

Australian Unity Wellbeing Index Survey 13

**Report 13.0
July 2005**

Part A: The Report

*“The Wellbeing of Australians –
Caregiving at Home”*

Robert A. Cummins
School of Psychology, Deakin University

Erik Okerstrom
Australian Unity

Jacqui Woerner and Adrian Tomy
Doctoral Students, School of Psychology, Deakin University

**Australian Centre on Quality of Life
Deakin University, 221 Burwood Highway
Melbourne, Victoria 3125, Australia**

<http://acqol.deakin.edu.au>

Published by Deakin University, Geelong, Victoria 3217, Australia

First published 2004

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ISBN 1 74156 014 4

This is a joint publication of:

The School of Psychology, Deakin University
The Australian Centre on Quality of Life, Deakin University
Australian Unity

Correspondence should be directed to:

Professor Robert A. Cummins
Deakin University
Geelong, Victoria 3217
Australia

Email: cummins@deakin.edu.au

Website: acqol.deakin.edu.au

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Acknowledgement

We thank Ann-Marie James for word processing this document. All analyses in this Report were performed by Adrian Tomyn and Jacqui Woerner.

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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 13th survey, undertaken in May 2005. Our previous survey had been conducted in nine months earlier in August 2004. During this intervening period the Tsunami event took place in January 2005. While we had hoped to conduct a survey immediately following this event, logistic failure prevented such action. However, on the basis of our recorded history with the Index, we would expect that the wellbeing of Australians would have been high during this period. It constituted a major catastrophe in another part of the world and a large majority of the Australian population contributed in some way to the relief effort (over 80% in this sample). These are the circumstances we expect to enhance wellbeing since the nature of personal involvement is positive through engendering an enhanced sense of purpose, moral duty being performed, and enhanced interpersonal contact. These considerations are particularly relevant since the data from this survey show a substantial decrease in wellbeing since the record high levels of population wellbeing recorded nine months earlier during the period of the Olympic games. Clearly, any increase in wellbeing caused by the Tsunami did not have a lasting influence.

Each survey involves a telephone interview with a new sample of 2,000 Australians, selected to represent the national population geographic distribution. 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 topic for survey 13 is home caregiving to dependent people.

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, in 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 of Australians has fallen dramatically since its dramatic rise at the time of the Olympics. This 1.7 point decrease is highly significant, is the biggest change between adjacent surveys yet recorded. It has taken the Personal Wellbeing Index to a level that is only marginally higher than it was at Survey 1.

Both domains involving interpersonal connectedness (Relationships and Community) have been strongly involved in this fall. Significant falls have also been recorded in satisfaction with Standard of Living and Future Security. It is notable that the domain of Health seems virtually unaffected by these world events, probably indicating that it is held under stronger homeostatic control than the other variables.

- ▶ *The personal wellbeing of Australians has fallen significantly over the past nine months after having risen to record heights during the Olympics.*

National Wellbeing Index

The National Wellbeing Index has fallen slightly (-.44 points) but not significantly, since the previous survey. It remains significantly higher than it was at Survey 1.

- ▶ *Only three of the national domains remain elevated. Two concern economics (Economic Situation and Business) while the third is National security.*

Terrorist Threat

The belief that a terrorist attack in Australia is likely to occur within the near future fell by 10.0% since the previous survey. For the first time in 18 months less than half of the sample regard such an attack as likely in the near future. However, people who regard such an attack as highly likely (9 or 10/10) have lower than normal wellbeing. These people constitute 8.0% of the entire combined sample over surveys 9-12. This finding raises the issue of the benefits and disadvantages of Government warnings concerning the possibility of terrorist attacks on Australia.

- ▶ *People generally consider that the threat of a terrorist attack in Australia is lower now than it was nine months ago. 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 Topic

Home Caregiving

Chapter 11 indicates the effects of caregiving in the family home on the wellbeing of both the primary caregiver and other residential adults. It is evident that this role consumes personal resources and places some categories of people at risk of losing their own wellbeing. In particular:

- (a) People who are in need of care and regard themselves as their own primary caregiver have very low levels of wellbeing. These people require additional assistance.
- (b) Living in the same household as a person who requires care reduces the personal wellbeing of co-residential adults irrespective of whether they are the primary caregiver or not.
- (c) The burden on co-residential adults is greater if the person requiring care is elderly or disabled rather than being a child aged 0-5 years.

- (d) The dual care of children and an elderly or disabled person is likely to diminish the wellbeing of other co-residential adults.
- (e) Caring for an elderly or disabled person without the assistance of a partner is likely to diminish wellbeing.
- (f) Caring for an elderly or disabled person while also carrying a full-time job is likely to diminish wellbeing.
- ▶ *Caring for a dependent person at home places the personal wellbeing of co-resident adults at risk.*

Demographic Influences

Household Income:

- (a) Personal wellbeing increases with income throughout our income range. This is mainly because low income compromises wellbeing. People in low income households lack the resources to defend against negative life events (poor people experience more negative and fewer positive life events). High income provides the resources to defend wellbeing against negative events, as well as conferring social status.
- (b) Low income does not, of itself, cause low wellbeing. People who live only with their partner, and widows, manage to attain normal levels of wellbeing in poor financial circumstances. However, as soon as a potential source of stress is introduced (children, being a sole parent, separation or divorce) personal wellbeing drops below the normal range. For these groups, a household income of \$60,000-\$90,000 generally restores normal levels of wellbeing.
- (c) As household income rises, additional income has less and less impact on personal wellbeing. For people with household incomes <\$15,000, one additional percentage point of wellbeing is achieved through an additional \$7,500. For people with household incomes of \$150,000 an additional percentage point of wellbeing requires an \$350,000.
- (d) The wellbeing of people who are in fulltime home/family care is particularly sensitive to household income. Their wellbeing ranges over 17.0 percentage points, from a low of 65.2 (<\$15,000) to a high of 82.2 (\$150,000+).
- (e) In terms of the seven personal domains, the most sensitive one to income is standard of living, while the least sensitive is community connection.
- (f) Wellbeing is not simply a function of household income and the number of people in the household. In low income households, the lowest wellbeing is experienced by sole parents (64.1). However, the addition of another person (partner) to such low-income households causes personal wellbeing to rise (70.3) due to the additional social resource. Thus, wellbeing is more a function of relationship and financial resources than household income per head.
- (g) People who are unemployed have below normal wellbeing even with household incomes of \$31,000-\$60,000. The damage caused by unemployment is more related to purpose in life and social status than to income.
- ▶ *Happiness is bought at discount by people who are poor. For people with a household income <\$15,000, and additional \$7,500 buys an extra point of wellbeing. At a household income of \$150,000, an extra point requires \$350,000.*

Gender:

- (a) Females have higher personal wellbeing than males. The average difference across all surveys is 1.5 percentage points, which is significant. However, these differences are highly age dependent. There is no gender difference at 18-25 years. The difference suddenly and maximally appears at 26-35 years (2.4 points) and then gradually dissipates (0.8 points at 76+ years). While this is a highly reliable result, with the data accumulated across all surveys, its explanation remains mysterious to us.
 - (b) The personal domain of safety goes against this trend, being higher in males.
 - (c) Males are less resilient than females in terms of their ability to maintain their wellbeing under difficult circumstances. For example, males who live alone have low wellbeing, whereas females who live alone do not. In part this may be tied to lower relationship satisfaction in males, particularly in the younger age-groups.
 - (d) The gender difference in relationship satisfaction (female > male) is significant at all ages, but most pronounced in the youngest group (5.1 points). Because relationships are such an important homeostatic buffer, the wellbeing of these 18-25y males is likely to be more fragile than for females and older males.
 - (e) The higher Personal Wellbeing Index among females may be due to the fact that males living under difficult circumstances, such as with low income, living alone or unemployed, have substantially lower wellbeing than females in similar circumstances. Females are more resilient.
- *The wellbeing of both male and female sole parents rose substantially over the period of the Olympic games, but has now fallen back to its previous low level . The burden of child-care may have been eased by this shared experience and entertainment.*

Age:

- (a) Prior to Survey 12, overall wellbeing of the Australian population had gone up since September 11, but this rise had been entirely confined to the older age groups. During the Olympics, the rise in population wellbeing was mainly due to the youngest group. All age groups have now decreased to be no different from Survey 1.
 - (b) Personal wellbeing appears to increase with age. However, this may be explained by (i) an increased survival rate of happy (high set-point) people, and (ii) the marked drop in wellbeing of middle-age people who do not have partners. The wellbeing of people aged 26-65y is very dependent on having a partner, particularly for males.
 - (c) Sole parents have lower than normal wellbeing up to 65 years. Beyond this age their wellbeing lies in the normal range. Presumably the burden of support for these people has become reversed, with their adult child taking responsibility for their parent.
 - (d) Unemployment has a devastating effect on personal wellbeing for people older than 25 years.
- *The rise in wellbeing of the older age groups that appeared following September 11 has now dissipated. The wellbeing of all age groups has returned to be no different from Survey 1.*

Household composition – who people live with:

- (a) The highest levels of personal wellbeing are achieved by people living with their partner, children and one or more adults to assist with child care. The lowest personal wellbeing is found among sole parents. Their low wellbeing puts them at risk of depression.

- (b) Children drain the resources of cohabiting adults. This is most evident in the reduced wellbeing of sole parents compared with adults who live alone. When other adults are available to carry the resource provision load, the influence of children is generally non-significant as long as no other stressor (e.g. low household income) is present.
 - (c) 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 seem important due to the lack of a close friend with whom such matters can be discussed.
 - (d) People who live with their partner alone have higher satisfaction with their standard of living than people who live with their partner and children. However, the addition of children increases adult satisfaction with their health. Perhaps the responsibilities of child-care cause adults to feel more positive about their own health in order that their own health problems do not compromise their ability to provide care.
 - (e) Sole parents hold stronger views that a terrorist attack is likely than people who live only with their partner.
 - (f) People who are married, yet live alone, and widows who live alone, have higher than normal wellbeing.
 - (g) The key to wellbeing for people who are unemployed is to live with a partner in the absence of children.
- *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 2.4 percentage point advantage in personal wellbeing over people who are living in a defacto relationship. This is not due to different household incomes but is somewhat age-dependent, being most evident in younger (18-25y) and late middle age (46-65y) groups.
 - (b) Widows have high levels of personal wellbeing despite having low levels of health satisfaction. Thus, even when health is compromised by accumulated medical conditions it cannot be used to measure overall wellbeing.
 - (c) Marriage buffers the effects of low income and unemployment. Whereas across the whole sample, people who are unemployed have a personal wellbeing of 68.3, which is well below the base of the normative range (73.4), people who are unemployed and married have a wellbeing of 72.0
 - (d) The combination of separation/divorce and unemployment is devastating, yielding one of the lowest mean scores for personal wellbeing we have recorded (57.2 points).
 - (e) Full-time employment is not able, of itself, to lift people who have never married, divorced, or separated into the normal range.
 - (f) Volunteer work is associated with increases in personal wellbeing. Whether this is attributable to the activity itself or the character of volunteers cannot be resolved from these data.
- *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) Even though people who are full-time retired, and volunteers, have lower than normal health satisfaction, their personal wellbeing lies above the normal range. This is due to the compensatory rises in other domains, notably those involving other people (relationships and community).
 - (b) Full-time students have a level of personal wellbeing that lies at the bottom of the normal range. Moreover, both domains indicating connection to other people (relationships and community) are below normal. This specific deficit probably makes them more vulnerable to depression.
 - (c) People who are unemployed have lower than normal wellbeing for all domains except safety. Whether these people are actively looking for work or not, and whether they are engaged in volunteer work, makes little difference to their personal wellbeing.
 - (d) People who are full-time employed, yet looking for work, have lower than normal wellbeing. It is likely that these people will be functioning poorly in their current employment.
 - (e) Males and females engaged in full-time home or family care are equally positioned within their respective gender-specific normative ranges. Thus, this non-traditional role is beneficial for the males involved.
- *The low levels of wellbeing associated with unemployment are not significantly ameliorated by either active job hunting or volunteer work.*

Health Status:

- (a) Body Mass Index combines weight and height to produce a standard rating of overall body size. In these terms, people who are underweight, normal weight, or with mild levels of obesity, have normal range subjective wellbeing. It is only when people become moderately obese that their wellbeing drops below the normal range.

These results conform to theory. People adapt to their body size and also to gradually increasing body mass as they age. This is an important finding because it indicates that the medical definitions of 'obesity' do not relate to levels of personal discomfort sufficient to damage personal wellbeing, and therefore, to provide the motivation to lose weight.

- (b) Marriage and high income buffer the negative influence of moderate obesity on wellbeing.
 - (c) In general, people who report a level of pain of three or more (on a 0-10 scale) have wellbeing that lies at the bottom of the normal range or below.
- *Marriage and high income are stronger influences on personal wellbeing than body weight.*

Life Events:

- (a) Both males and females were more likely to report a personal event that made them feel 'sadder than usual' immediately following September 11. Males, but not females, were more likely to report a personal event that made them feel 'happier than usual' in the period immediately prior to the Iraq war.
- (b) Both genders report the intensity of personal happy events to be higher than personal sad events. This represents a well-documented bias in recall.
- (c) Females report a higher intensity of both personally happy and sad events than males.
- (d) Females are more likely to recall the experience of a sad event than males.

- (e) There is a marked shift in the recall frequency of recent happy and sad events at around 35 years of age. People younger than this are more likely to report a recent happy event, whereas people older than 35 years are more likely to recall a recent sad event. This is a highly reliable result which is difficult to interpret. It is unlikely simply to reflect increasing personal responsibilities since the trend continues into old age.
 - (f) People in low income households are more likely to recall a recent sad than a happy event. This tendency decreases with income, and represents the ability of money to buffer the experience of negative events and to facilitate happy events.
 - (g) People with high personal wellbeing were more likely to contribute to the Tsunami relief effort.
- *Some major international events cause people to recall their lives differently. September 11 caused more males and females to recall a personal event that made them feel sadder than normal. The prospect of war (with Iraq) caused males, but not females, to recall a personal event that make them feel happier than normal.*

1. Introduction

The Australian Unity Wellbeing Index is the new 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 comprises two numbers. The Personal Wellbeing Index is the average level of satisfaction across seven aspects of personal life – health, personal relationships, safety, standard of living, achievements, 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%, with a normal range from 70% to 80%. 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% in Australia.

The first index survey, of 2,000 adults from all parts of Australia, was conducted in April 2001. Since then 11 additional surveys have been conducted, with this most recent survey in August 2004. 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 (acqol.deakin.edu.au). 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 of these is '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 is '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 73.2 to 75.9, a fluctuation of only 2.7%. 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, which averages about 75%, at reasonably high level. We call this process Subjective Wellbeing Homeostasis (Cummins et al., 2002a).

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%, 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.

Having said this, 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 of such 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 26th of April to 10th of May 2005. 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 11,704 calls were made. Of these, 7,376 connected with a respondent and 2000 agreed to complete the survey. This gives an effective response rate of 27.1%. This response rate reflects, in part, the methodological constraint that an even geographic and gender split was maintained at all times throughout the survey. All responses are made on a 0 to 10 scale. The satisfaction responses are anchored by 0 (completely dissatisfied) and 10 (completely satisfied). Initial data screening was completed before data analysis.

49.3 % of participants were male and 50.7 % of participants were female. The age composition is not actively managed but yields a break-down similar to that of the national population as determined by the Australian Bureau of Statistics in October 2001 (see Report 5.0).

1.3. Presentation of results and type of analysis

In the presentation of results to follow, the trends that are described in the Figures 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 A10.2).

All satisfaction values are expressed as the strength of satisfaction on a scale that ranges from 0% to 100%.

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://acqol.deakin.edu.au/index_wellbeing/index.htm.

1.4. Internal Report Organisation

- (a) The new results from this survey are summarised in Table 2.1 on the next page.
- (b) Other Tables are presented as appendices.
- (c) Chapter 2 presents a comparative analysis 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) Chapters 9-11 concern special topics for this survey and the impact of national and personal life events.
- (f) Each Chapter contains a dot-point summary.

2. A Comparison Between Survey 13 and Survey 12

2.1. Overview

Table 2.1: Means and standard deviations of the 13th survey

Question	Mean	SD	% Change from August 2004	t-test p value
PERSONAL WELLBEING INDEX	74.64	12.87	-1.67	.00
Personal domains				
1. Standard of living	77.20	18.04	-2.02	.00
2. Health	74.22	20.38	-0.29	.65
3. Achieve in life	71.60	21.45	-1.93	.00
4. Personal relationships	77.32	24.67	-4.07	.00
5. How safe you feel	79.01	19.23	-1.11	.06
6. Community connect	69.69	20.86	-2.86	.00
7. Future security	70.00	23.22	-3.02	.00
Life as a whole	76.81	18.21	-2.32	.00
NATIONAL WELLBEING INDEX	62.24	14.70	-0.44	.36
National domains				
1. Economic situation	66.29	21.33	-2.18	.00
2. State of the environment	59.36	20.35	-0.24	.69
3. Social conditions	61.16	20.82	-1.98	.00
4. Government	54.66	25.69	-0.36	.65
5. Business	60.52	23.54	-2.88	.00
6. National security	65.06	22.65	-1.23	.07
Life in Australia	83.52	17.78	+0.53	.34
Likelihood of Terrorist Attack in Australia				
% who think it likely	44.9%		-10.2	
Strength of likelihood	62.35	19.96	-0.21	.80

The Major Indices

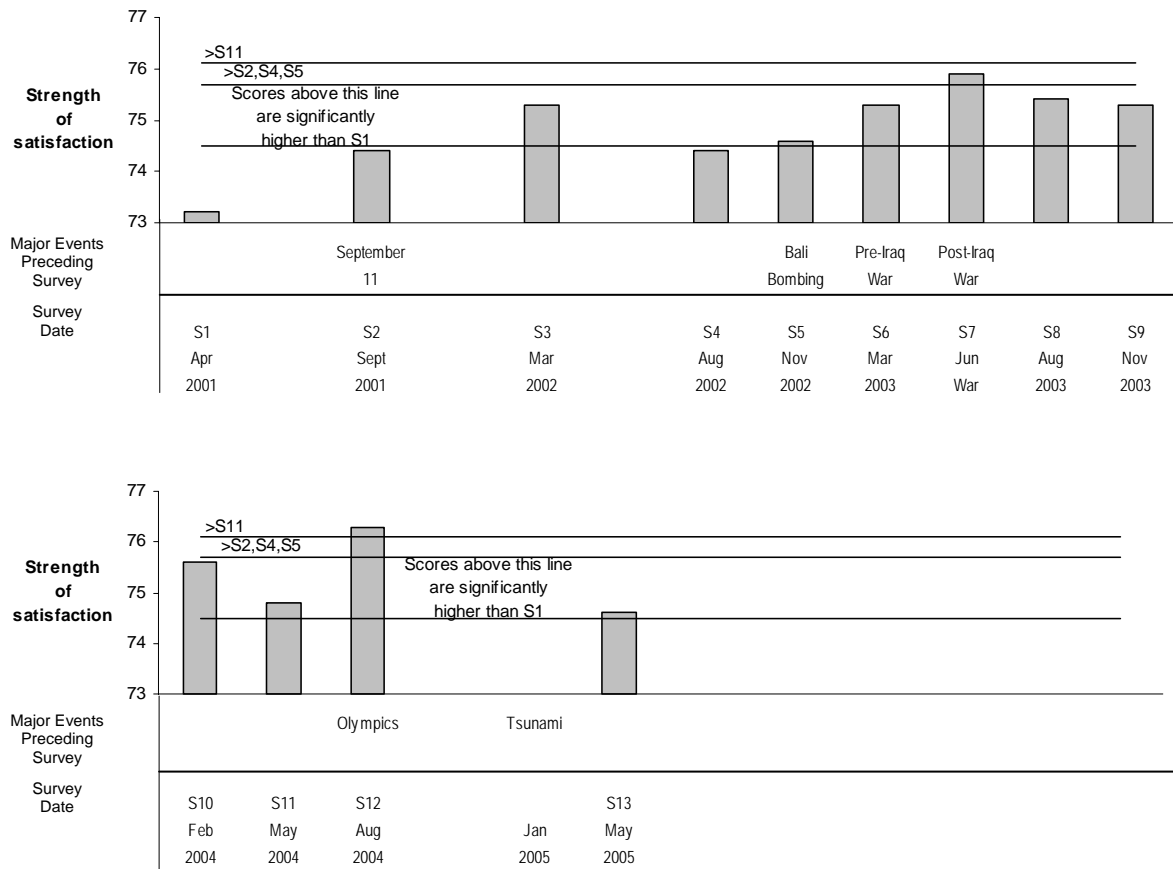


Figure 2.1: Personal Wellbeing Index

The Personal Wellbeing Index has fallen by 1.7 percentage points since the previous survey (Tables 2.1 and A2.1). This is highly statistically significant ($p=.000$). Most of the domains have contributed to this fall which represents the biggest change between adjacent surveys yet observed.

