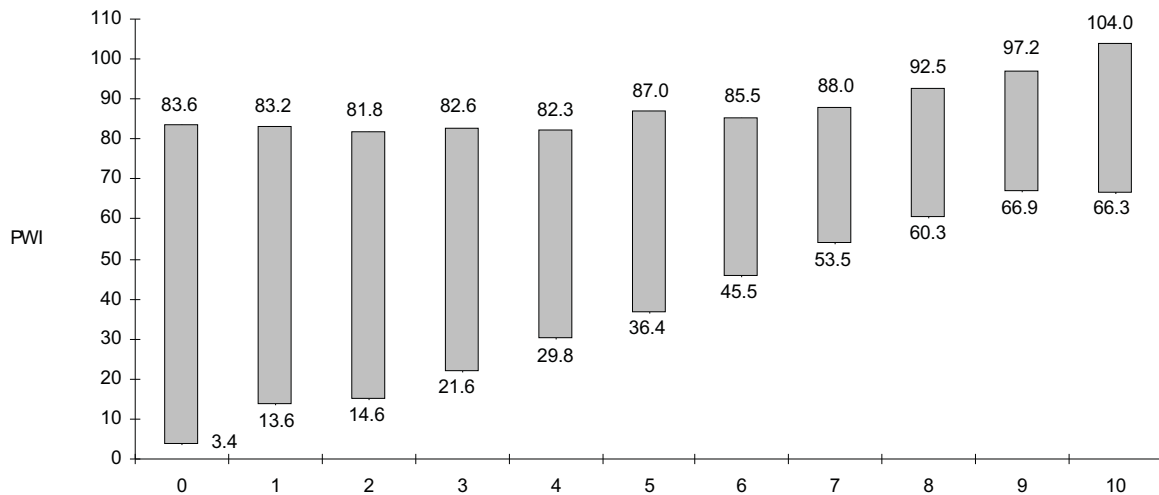


Figure 12.14: Life as a Whole x Personal Wellbeing Index Standard Deviation

12.7. 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.

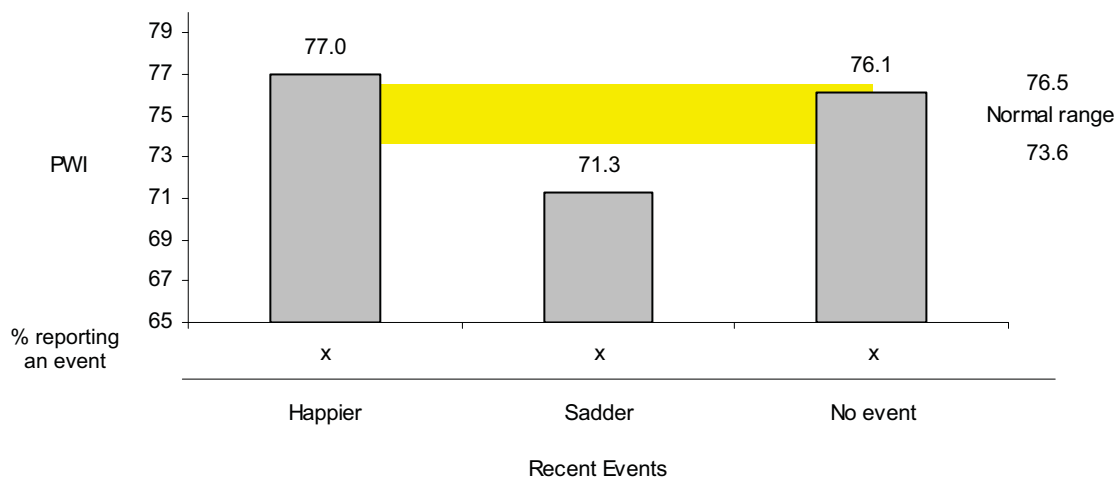


Figure 12.15: Recent Life Events vs. Personal Wellbeing Index (combined data)

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.

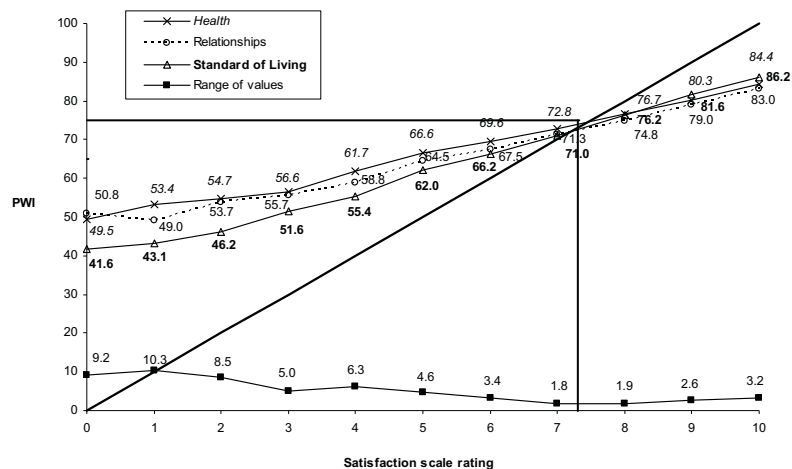
Consistent with these predictions, the difference in SWB between the sad event and the no event groups is -4.8 points.

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

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A1.2 Previous Reports on the Australian Unity Wellbeing Index

These publications are available from http://acqol.deakin.edu.au/index_wellbeing/index.htm.

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A1.3 Data Screening Case Log: (Survey 19 April 2008)

Longitudinal ID#	ID#	Reason for Deletion	Participation in Longitudinal Study
42195	195	100 on PWI	Y
42360	360	100 on PWI	Y
42452	452	100 on PWI & NWI	Y
42481	481	100 on PWI	N
42505	505	100 on PWI	N
42544	544	100 on PWI	Y
42584	584	100 on PWI	Y
42619	619	100 on PWI	Y
42737	737	100 on PWI	Y
42947	947	100 on PWI	N
43005	1005	100 on PWI & NWI	Y
43029	1029	100 on PWI	Y
43081	1081	100 on PWI	N
43088	1088	100 on PWI	Y
52191	10191	100 on PWI & NWI	Y
52343	10343	100 on PWI	Y
52403	10403	100 on PWI	Y
52466	10466	100 on PWI	Y
52179	10179	0 on NWI	Y
53020	11020	100 on NWI	Y
52656	10656	100 on NWI	N

21 cases removed leaving an N= 1979 for S19.

A1.4 Item Data Screening Log: (Survey 19 April 2008)

Variable	Don't Know	Don't Understand	Declined
Life as a whole	1	2	-
Standard of living	-	4	-
Health	-	1	-
Achievements in life	12	1	-
Personal relationships	12	4	-
How safe you feel	10	2	-
Community connectedness	5	4	-
Future security	23	4	-
Spiritual/ Religious Fulfillment	24	1	-
Life in Australia	11	2	-
Economic Situation	15	2	-
State of the environment	13	3	-
Social conditions	23	5	-
How Australia is governed	34	1	-
Business	77	7	-
National security	37	7	-
Life event intensity	5	2	1
Likelihood of terrorist attack	10	2	-
Marital status	-	-	15
Household structure	-	-	14
Part-time employment status	-	-	25
Weight (kilograms)	49	-	45
Weight (stones)	149	-	177
Weight (pounds)	157	-	180
Drink alcohol	-	-	1