Overall, however, it is notable that the Personal Wellbeing Index is so stable. Over the 13 surveys it has varied by just 3.1 points and, except for S1-S2, S11-S12 and S12-S13, the change from one survey to the next is less than 1%. However when changes have occurred, they appear to be coherently related to the international events named in Figure 2.1. It appears that both positive and negative events have acted to raise the wellbeing of the Australian population. The earlier responses have been to negative events, and it appears that the presence of external threat causes the population wellbeing to rise. This has occurred in two waves. The 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. Then, 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 also notable that the same set of domains seem to be affected by both kinds of event, as can be seen in Section 2.2.

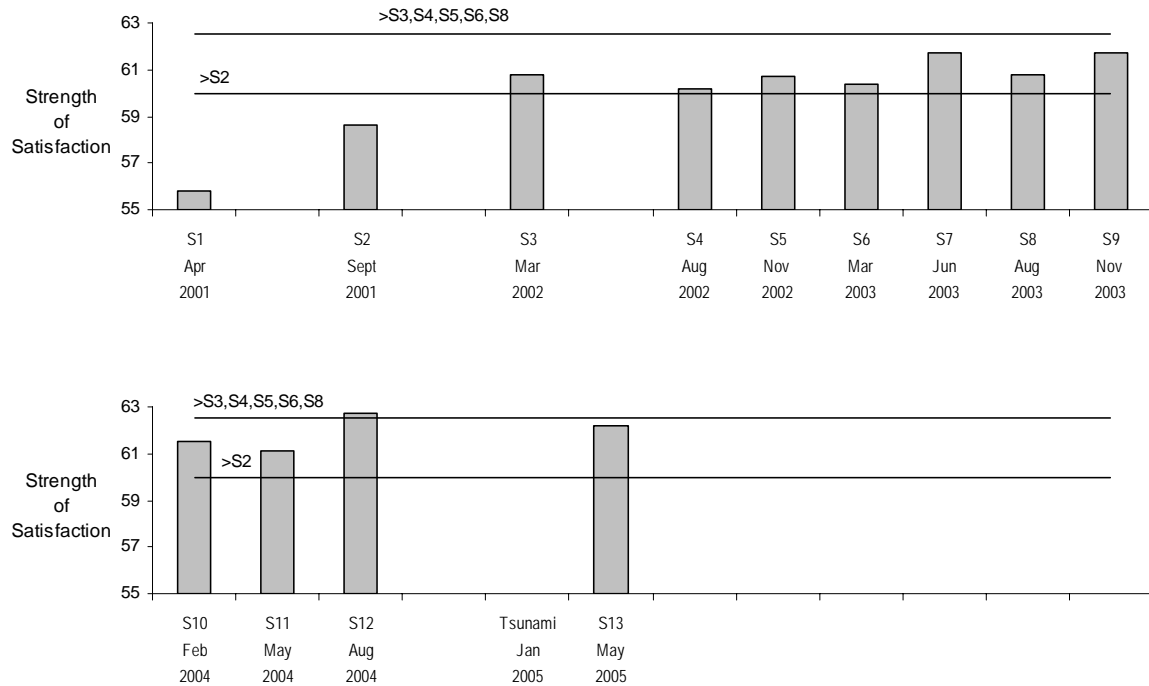


Figure 2.2: National Wellbeing Index

The National Wellbeing Index has numerically shed .44 percentage points since Survey 12, but this is not a significant change after having risen to its highest level after a long period of stability. It remains significantly higher than it was at Survey 1. The National Index is more volatile than the Personal Index due to the relatively low level of homeostatic control. Its range is 6.9 points from April 2001 (S1:55.8) to August 2004 (S12:62.7).

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

2.2. Personal Wellbeing Domains

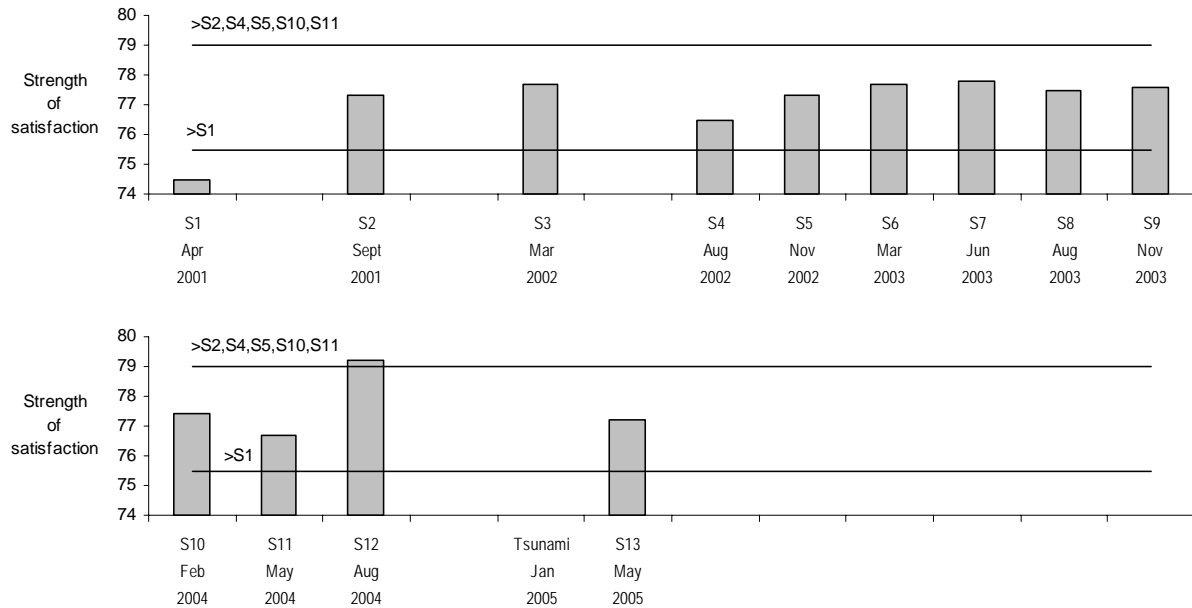


Figure 2.3: Satisfaction with **Standard of Living**

Satisfaction with standard of living has fallen a significant 2.0 points since Survey 12 (Table 2.1 and A 2.1). It remains 2.7 points higher than Survey 1. The range of scores is 4.7% between April 2001 (S1:74.5) and August 2004 (S12:Olympics: 79.2).

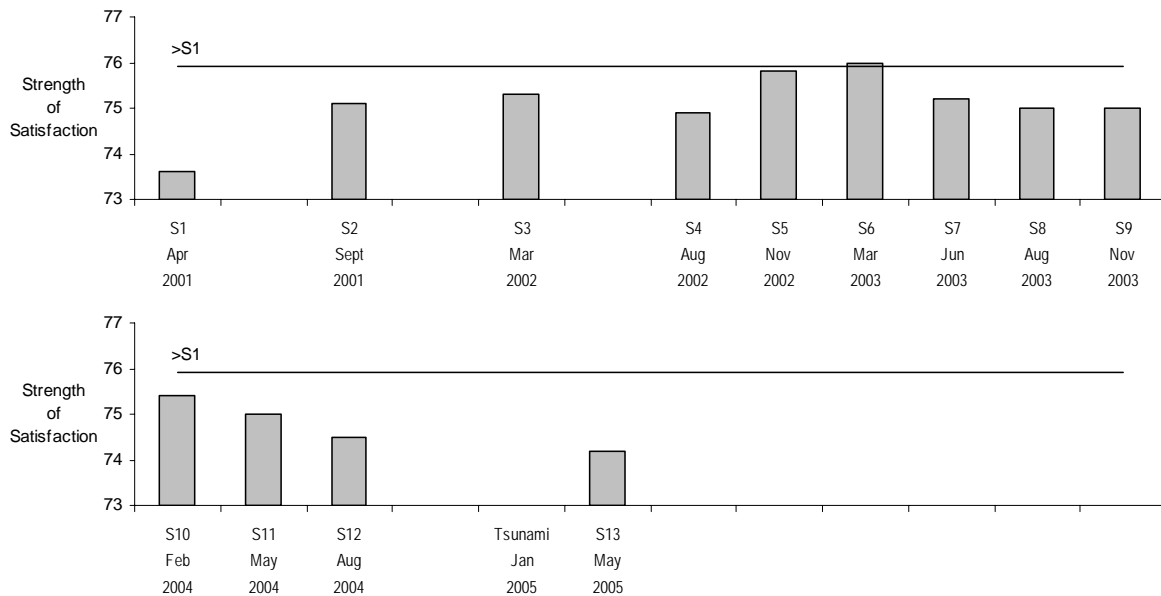


Figure 2.4: Satisfaction with **Health**

Satisfaction with health rose briefly at March 2003 (S6:Pre-Iraq war) but has since returned to its original level of Survey 1. It is notable that the level of significance at Survey 6 was marginal ($p=.02$) and so may reflect a random fluctuation. The overall ANOVA between surveys is not significant (Table A 2.1). It is evident that satisfaction with personal health is marginally, if at all, influenced by world 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).

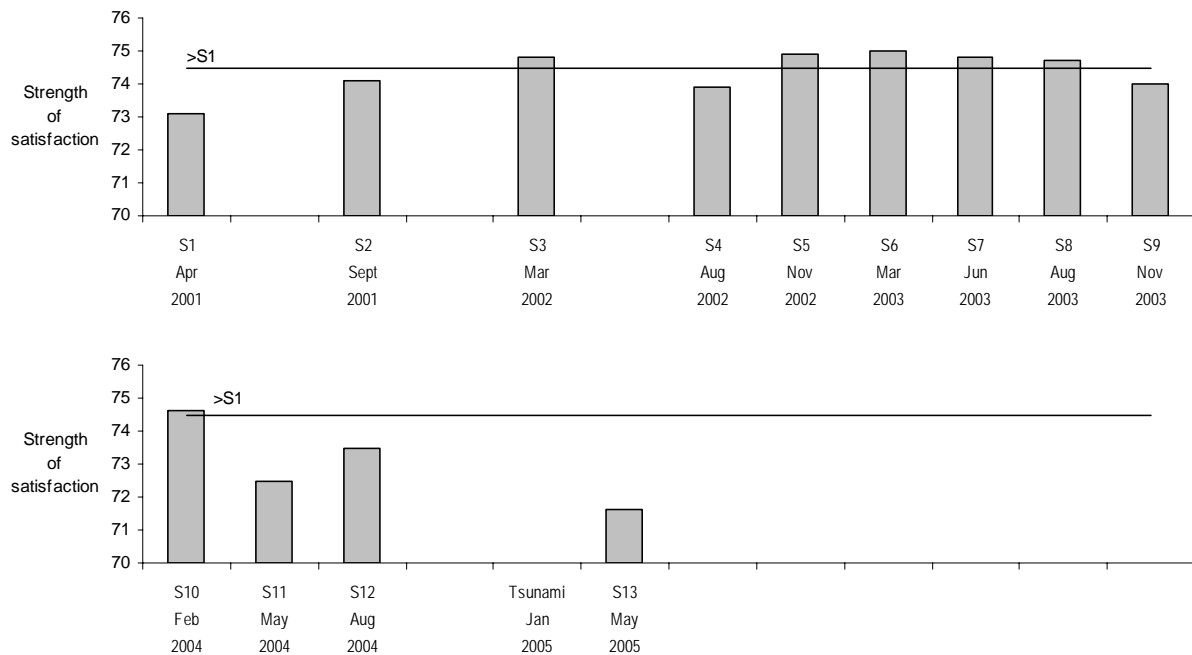


Figure 2.5: Satisfaction with **What you are Currently Achieving**

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 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 12 is 73.02, an average difference of 1.45 points. It has now fallen a further 1.9 points (Table 2.1). It is apparent that the new wording of this item has made it more volatile. However, it is now at a level no different from Survey 1.

The calculation of the new normative range for mean scores (Table A 2.6) incorporating this current value has reduced the normative mean from 74.42 to 74.0 (-.42), increased the standard deviation from .56 to 1.03 (+.47), and lowered the bottom of the normative range to 71.93.

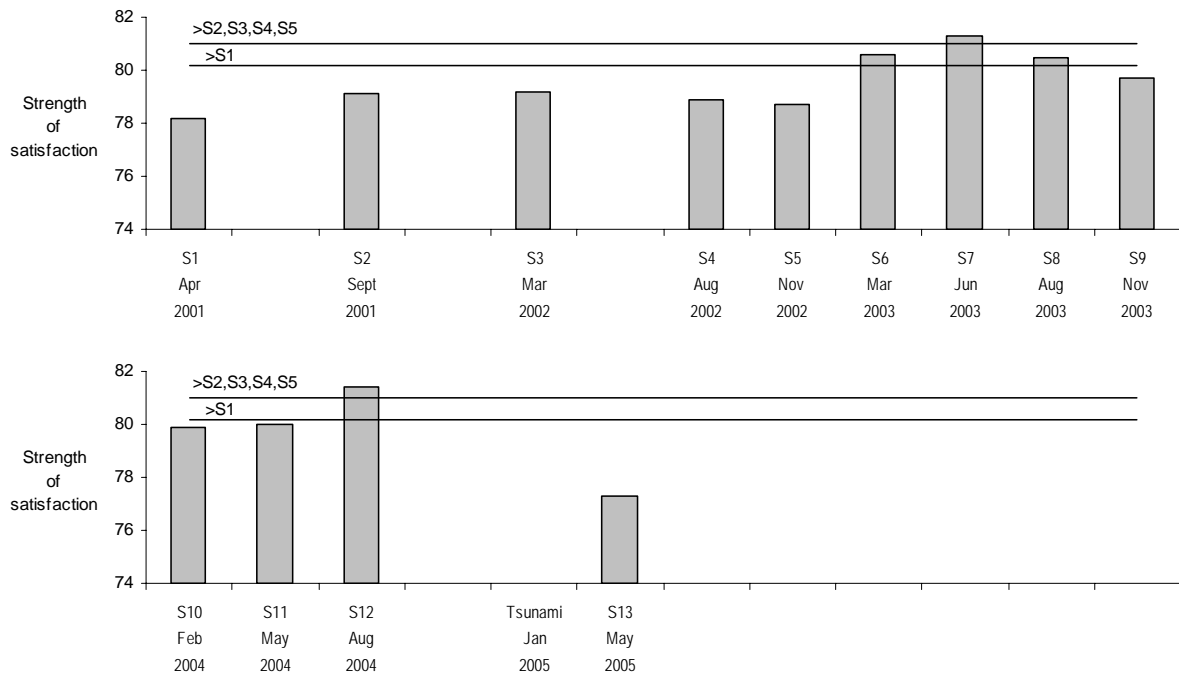


Figure 2.6: Satisfaction with Relationships

Satisfaction with personal relationships has fallen a massive 4.1 points since Survey 13. This is the largest change for any domain between adjacent surveys yet recorded and its numerical value (77.32 points) is the lowest yet recorded across all surveys. Statistically, this level is no different from Survey 1.

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. Then, during the period of the Olympics, the higher levels of satisfaction with relationships returned. The range of scores is 3.2% between April 2001 (S13:77.3) and August 2004 (S12: Olympics:81.4) a range of 4.1 percentage points.

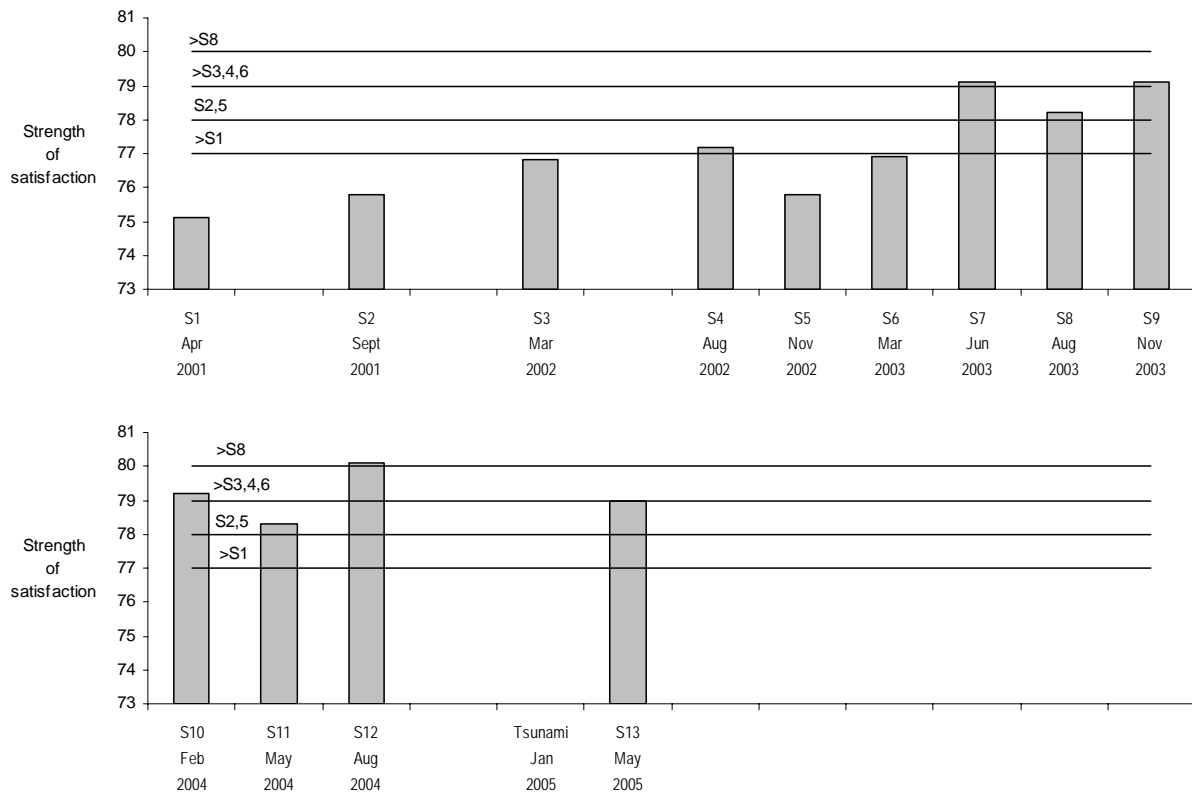


Figure 2.7: Satisfaction With **How Safe you Feel**

Satisfaction with personal safety has fallen by a non-significant 1.1 points since Survey 12 (Table 2.1) and remains higher than most surveys in 2001-2002 (Table A 2.1). Previous rises have occurred following the conclusion of a period of danger. Thus, it rose significantly about one year following September 11 (S4) and rose again following the Iraq war (S7). A weaker but non-significant rise was also seen three months following the Bali Bombing (S6). These rises may be linked to the positive feelings of relief following such events, our increasingly strong American alliance, and a sense of confidence in our safety consequent to the lack of terrorist attacks in Australia.

The rise in association with the Olympics may be more due to the overall sense of elevated wellbeing than to specific feelings of greater safety. The range of scores is 4.9% between April 2001 (S1:75.2) and August 2004 (S12:Olympics:80.1).

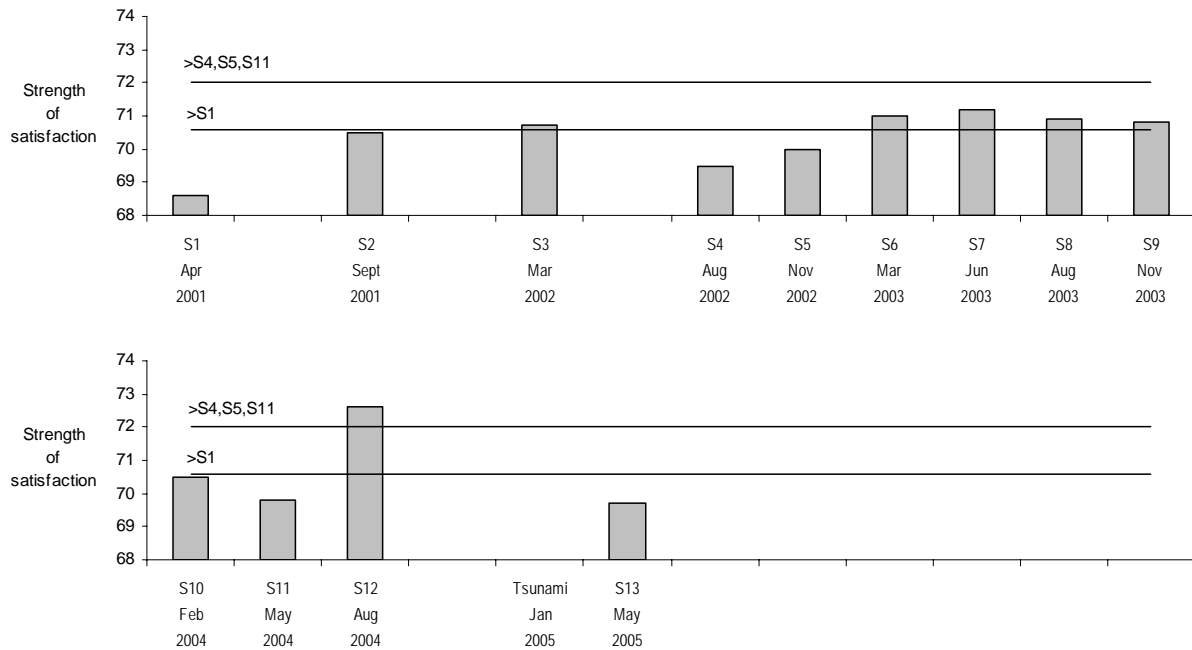


Figure 2.8: Satisfaction with **Feeling Part of Your Community**

People’s satisfaction with feeling part of their community has fallen a significant 2.9 points since Survey 12 (Table 2.1). It is now no different from its value at Survey 1.

Apart from the Olympic period elevation, 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 Iraq war (S9), but then dissipated. This pattern is consistent with social psychological theory. An external threat will cause a group (or population) to become more socially cohesive. The range of scores is 4.0 points between April 2001 (S1:68.6) and August 2004 (S12:Olympics:72.6).

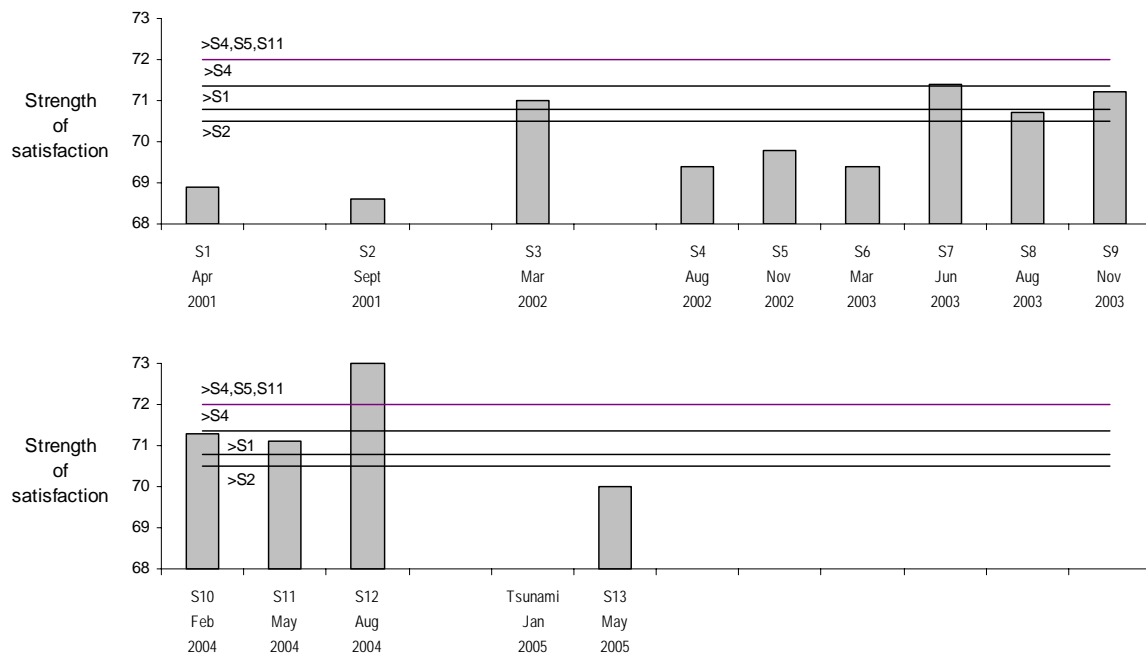


Figure 2.9: Satisfaction with **Future Security**

Satisfaction with future security has fallen a significant 3.0 points since Survey 12 and is now no different from Survey 1. This is its lowest level for two years, when its rise was marked by the end of the Iraq war.

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 range of scores is 4.4 points between September 2001 (S2:68.6) and August 2004 (S12:Olympics:73.0).

2.3. Life as a Whole

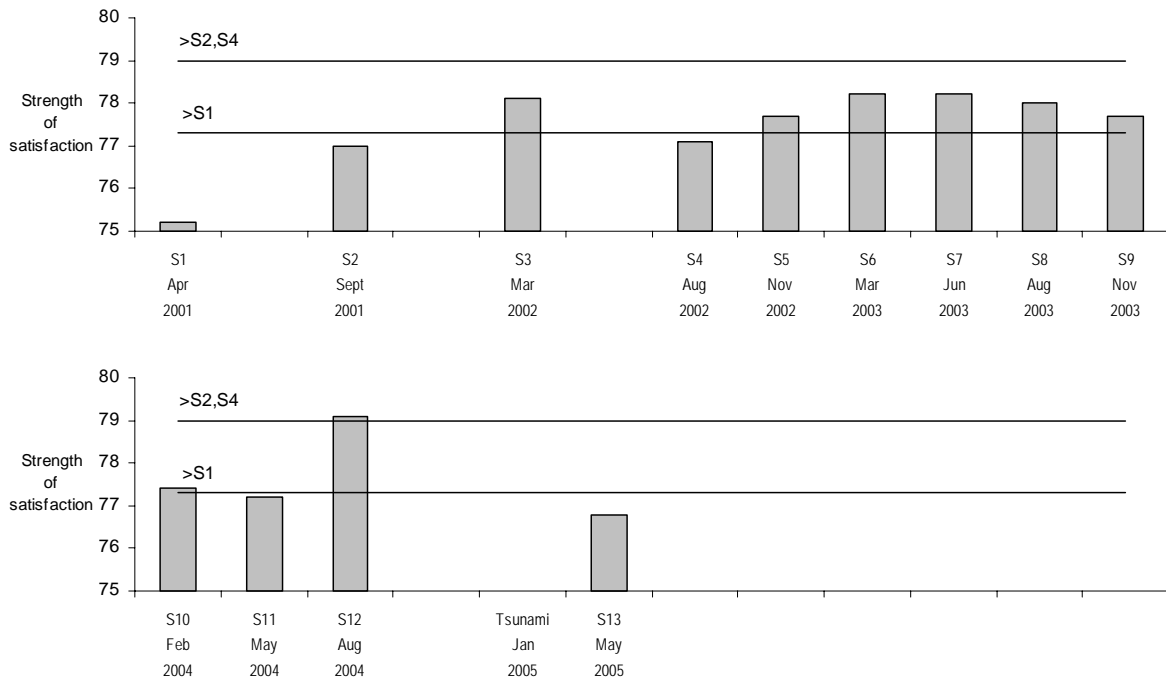


Figure 2.10: Satisfaction with **Life as a Whole**

Satisfaction with life as a whole has fallen since Survey 12 by a significant 2.3 points, to now be no different from 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 the end of the war it was no different from Survey 1 once again. 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 dramatically since its amporic rise at the time of the Olympics. This 1.7 point decrease is highly significant, is the biggest change between adjacent surveys yet recorded, and has taken the Personal Wellbeing Index to a level that is only marginally higher than it was at Survey 1.

Table 2.1 shows that both domains involving interpersonal connectedness (Relationships and Community) have been strongly involved in this fall. The fall has also been due to significant falls in satisfaction with Standard of Living and Future Security. It is notable that the domain of Health seems virtually unaffected by these world events, probably indicating that it is held under stronger homeostatic control than the other variables.

In relation to the earlier rises, an important perspective is that these international events did not directly involve many Australians. No attacks happened in this country, the nation rode-out the world economic situation better than most other countries, and the wars in Afghanistan and Iraq were soon over, marked by victory and low casualties among the Australian troops. So the end result of this was a greater sense that the average, high, standard of living in Australia had been maintained. Personal safety and future security also rose with no evidence of terrorist attacks in Australia. While people

bonded more to others (Relationships and Community) due both to the common perception of external threat, this effect was dissipating prior to the Olympics and now has disappeared.

2.4. National Wellbeing Domains

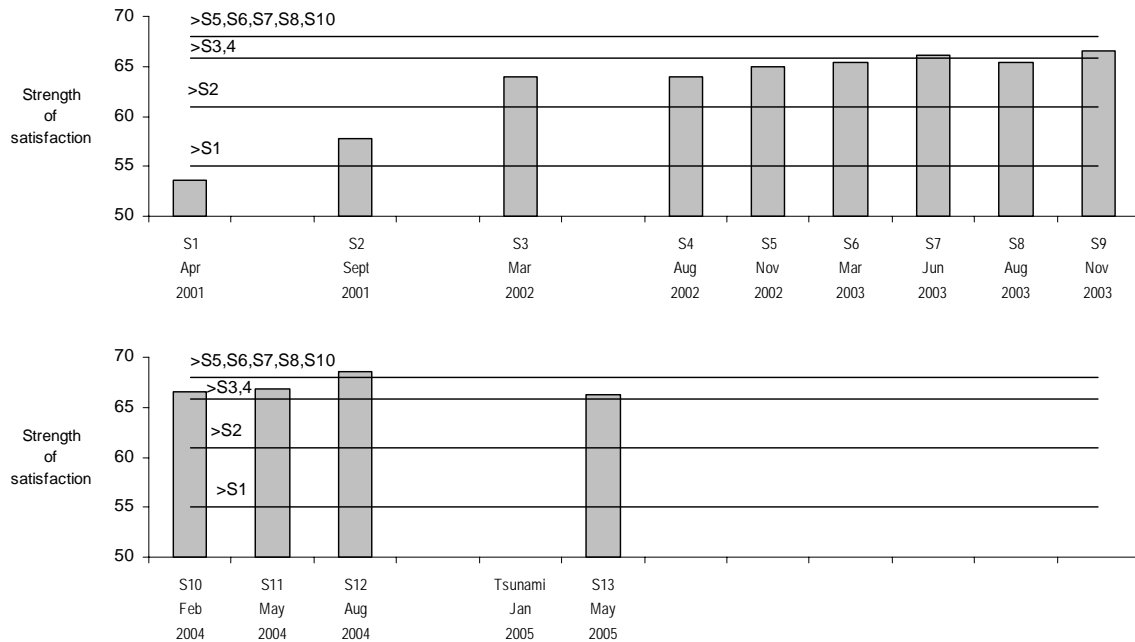


Figure 2.11: Satisfaction With the **Economic Situation in Australia**

Satisfaction with the economic situation has decreased a significant 2.2 points, but still remains higher than the early surveys. It rose significantly from its baseline (S1) immediately following September 11 (S2) and again six months later (S3). This was followed by a period of stability over the next 12 months (S4-S6), but then it rose significantly once again (S7) and this was sustained over the following 12 months. Now it has fallen back somewhat. This is the most volatile domain. The range of values is 14.9 points, being between April 2001 (S1:53.6) and August 2004 (S12:Olympics:68.5).

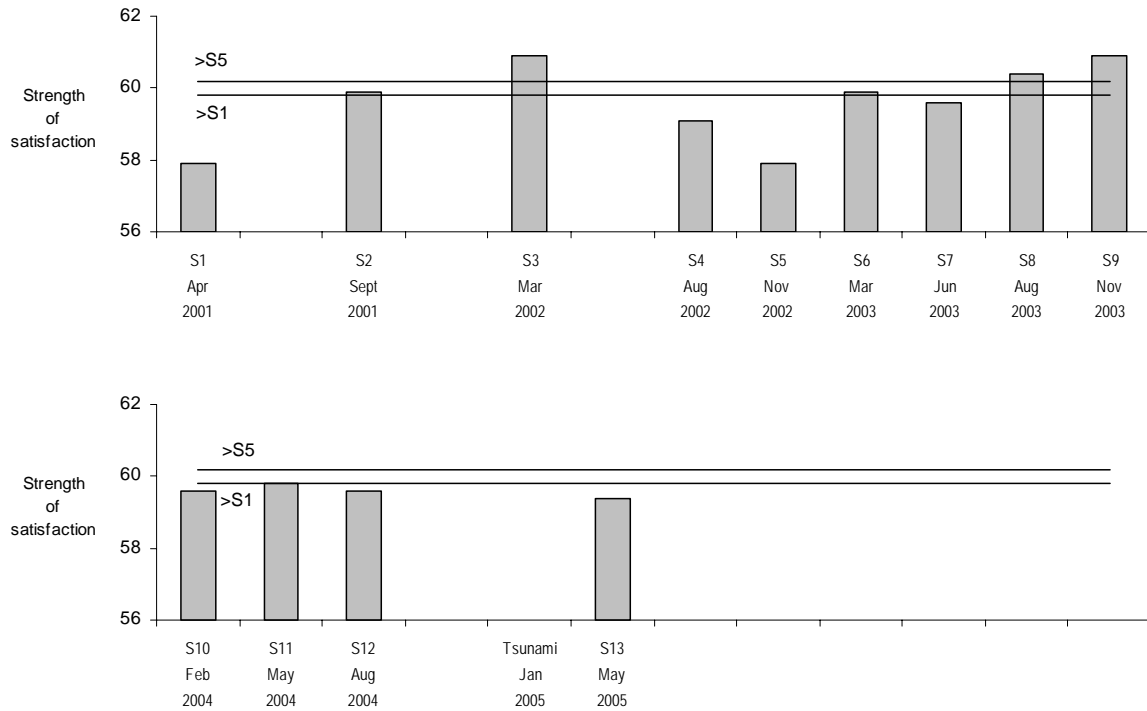


Figure 2.12: Satisfaction with the **State of the Natural Environment in Australia**

Satisfaction with the state of the environment has peaked twice. The first was six months following September 11, and the other six months following the Iraq war. This has now remained no different from Survey 1 over the past 9 months. The range is 3.0% between April 2001 (S1:57.9) and November 2003 (S9:5 months/following the Iraq war:60.9).

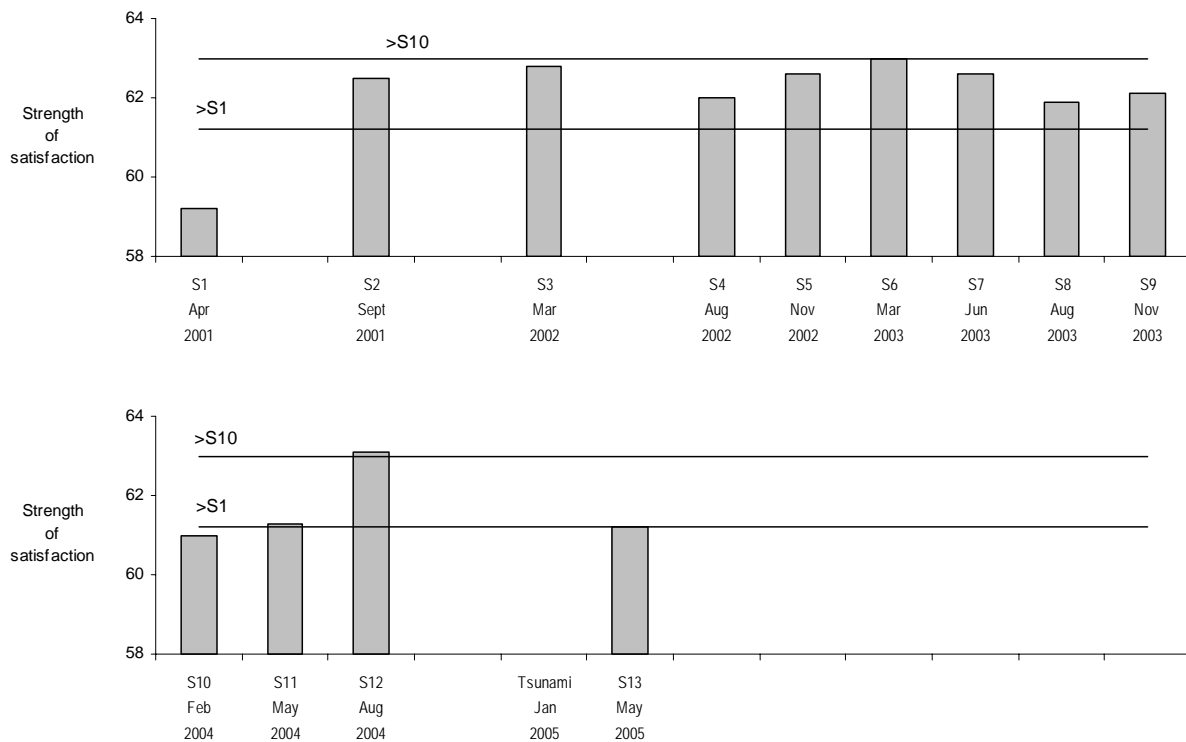


Figure 2.13: Satisfaction with the **Social Conditions in Australia**

Satisfaction with social conditions has fallen back to be no different from Survey 1. 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. The range of values is 3.9% between April 2001 (S1:59.2) and August 2004 (S12:Olympics:63.1).

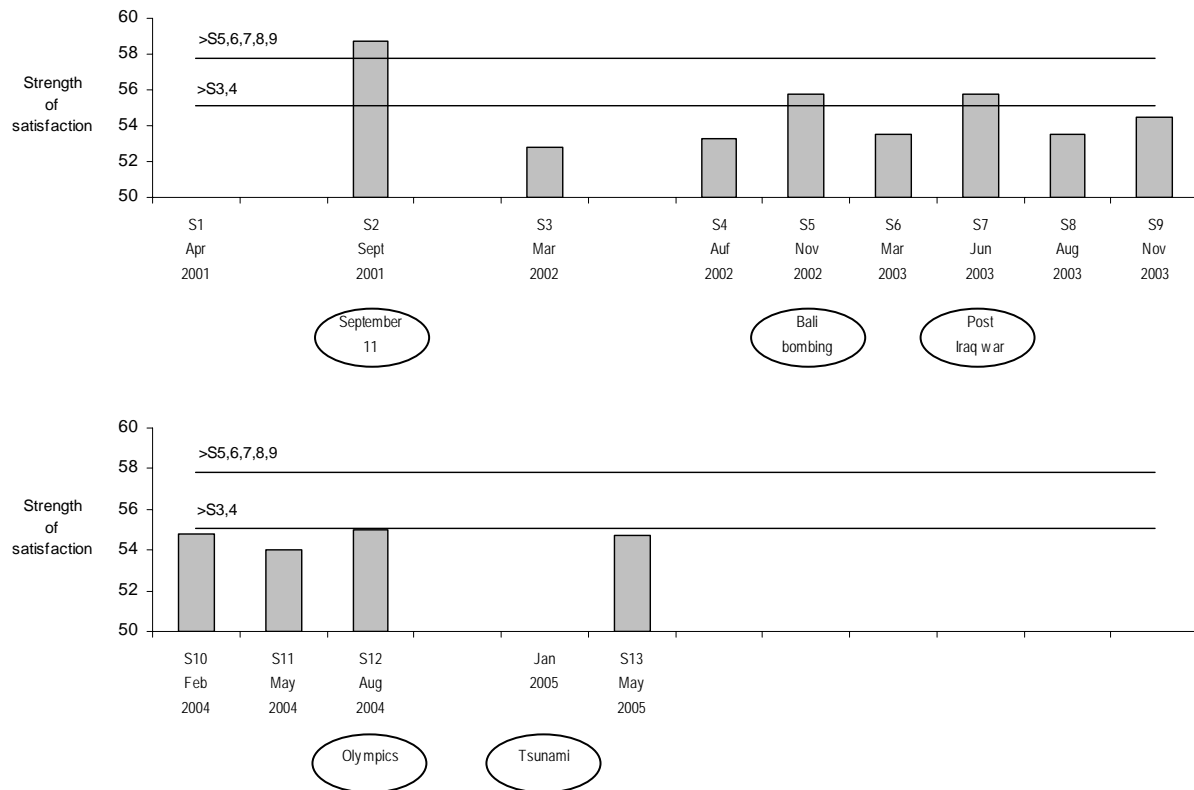


Figure 2.14: Satisfaction with **Government in Australia**

Satisfaction with Government remains at one of its lowest levels. It appears to rise in times of national threat, such that the elevated satisfaction with Government in September 2001 (S2) was 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 Iraq war (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 to increase. However 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 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 range of values is 5.9 points between March 2002 (S3:52.8) and September 2001 (S2:58.7).

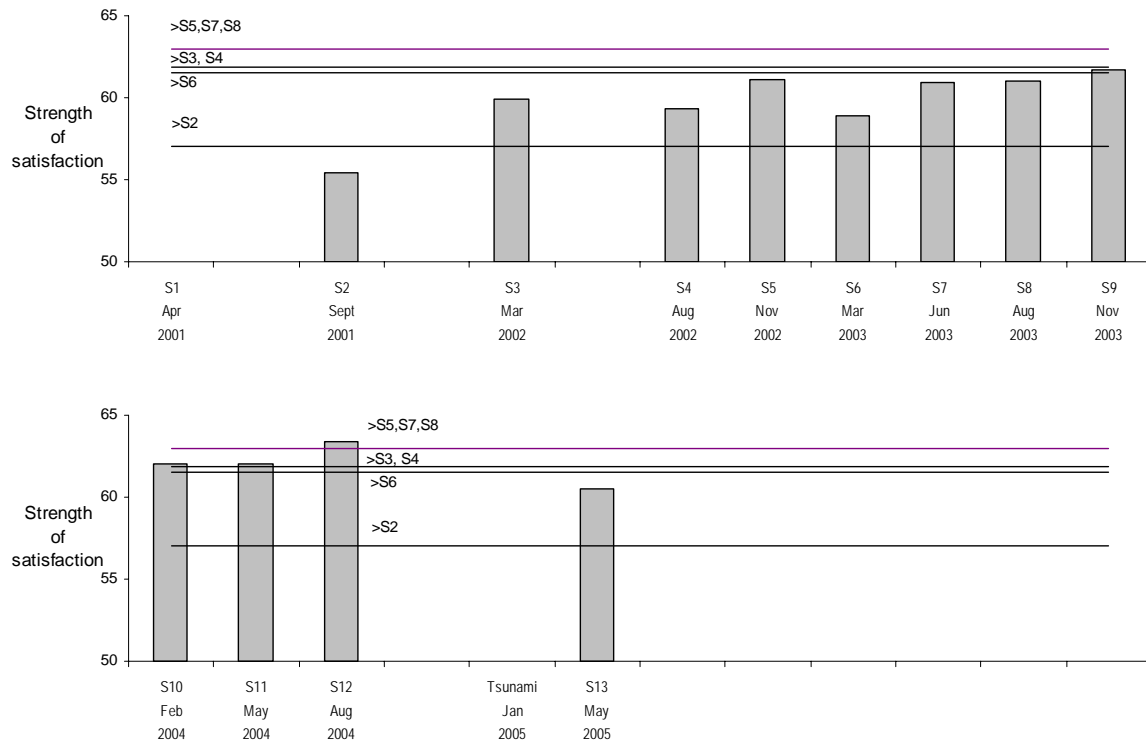


Figure 2.15: Satisfaction with **Business in Australia**

Satisfaction with Business has fallen significantly from its record high at Survey 12, but remains higher than Survey 2. 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 8.0 points between September 2001 (S2:55.4) and August 2004 (S12:Olympics:63.4).

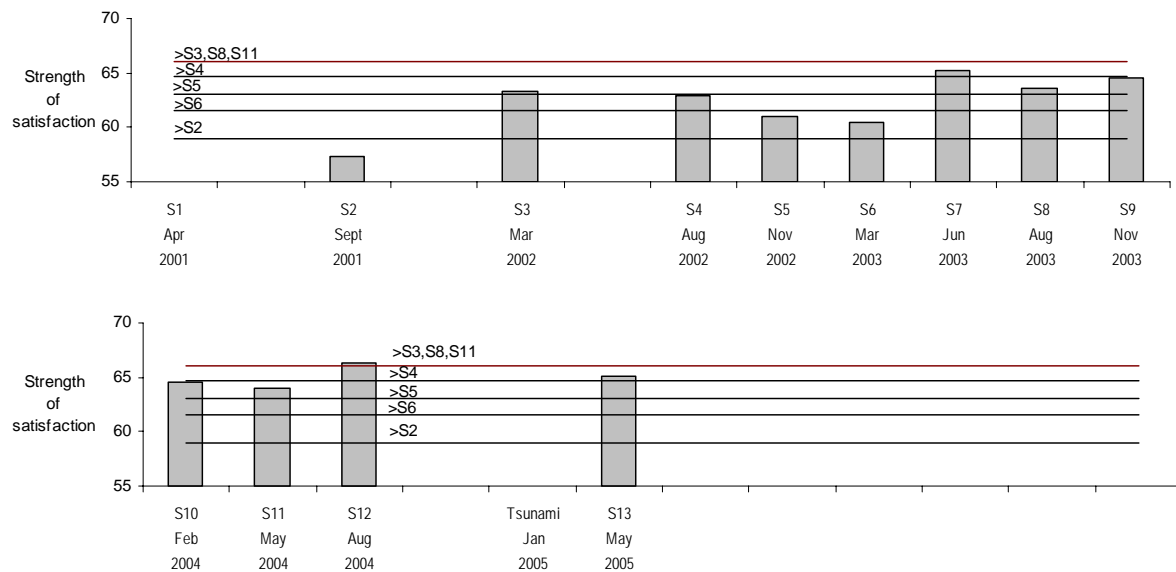


Figure 2.16: Satisfaction with **National Security**

Satisfaction with national security has fallen marginally (-1.2 points) but not significantly since Survey 12. It remains higher than it was at the time of the first two surveys. The dramatic rise of 4.6% post the Iraq war (S7) seems almost certain to reflect the strengthened American alliance and the lack of terrorist events in Australia. The range of values is 9.0 points between September 2001 (S2:57.3) and August 2004 (S12:Olympics:66.3).

2.5. Life in Australia

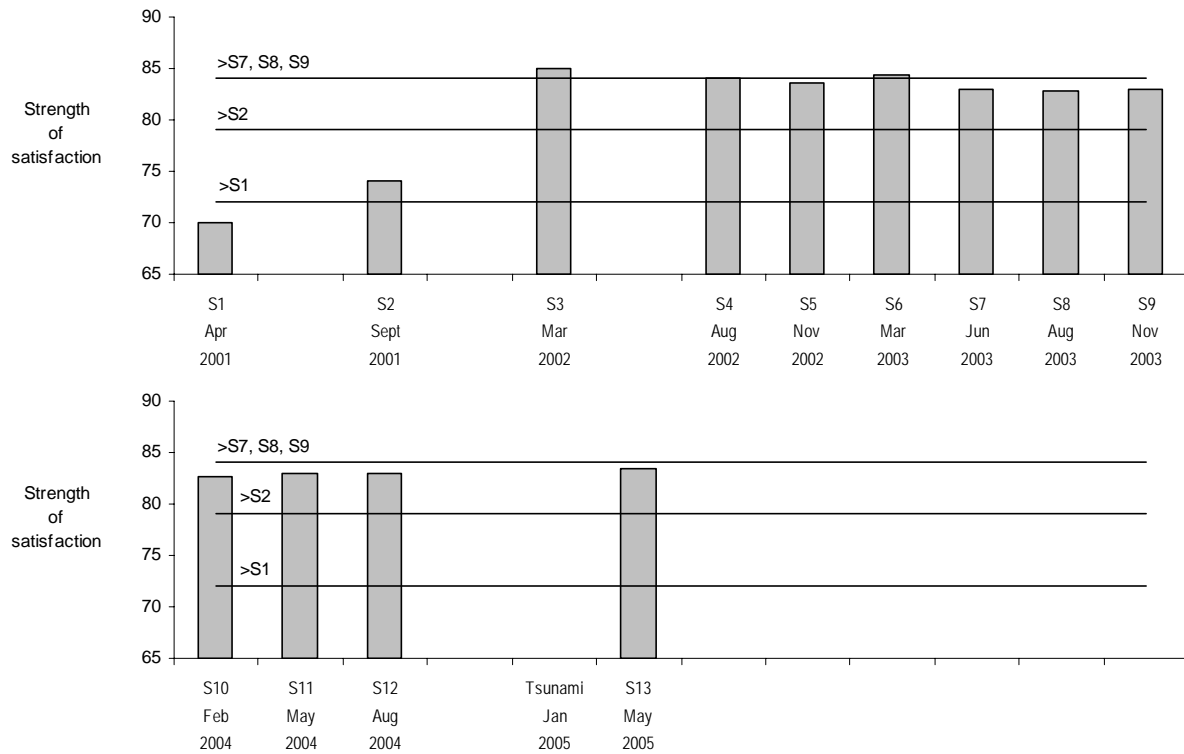


Figure 2.17: Satisfaction with **Life in Australia**

Satisfaction with this single global item has not changed significantly over the past two years. It 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%. The range of scores is 15.2% between April 2001 (S1:69.6) and March 2002 (S3:5 months following September 11:84.8).

Summary of changes in National Wellbeing

The national wellbeing of Australians has fallen back somewhat from its record high at the time of the Olympics but remains higher than it was at Survey 1. Only 3/6 national domains now remain higher than they were at Survey 1 (Economic Situation, Business and National Security).

2.6. Australian Wellbeing Summary

A possible sociobiological explanation for this response pattern is as follows.

Threat Events

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

Enhance satisfaction with material conditions (Standard of Living, Social Conditions, Natural Environment, Business and Economy). In terms of a threat response, may serve the purpose of 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 little or no change as a consequence of these international events. 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.

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.

The second difference is in the domains that are responsive. The 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 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.

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. It is notable that, despite the intervening Tsunami event that occurred some four months prior to the current survey, the rises associated with the Olympics have proved highly transitory.

2.7. Discussion of the Changes in Personal and National Wellbeing

1. We have long wondered how the wellbeing of Australians would have reacted to the very successful 2000 Olympic Games held in Sydney. It now seems reasonable to suppose that those Games would have caused both personal and national wellbeing to rise at least as high, if not higher, than is evident in the current data.
2. This indicates that both negative international events, such as terrorist attacks and war, and positive international events such as the Olympics, cause wellbeing to rise.
3. In more general terms, these wellbeing measures attest to the remarkable stability of the Indexes. Over the past three years, the Personal Wellbeing Index has varied by only 3.1 points and the National Wellbeing Index by 6.9 points. Overall, the national indicators show more variability than the personal indicators and this has been detailed in Report 4.0, Table A7.1. The greatest variation has been shown by the broadest national indicator 'Satisfaction with Life in Australia' which has varied by 15.2% over the surveys.
4. The variations that have been recorded generally show a coherent pattern, which supports the conclusion that variation within the indicators is reflecting the influence of public events.
5. The attribution of causation is a fraught process when interpreting data patterns such as these. Numerous other events have taken place which could influence these trends. Nevertheless, the data patterns do appear to bear a reasonable relationship to events that can be personalised, and do not seem to reflect happenings that have little impact on the average Australian. Thus, the major corporate collapses that occurred prior to the March 2002 (S3) survey which directly impacted on few people, failed to counteract the general rise in national wellbeing, which included increased satisfaction with business.

2.8. Likelihood of a Terrorist Attack

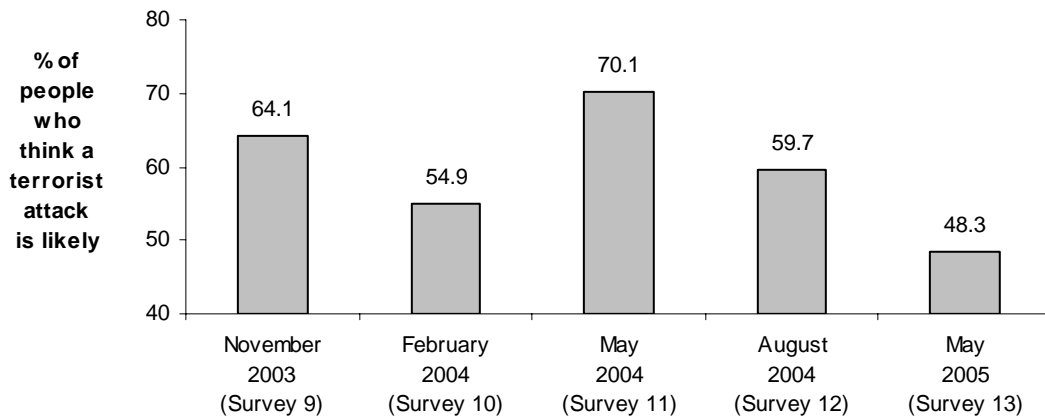


Figure 2.18: Percentage who think a terrorist attack is likely

Over the three month period from May 2004 to August 2004, the proportion of the population who ‘think a terrorist attack is likely in Australia in the near future’ fell by 11.0% (Table A2.1). For the first time in 1.5 years less than half of the sample consider such an attack lightly.

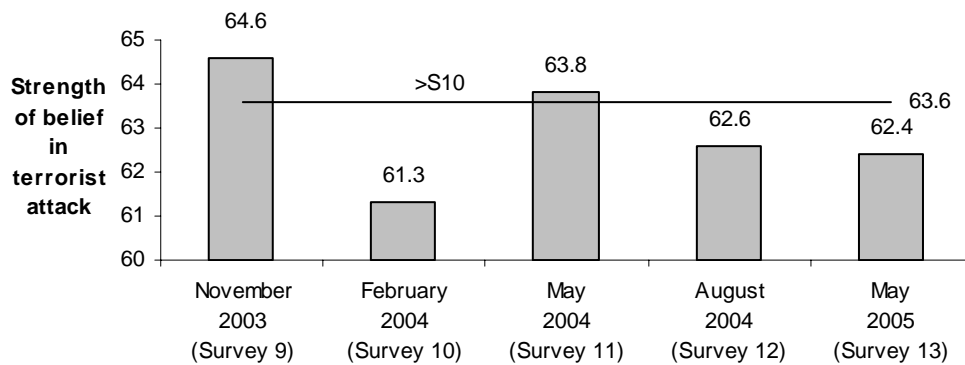


Figure 2.19: Likelihood of a Terrorist Attack

The strength of belief that such an attack will occur (Table A2.1) shows a similar pattern to Figure 2.18 and that the current strength of belief is no more than it was six months ago.

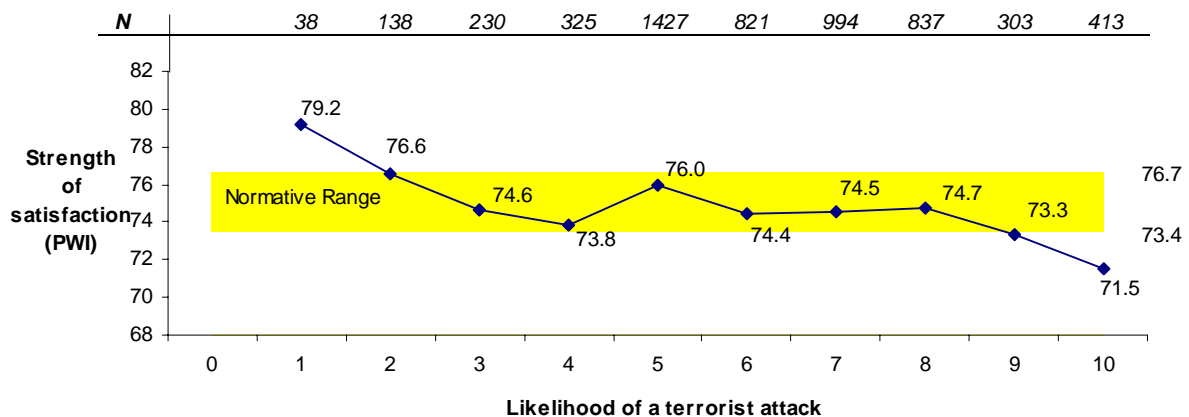


Figure 2.20: Likelihood of Terrorist Attack x Personal Wellbeing Index (combined surveys 9-13)

Using the PWI mean scores in Table A2.2 and Figure 2.20, the correlation between the perceived likelihood of a terrorist attack and personal wellbeing is -0.77 ($p < .01$). The direction of causation is

uncertain. However, it can be seen that all groups lie within the normative range with the exception of the 0.7% who consider the likelihood to be 10%, and the 13.2% who regarded the probability 9/10 or 10/10. Even this strength of negative views was not enough to depress personal wellbeing below the group threshold value of 70, which is the value indicative of widespread homeostatic failure. Thus, the most likely direction of causation is that people with low homeostatic set-points, who have low levels of optimism, regard a terrorist attack as highly likely.

This response pattern also exemplifies the non-linear nature of the relationship between these variables and the false assumptions that can be drawn by the unthinking application of linear statistics to such data. That is, the conventional interpretation of a strong -0.77 correlation would be to assume that the belief that a terrorist attack is likely is inherently damaging to personal wellbeing. However, Figure 2.20 shows this is not the case.

People who rate the probability as 10% have higher than normal wellbeing. Then, over the range of probability from 20% to 80% personal wellbeing does not reliably change. Thus, for most of the probability range, believing there is a probability of a terrorist attack is either good for personal wellbeing, at very low probability levels, or has no measurable effect on wellbeing. Evidently, the -0.77 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 some evidence of a damaging influence of attack beliefs on wellbeing.

2.9. 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.

2.9.1. Normative Data from Individual Scores

Personal Wellbeing Index and Domains (individual scores)

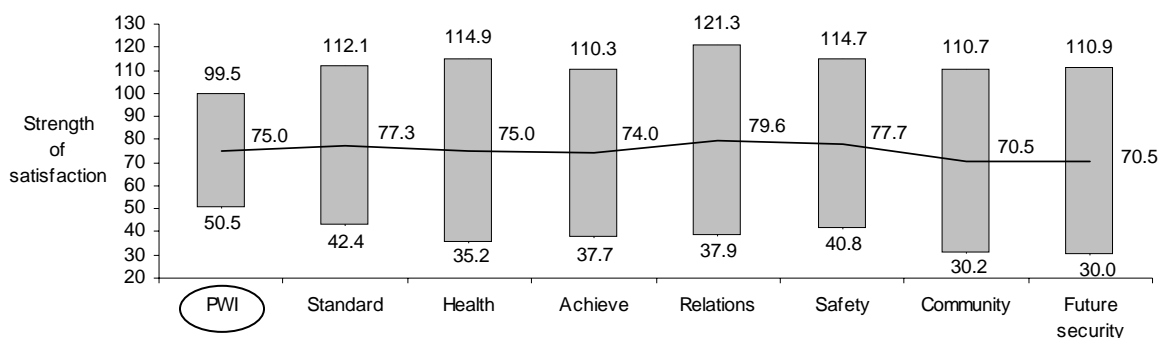


Figure 2.21: Normative Range for Individual Data: **Personal Wellbeing Index**

The size of the smallest data-set used in Figure 2.21 is $N=24,838$ for the Personal Wellbeing Index (Table A2.9). 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 82.0 percentage points.

These normative are highly stable, with the variation generally being 0.1 percentage point from the calculations using the previous data set.

National Wellbeing Index and Domains (individual scores)

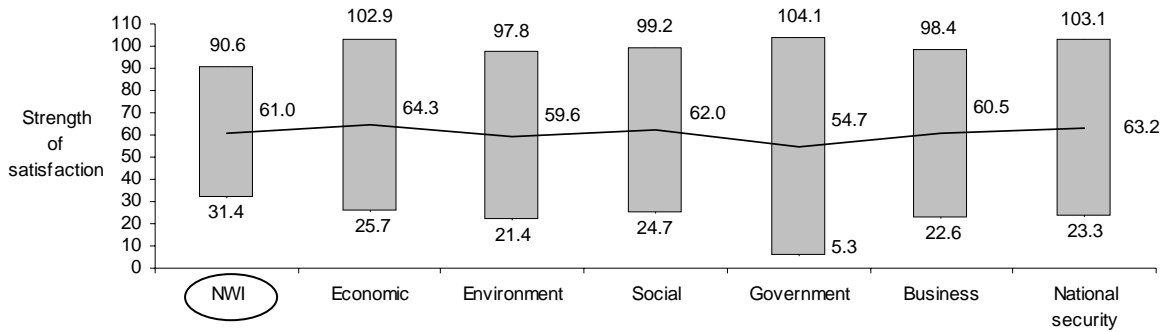


Figure 2.22: Normative Range for Individual Data: **National Wellbeing Index**

The size of the smallest data-set for the ranges in Figure 2.22 is N=21,247 for National Wellbeing Index (Table A2.9). The ranges are generally larger than for personal wellbeing and the largest is for Government which is 98.6 percentage points. It is notable that the range of the National Wellbeing Index (59.2 percentage points) is larger than that of the Personal Index (48.9). Moreover, National Wellbeing Index range does not cover the top 9.6% 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., 2003a).

These values are all highly stable. The maximum degree of change since Report 11.0 has been 0.4 pp.

Life as a Whole and Life in Australia (individual scores)

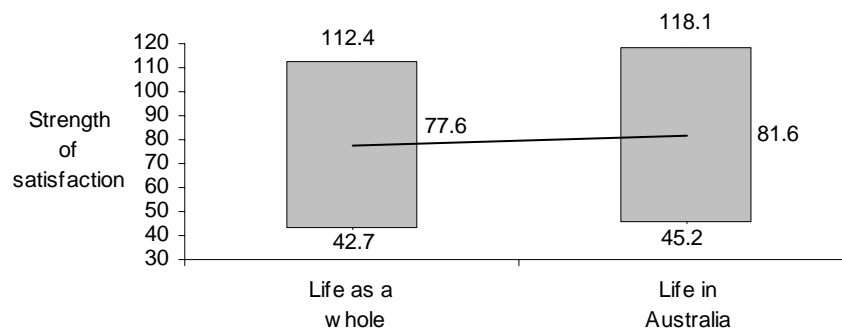


Figure 2.23: Normative Range for Life as a Whole and Life in Australia

The ranges and mean scores of these two variables are very similar (Table A2.9).

This does not fit with theory. Here, the distal variable (life in Australia : 81.5) is being rated as higher than the proximal variable (Life as a whole : 77.6), which is against theory. However, it was not always so as the Figure below shows (Table A2.1).

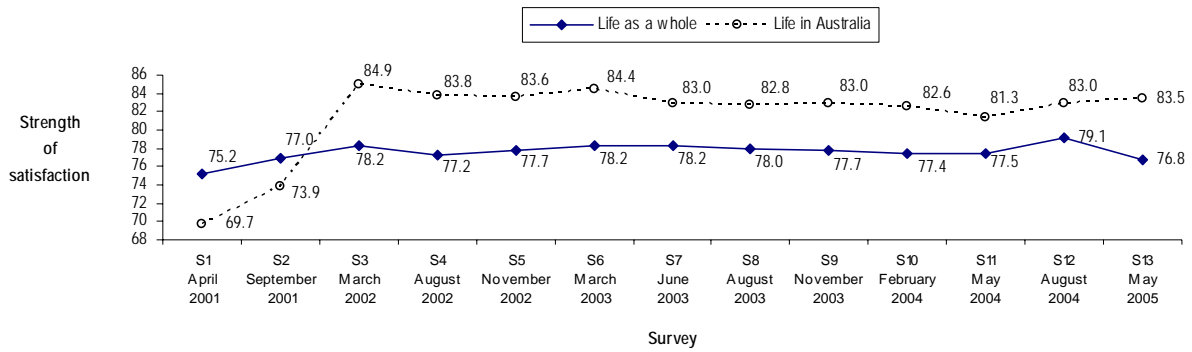


Figure 2.24: Life as a Whole vs. Life in Australia: Survey Means

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 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 each of the 13 surveys yields $r=.896, p<.001$. 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.

2.9.2. Normative Data using Survey Mean Scores as Data (N=13)

Personal Wellbeing Index and Domains (mean scores as data: N=13)

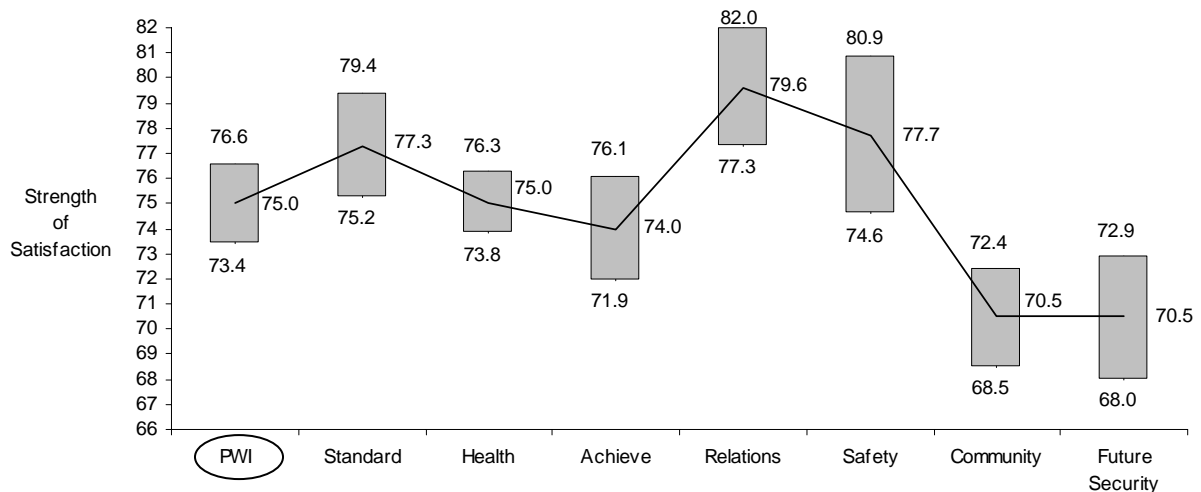


Figure 2.25: Normative Range for Group Data: Personal Wellbeing Mean Scores (N=13)

As can be seen, the ranges show modest variation with a 13.8% difference between the top of the highest range (Relationships: 81.8) to the bottom of the lowest range (Future Security: 68.0) (Table A2.10). The ranges also differ in magnitude, from the largest (Safety: 6.3%) to the smallest (Health : 2.4pp). These ranges (see Table A2.2) can now be used to more accurately 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 (74.9) is remarkably close to the predicted mean for Western populations (75.0). However, the range of 73.4 to 76.4 is just 3.0 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 3.0% 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 3.3 percentage points.

National Wellbeing Index and Domains (mean scores as data N=12)

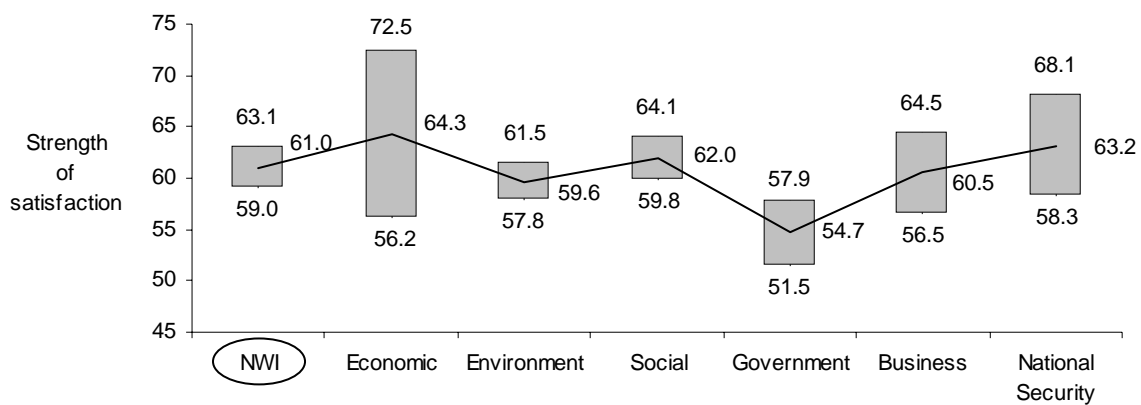


Figure 2.26: Normative Range: **National Wellbeing Mean Scores (N=12)**

The normative range for the National Wellbeing Index (Table A2.13) calculated from survey mean scores is 4.1 percentage points. This is marginally higher than the range for the Personal Wellbeing Index (3.0%).

The domains differ widely in the extent to which they have varied across the surveys. The most volatile is Economic Situation, with a range that spans 16.8 percentage points. The smallest are Environment (4.1) and Social Condition (4.3), which makes sense since these two domains represent highly stable entities over the temporal range of the surveys.

Life as a Whole and Life in Australia (mean scores as data: N=12)

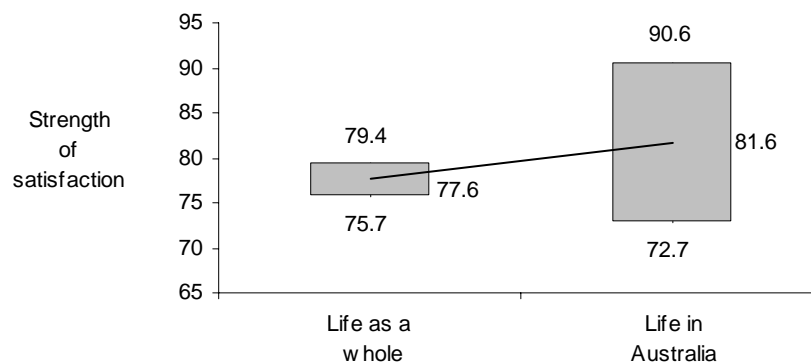
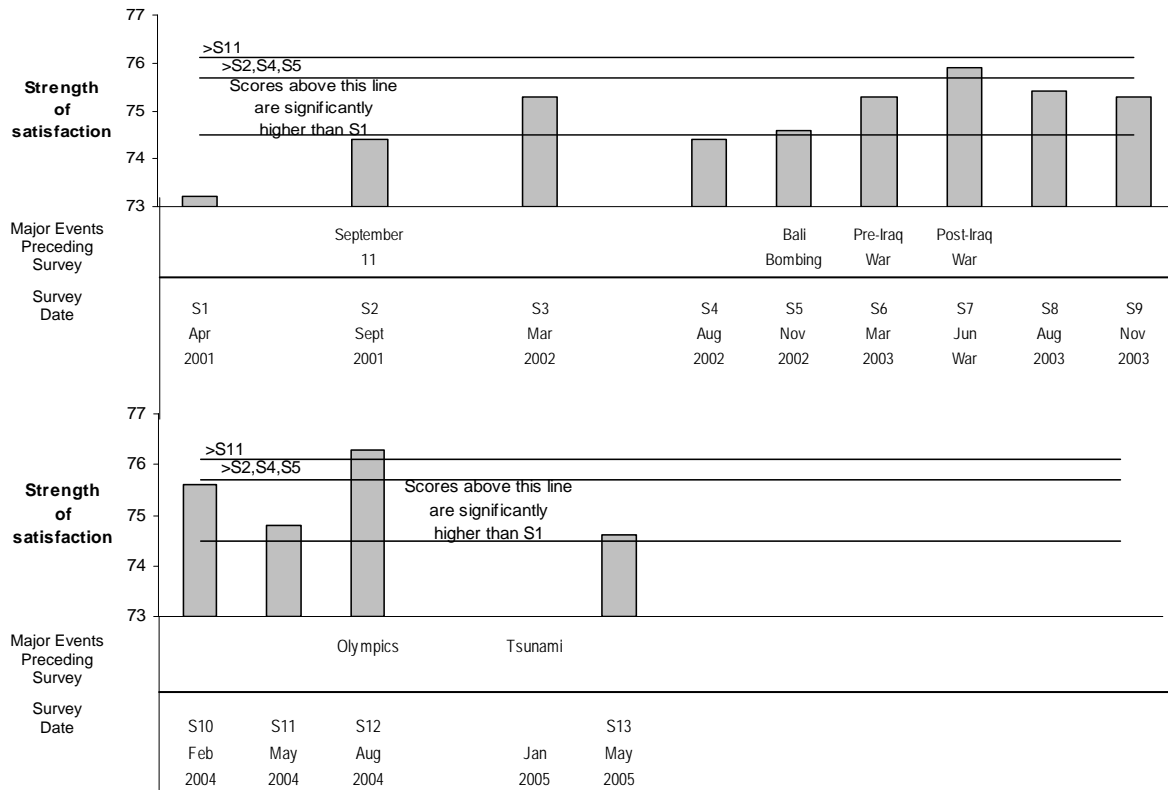


Figure 2.27: Normative Range of **Life as a Whole and Life in Australia**

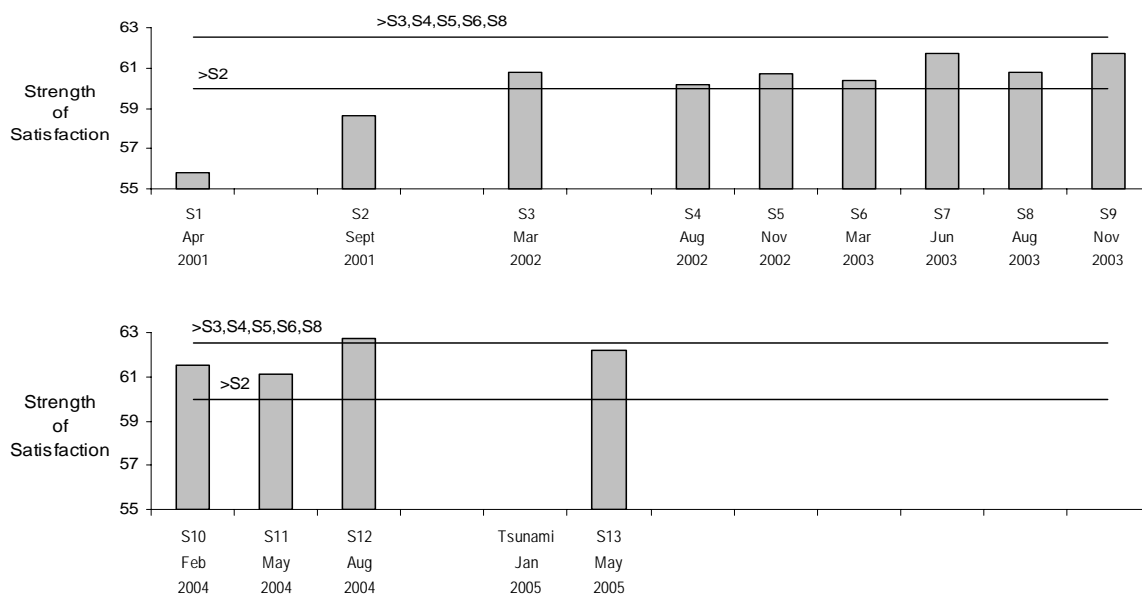
Both the mean score and the normative range of 'Life in Australia' are higher than for 'Life as a Whole' (Table A2.10). The x2 standard deviation range of 18.6 percentage points indicates that this variable is much more volatile between surveys than is Life as a Whole (range 3.8 percentage points). This is consistent with homeostasis theory.

Dot Point Summary for the Wellbeing of Australians

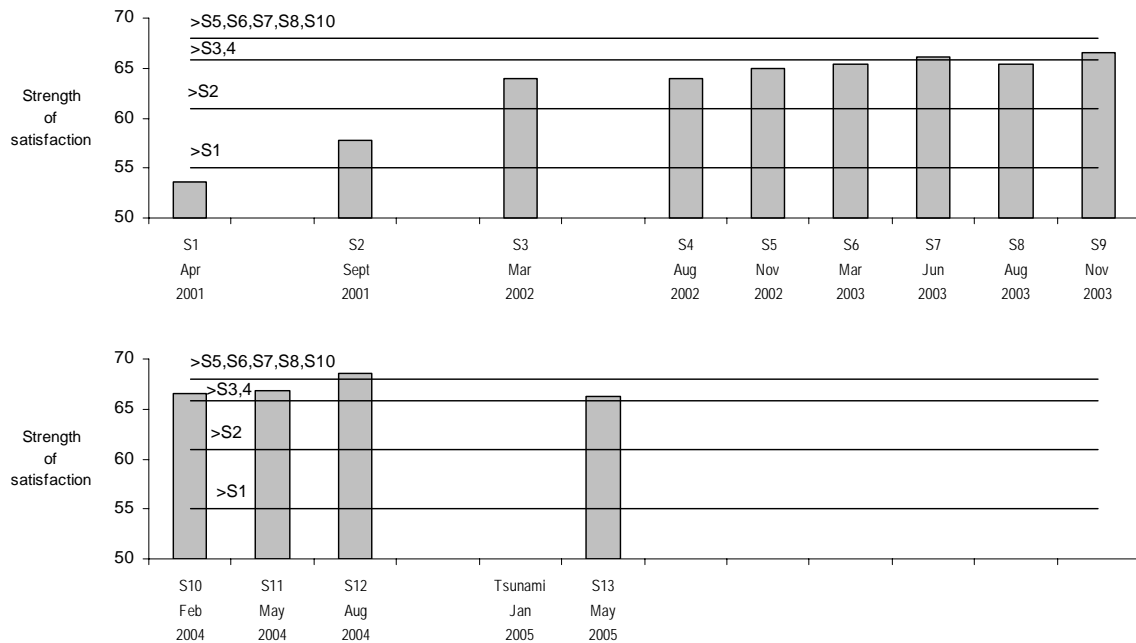
- The Personal Wellbeing Index has fallen by a significant 1.7 points since its Olympic-driven high. It remains higher than it was at the time of the first survey.



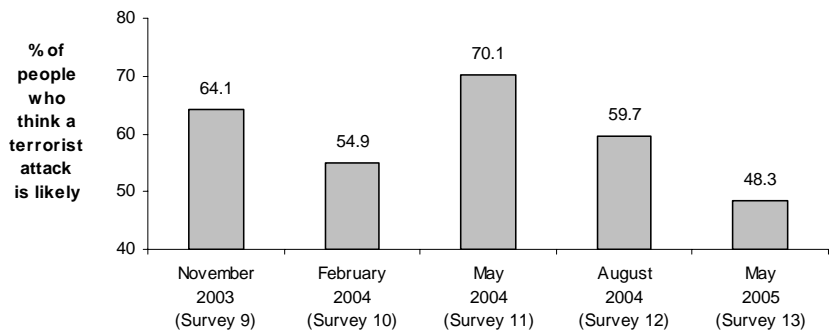
- The National Wellbeing Index has changed little since the previous survey and it remains higher than at Survey 1



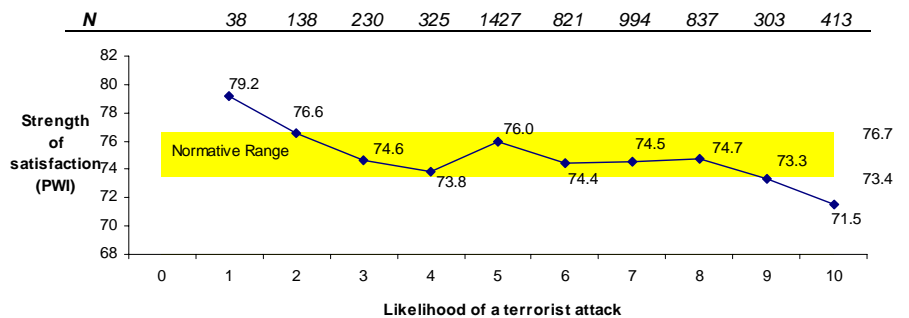
3. Only 3/6 national domains remain higher than they were at Survey 1 (Economic Situation, Business and National Security). It is notable that two of these concern satisfaction with economic activity.



4. The perceived probability of a terrorist attack 'in the near future' has fallen to its lowest level over the last 18 months. Less than half of the sample now consider such an attack to be likely.



5. People who regard the probability of a terrorist attack as 9 or 10/10 (13.2% of the total sample) have lower than normal wellbeing.



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 13)

	N	% of respondents to this question
Less than \$15,000	180	10.5
\$15,000 to \$30,000	317	18.5
\$31,000 to \$60,000	494	28.8
\$61,000 to \$90,000	345	20.2
\$91,000 to \$120,000	225	13.1
\$121,000 to \$150,000	75	4.4
More than \$150,000”	77	4.5
Total	1,714	87.0% of respondents answered this question

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

Category		<\$15,000	\$15,000-\$30,000	\$31,000-\$60,000
Age pension	- single	12,238		
	- couple		20,436	
Disability support Pension	- Single <18y	10,624		
	- Single with children	12,238		
	- Couple with children		20,436	
Unemployment	- Single 18-21y	8,281		
	- Single with children	10,852		
	- Partnered, no children	8,281		
	- Partnered, with children	9,095		
Minimum full-time wage		24,305		
Median full-time wage				33,696
Average full-time wage				38,168

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 13, and for combined surveys in Table A3.5. This maximises the use of past data since earlier surveys did not include the higher income brackets. The range of the Personal Wellbeing Index across income groups is 7.3 percentage points (Figure 3.1).

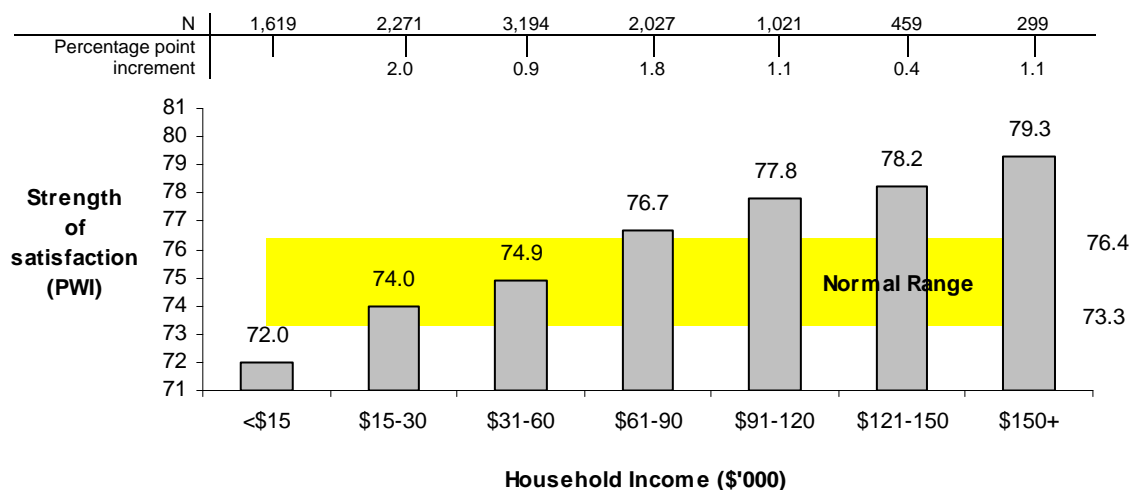


Figure 3.1: Income and the Personal Wellbeing Index (combined surveys)

Table A3.23 shows that there is a significant increase in wellbeing from <\$15K to \$15-30K. The next significant increment requires the addition of a further \$30,000 (\$61-90K), and the next significant increment in wellbeing requires the addition of more than \$60,000 (\$151K+). This is a clear indication of diminishing returns with increasing household income. At the lowest income level, \$15,000 buys 2.0 percentage points of wellbeing, or \$7,500 per point. From the \$15-30K baseline, it takes an additional \$30,000 to buy 2.7 percentage points, or \$11,111 per point. From the \$60-90K baseline it takes \$60,000 to buy 1.5 percentage points. This 1.5 point increase has required \$40,000 per point.

These values can be used to calculate the cost of a percentage-point rise in the Personal Wellbeing Index at each income level as follows:

- (a) The change of the cost per point due to the \$30,000 increment from the \$15,000 increment is $11,111/7,500 = 1.48$.
- (b) The change due to the \$60,000 increment is $40,000/11,111 = 3.60$.
- (c) Through extrapolation; the arithmetic linear progression of 1.48 to 3.60 is $\times 2.43$, or 8.76. Note, this is a conservative estimate since it could be a logarithmic ratio which would take the projection much higher. However, the lower projected ratio of 8.76 predicts \$350,270.

Table 3.2: The Cost of Each PWI Increment

Income (\$)	\$ increment	Points gained	\$ per point	\$ per point change ratio
<15 to 15-30	15,000	2.0	7,500	
15-30 to 61-90	30,000	2.7	11,111	1.48
61-90 to 121-150	60,000	1.5	40,000	3.60
Projection based on previous ratio				8.76

The relationship between income and wellbeing has become exponential as income loses its power to increase wellbeing beyond the genetically-determined set-point ceiling. While an increment of one percentage point of wellbeing costs \$7,500 at a household income of <\$15,000, it costs \$350,000 at a household income of \$150,000 even supposing that such an increase is actually possible given the genetic constraints.

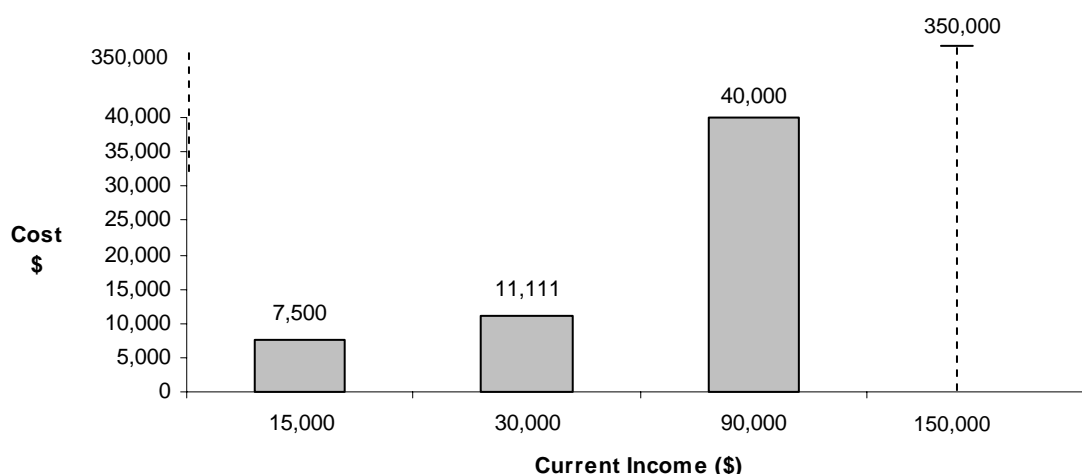


Figure 3.2: The cost of purchasing a percentage point of personal wellbeing

There are two further observations on these data. First, while the extent of significance between income increments (Table A3.23) 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. Moreover, since each of the calculations is based on a minimum N of 255, the estimates are likely to be reliable. The second observation is that these data confirm, as a reasonable approximation, the upper limit of 80 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.

- ▶ Stability across surveys: The SWB differences associated with household income are highly stable across surveys (see Figure 3.3, Report 12.0).

3.1.2. *Personal Domains*

1. While Table A3.4 shows that the personal domains generally follow the pattern of the Index, but 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 domains of Environment and Social Conditions. It is interesting that these are probably the least personalized (proximal) domains and, so, are likely the domains least affected by personal demographics.

The second exception is the domain 'Achieving in Life' which shows a significant interaction between income and survey. This is due to a wording change for this item from Survey 11.

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 the most sensitive. In each survey either the lowest possible increment (\$15-30K) or the \$31-60K has shown a significant difference from <\$15K. None of the other domains show such sensitivity. Interestingly, however, this sensitivity disappears at incomes higher than \$30K. That is, there are no differences in health satisfaction between the groups with a household income >\$30,000.

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.

- 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. This degree of enhanced sensitivity reflects the degree of match between the dependent and the independent variable.

- 2.3 The domain of Achievement has shown good discrimination between the income groups. 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.

- 2.4 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 A3.4 from Survey 7 to the present. These are as follows:

	Number of significant income-group comparisons	% of total
Standard	69	38.3
Health	44	24.4
Achieve	23	12.8
Future Security	20	11.1
Relationships	15	8.3
Safety	9	5.0
Community	0	
Total	180	

This is interesting in demonstrating an enormous degree of difference between the domains in the extent to which they are influenced by household income. Two-thirds of the influence (62.7%) 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 (Achievements, Future Security, Safety), only being reliably related to the poorest group (Relationships), or making no contribution at all (Community).

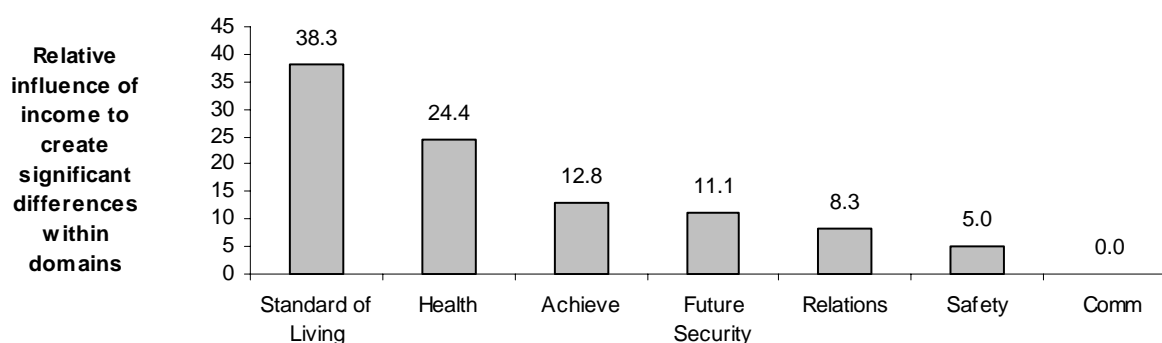


Figure 3.3: The Relative Influence of Household Income on the Personal Domains

3.1.3. National Wellbeing Index

The National Wellbeing Index is relatively insensitive to income (Table A3.4). Only nine income group differences have been found from Survey 7 to the present, compared with 49 for the Personal Wellbeing Index.

3.1.4. National Wellbeing Domains

Two of the six domains show little change with income as State of the environment and Social conditions.

The other four domains showed a trend of rising satisfaction with income (Economic situation, Government, National Security, and Business). The most volatile of these is Economic Situation and this is shown in Figure 3.4 (combined data from Table A3.5).

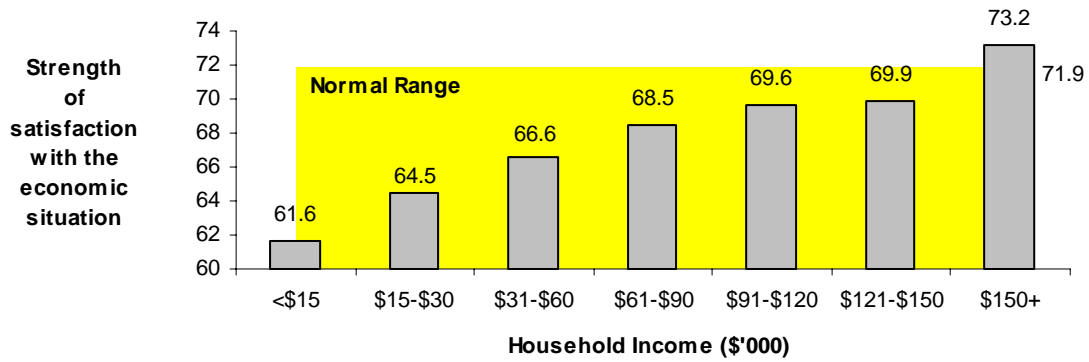


Figure 3.4: Income x National Economic Situation (combined data)

3.1.5. 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. This strength did not vary with household income. This is the same result as in previous surveys.

3.2. Income and Gender

The gender distribution of income shows more females in the lower income groupings (Table A3.6). This is a consequence of relative longevity. More females live in single-pension households.

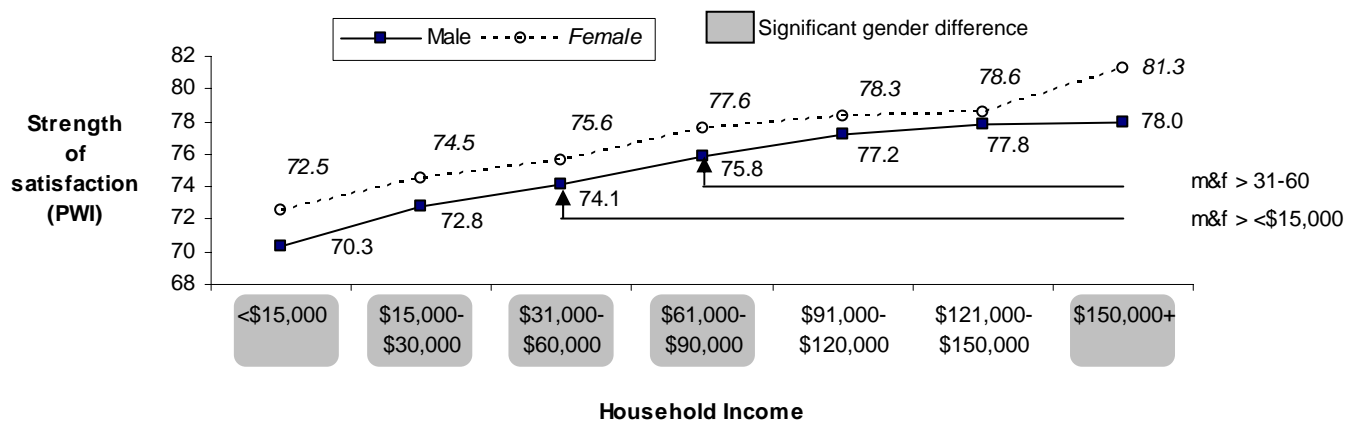


Figure 3.5: Gender x Household Income (combined data)

The shape of these slopes are similar. Both genders show a significant rise in Personal Wellbeing from <\$15K at \$31-60K, and again at \$61-90K. 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 appear to continue rising with household incomes in excess of \$61-90K. The addition of further data by future surveys will likely reveal this continuing incremental increase in wellbeing for both genders.

It is also apparent that gender differences in the Personal Wellbeing Index are not significant over the range \$91K to \$150K (1.0 point increase) compared with a 2.0 point increase for males. The reason for this difference is not known.

3.3. Income and Age

The age distribution of income (Table A3.24) shows 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 (Table A3.8). 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 data taken from Table A3.8 (N=67 to 1,241).

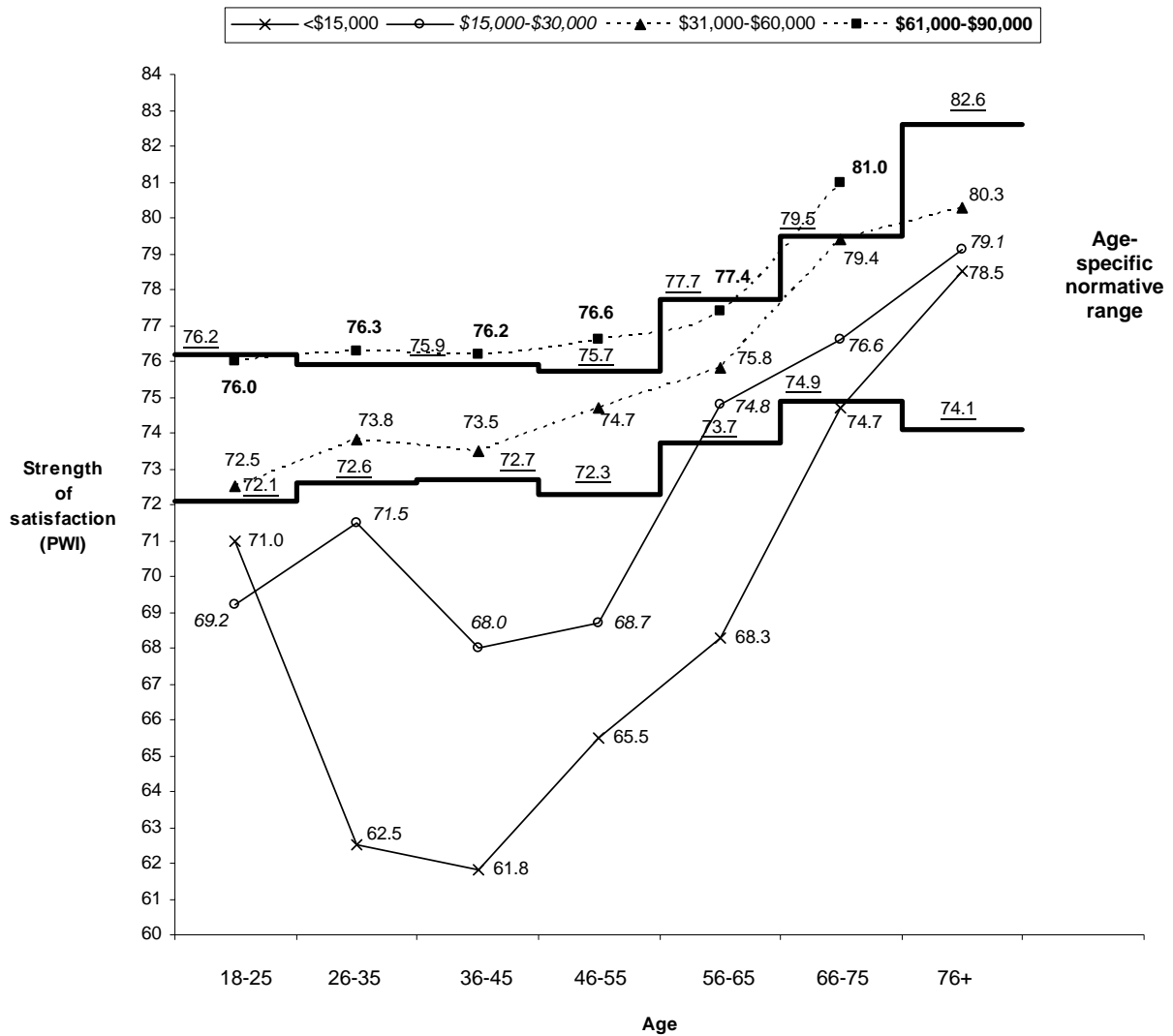


Figure 3.6: Income x Age (combined data)

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 61.8 points (N=76) 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 household income to compromise middle-age wellbeing is evident up to an income of \$31-60K, at which level income has no effect, and wellbeing stays within the normal range for age.

(b) The \$61-90K group consistently lies above the normative range.

3.3.1. Income x Age x Gender

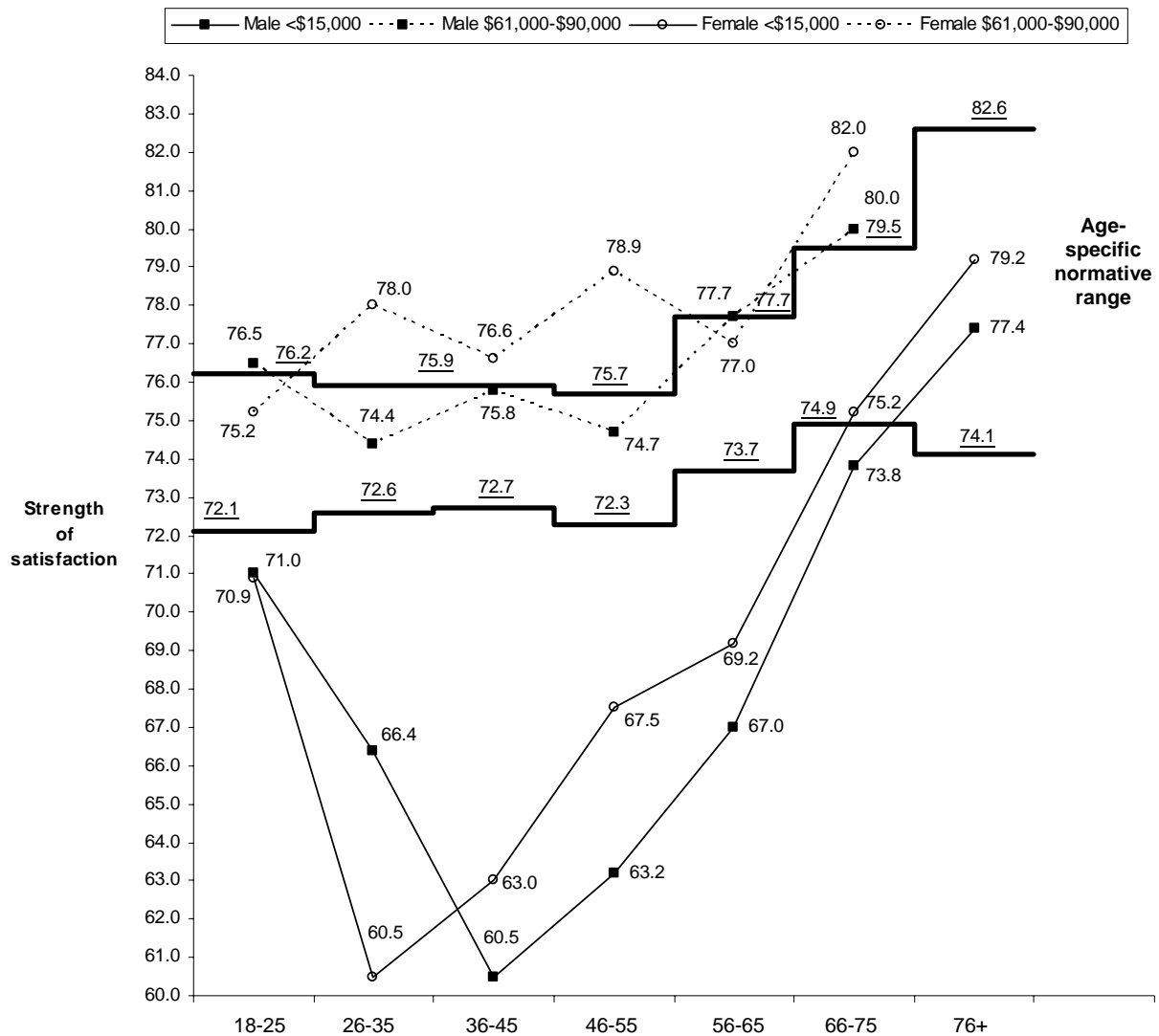


Figure 3.7: Income x Age x Gender (combined data)

These data are taken from Tables A3.9 and A3.10. It is evident that there is no reliable gender difference at 18-25 years for either very low (<\$15K) or above average (\$61-90K) households. However, gender differences appear at 26-35 years in both income groups, with males showing the typical gender pattern of lower wellbeing at the higher income, while females do substantially worse at the lower income.

For the lowest income group this gender difference switches to being worse for males and continues up to 76+ years. For the \$61-90K group the gender difference is reliably maintained only up to 46-55 years, after which it disappears.

One aid in the interpretation of this pattern is that about half of the 18-26 year group live with their parents (see Chapter 5) and, thus, are not normally responsible for the household income. At this young age only about 6% live with their partner and children.

These proportions change dramatically over the next decade. For people aged 26-35 years, only about 8% live with their parents and almost half live with their partner and children. Thus, the majority of this age group do now share or bear responsibility for their household's income.

3.4. Income and Household Structure

In previous figures that compare income groups, the comparative standard has been the normative range for gender and age. This is appropriate since these are both naturally occurring variations in the human condition. However, it is not appropriate to continue this procedure by making comparisons against normative income group data. Income disparity is societally created. If 'normative' ranges are generated for the <\$15,000 group, this implies that lower than average wellbeing is somehow acceptable because it lies within the range of this deprived sub-group. In order to avoid such implications, all comparisons that involve income groups will be referenced to the general population normative range.

Table A3.11 and Figure 3.8 show that the general trend across household structure groups is for increased wellbeing with increased income, but some groups show this more markedly than others. These differences are caused by a combination of social support and financial demands.

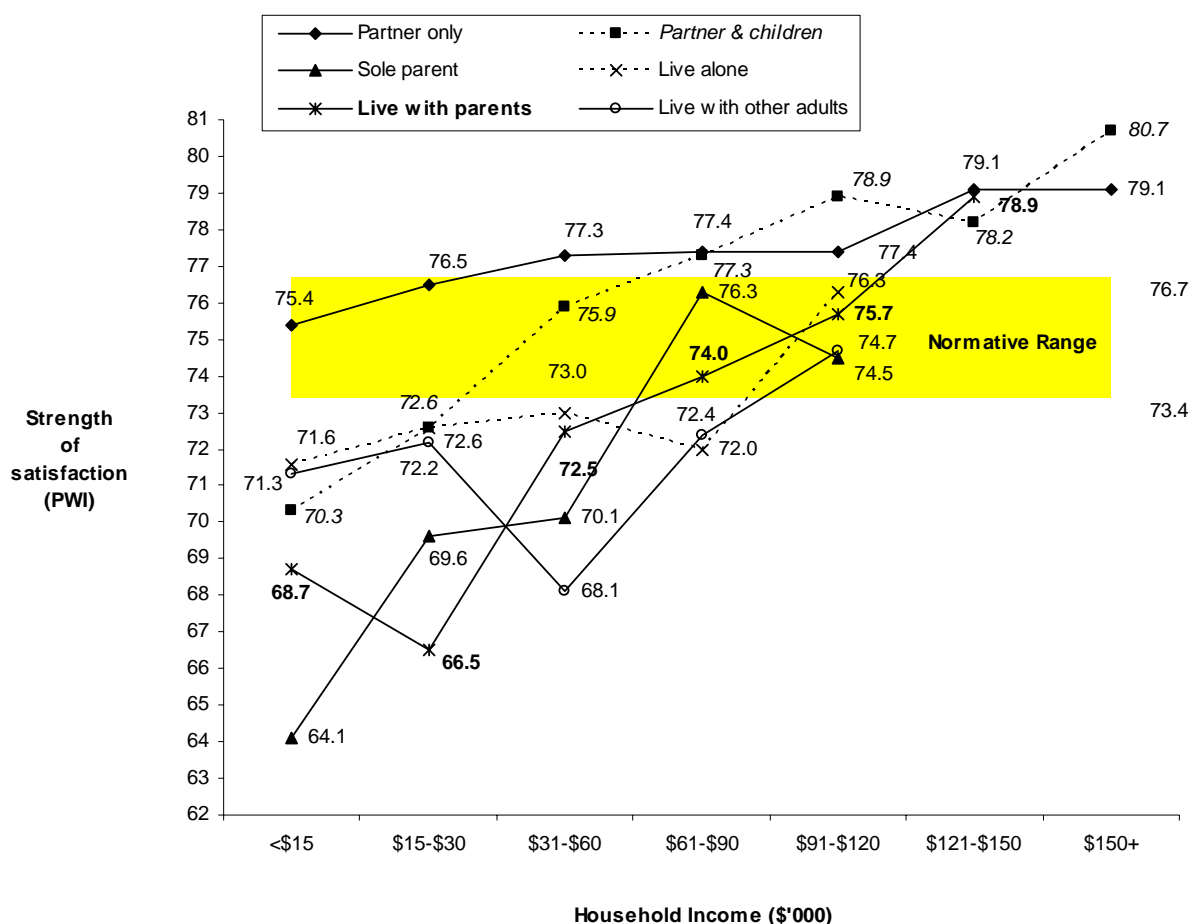


Figure 3.8: Income x Household Structure: **Personal Wellbeing Index** (combined Surveys 9-12)

The normative range for this figure is based on combined survey mean scores presented in Tables A3.14, A3.15 and A3.16. 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 3.7 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 approximate the bottom of the normal range at an income of \$15-30K. Sole parents do not enter the normal range until they reach an income of \$61,000 - \$91,000.

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 until their income reaches \$91-120K.

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 \$91-120K (N=28), 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 A3.14).

3.5. Income and Relationship Status

From Table A3.14 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.

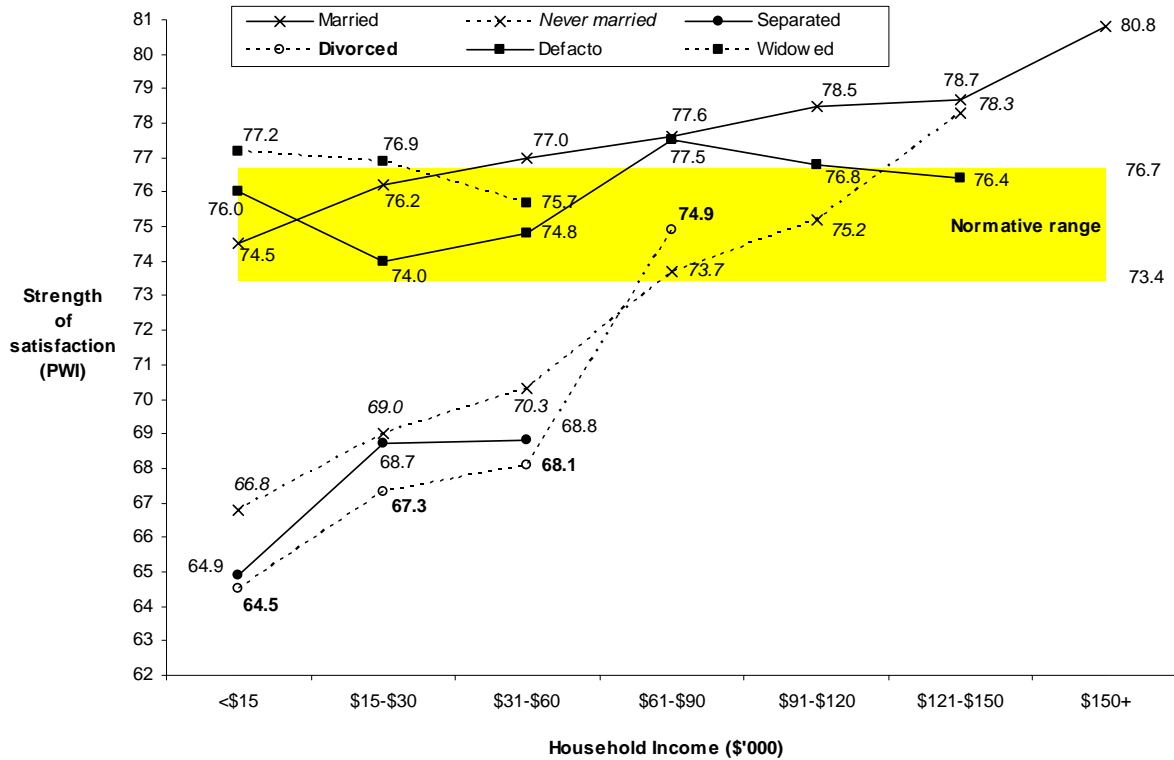


Figure 3.9: Income x Relationship Status

This Figure 3.9 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 \$31,000-\$60,000, while both divorced and never married require \$61,000-\$90,000.

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 \$60,000 per year for people with no partner.

Figure 3.9 exemplifies the power of additional financial resources to raise the Personal Wellbeing Index in circumstances of low income and high demands on personal resources. The most dramatic example here is people who are separated. They are likely burdened with an uncertain future and the residual trauma of relationship breakdown. Many may also be sole parents or contributing to the maintenance of their children. The shift of income from <\$15,000 to \$31,000-\$60,000 raises the Personal Wellbeing Index by 5.4 points. All other groups show an incremental change in Personal Wellbeing Index which is much less.

3.6. Income and Work Status

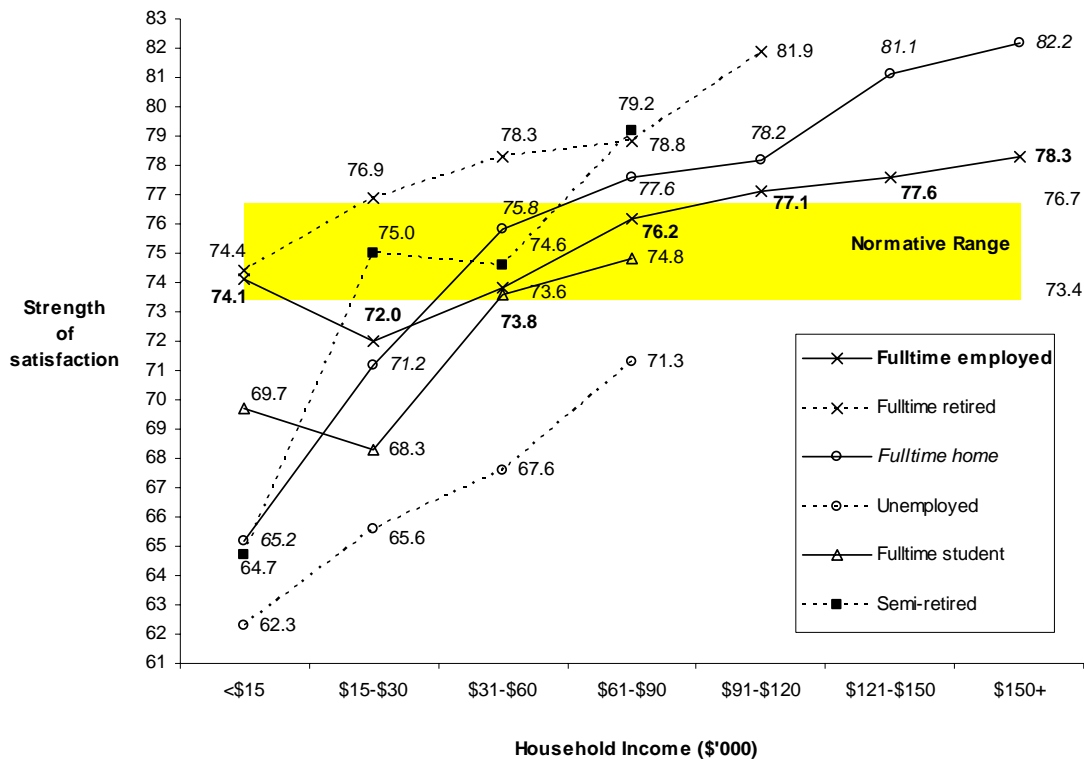


Figure 3.10: Income x **Work Status** (combined data)

Table A3.17 and Figure 3.10 show that the most spectacular rise in wellbeing through income is for people in fulltime home or family care. This wellbeing rises by 17.5 points from 64.7 at <\$15,000 to 82.2 at \$150,000+. Presumably many of these people have children and, while this lifestyle has the potential to provide excellent life quality, money is an essential ingredient. We have indicated previously that a household income of \$31,000-\$60,000 is necessary for the home-carer to achieve normal levels of wellbeing. This opinion is reinforced by these data.

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.

People who are unemployed remain below the normal range despite household incomes that fall within the average income range (\$61,000-\$90,000K). This exemplifies the importance of a personal sense of purpose and achievement for wellbeing. While at very low levels of income both fulltime home carers and people who are unemployed have very low levels of wellbeing, at \$61,000-\$90,000 the personal wellbeing of people who are unemployed has risen 9.0 points, whereas for people in fulltime home care it has risen 12.4 points.

3.7. Testing Homeostasis

3.7.1. *Wellbeing Variation Within Income Groups using Combined Survey Data*

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

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

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

As a consequence, the theory predicts that the Personal Wellbeing Index will show greater variation within the lowest income groups. This is because money is a flexible resource that can be used to defend people against possible stressors. Since people on low incomes have less access to this resource, they are more vulnerable to the vagaries of their daily environment. Table A3.23 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=255.

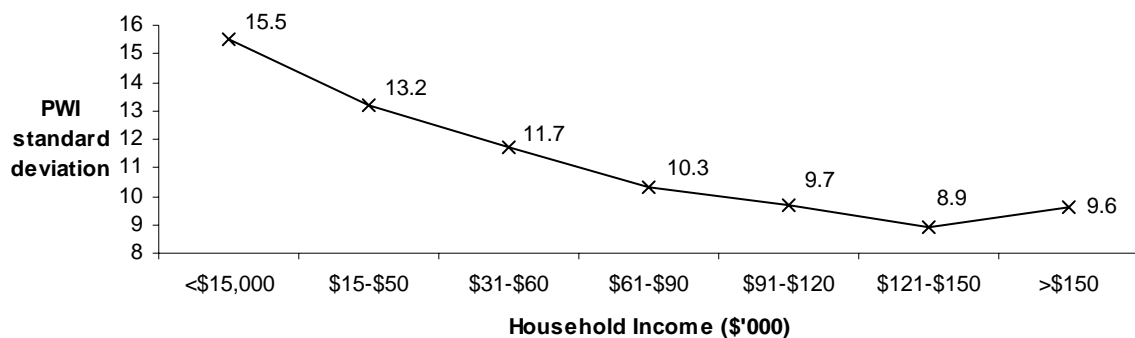


Figure 3.11: Variation in **Personal Wellbeing Index** Within Income Groups Using Individual Scores (S9-S11)

As shown in Figure 3.11 above, the prediction matches the data. The highest standard deviation (15.4) is found within the lowest income group. This value declines with increasing income until it bottoms-out at \$91,000-\$120,000 where it reaches a value of about 9. 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 reinforce \$90,000 as an average threshold for the avoidance of financially-dependent homeostatic defeat.

3.7.2. *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 (Table A3.5).

Table 3.3: PWI and NWI Change with Income

		<\$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		72.32	15.08	74.29	12.78	75.06	11.48	76.79	10.01	77.84	9.23	78.13	9.31	79.34	9.61
	Increment			+1.97	-3.70	+0.77	-1.30	+1.71	-1.47	+1.05	-0.78	+0.29	+0.08	+1.21	+0.30
NWI		59.41	16.92	60.38	15.39	61.19	14.05	61.98	13.33	62.83	13.06	62.19	14.11	65.20	11.93
	Increment			+0.97	-1.53	+0.87	-1.34	+0.79	-0.82	+0.85	-0.27	-0.64	+1.05	+3.01	-2.18
PWI	Mean	12.91		13.91		13.87		14.81		15.01		15.94		14.14	
NWI	SD	-1.84		-2.61		-2.57		-3.32		-3.83		-4.80		-2.32	

It is apparent that there are two statistical phenomena causing the higher Personal Wellbeing Index sensitivity to income. 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 range has changed. Using two standard deviations around the mean, at <\$15,000 it is 42.2 to 102.5 points, while at \$151,000+ it is 50.1 to 98.6 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 normative set-point range in the population.

NORMATIVE DATA FOR INCOME

3.8. Normative Values

3.8.1. Normative Data for Individual Scores

Normative data can be created by pooling individual scores within income brackets. This is shown in Table A3.23.

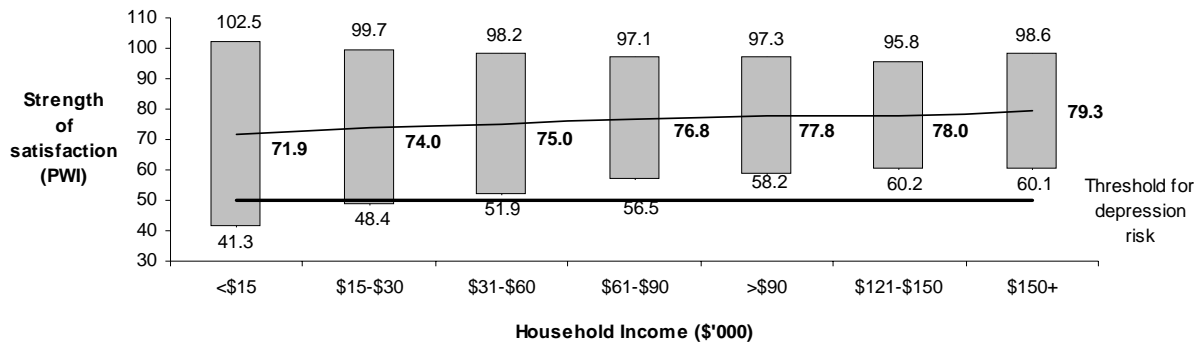


Figure 3.12: **Personal Wellbeing Index** Range Calculated from Individual Scores

It can be seen that there is very little change at the top of each range (6.7 points). Two standard deviations above the group mean approximates the 100.0 ceiling for each calculation. The bottom of each range, however, is far more volatile, and changes by 18.9 percentage points between the lowest and the highest income bracket. These relative changes are consistent with the use of money as a resource to avoid homeostatic defeat. The major change at the bottom of the range occurs over the income span <\$15,000 to \$61,000-\$90,000 (16.9 percentage points). Household incomes above this level add just 2.0 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 lower level of each vertical bar indicates the value below which are found 2.5% of the people in the group. 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.

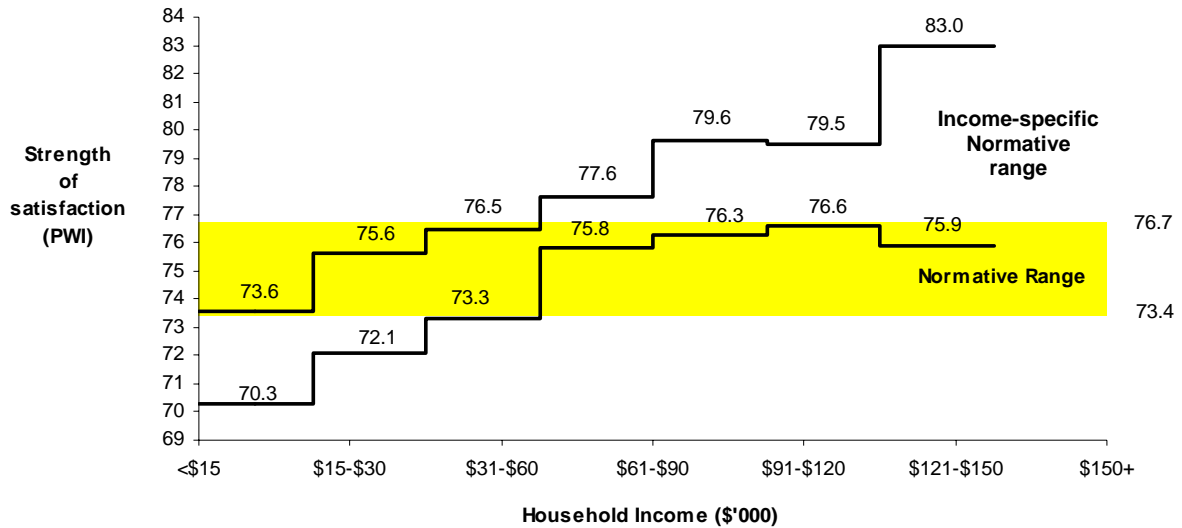


Figure 3.13: Correspondence Between the Whole Sample Normative Range and the Income Specific Normative Range (Combined surveys)

It can be seen that there is almost no overlap between these two surveys for the lowest and the highest income groups. Moreover, the proportion of the sample lying within these extremes is symmetrical. 14.3% of the sample (N=838) lie below \$15,000 and 15.1% (N=895) lie above \$90,000.

3.8.2. Normative Data for Group Means

The normative data for groups are provided by the survey mean scores. These values are shown in Tables A3.20, A3.21, A3.22. When these values 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 3.14.

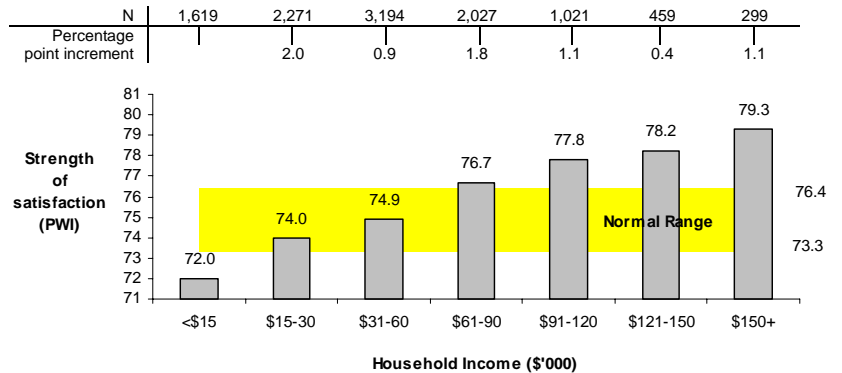


Figure 3.14: Personal Wellbeing Index Range Calculated from Survey Mean Scores

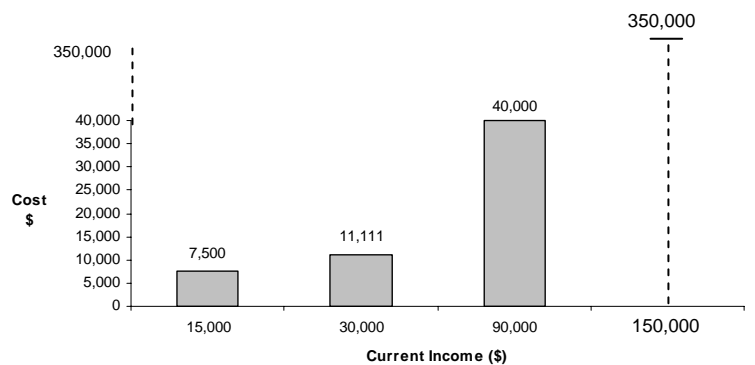
The bars in Figure 3.14 indicate the PWI normal range for each income group calculated as two standard deviations around the mean. These values have been taken from Table A3.14 (<\$15K-\$61-\$90K), A3.15 (\$91K-\$120K), and A3.16 (\$121K-\$151K+). It is evident that the lower and higher income brackets show more between survey variation than the \$31-60 and \$61-90 groups.

Dot Summary Points for Household Income:

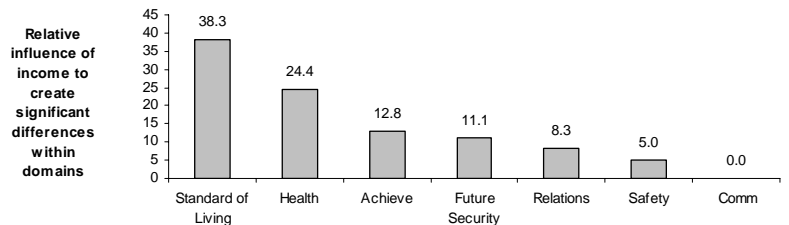
1. Personal wellbeing consistently rises with income. The 7.0 point gain from lowest to highest income is a very substantial degree of change.



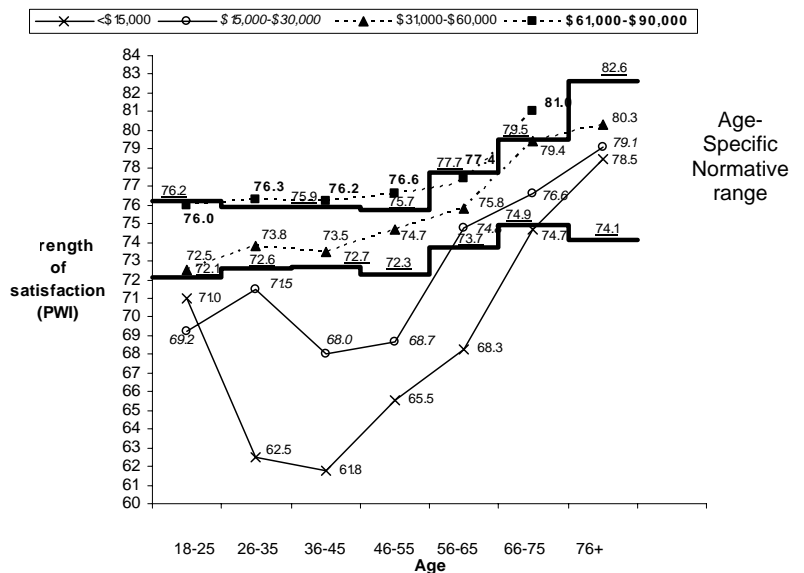
2. The cost of increasing happiness increases with income. One additional percentage point of wellbeing for someone with a household income of \$150K is an additional \$350,000.



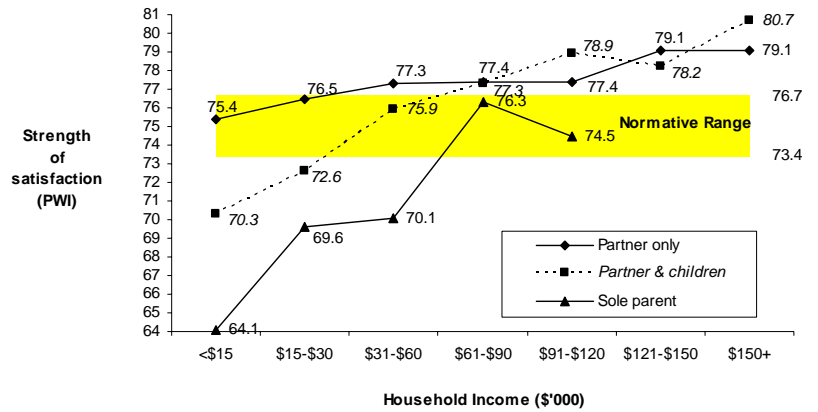
3. Income has the largest effect on the domain of satisfaction with Standard of Living. It has no influence on satisfaction with Community Connection.



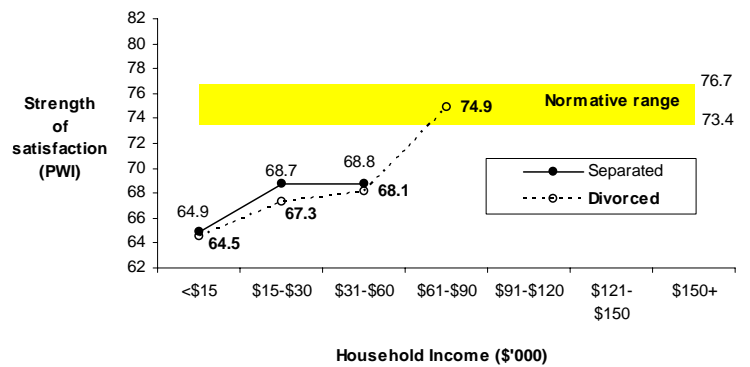
4. The personal wellbeing of people aged 26-55 years is highly sensitive to low income. Their Index value of 62.6 points is extremely low.



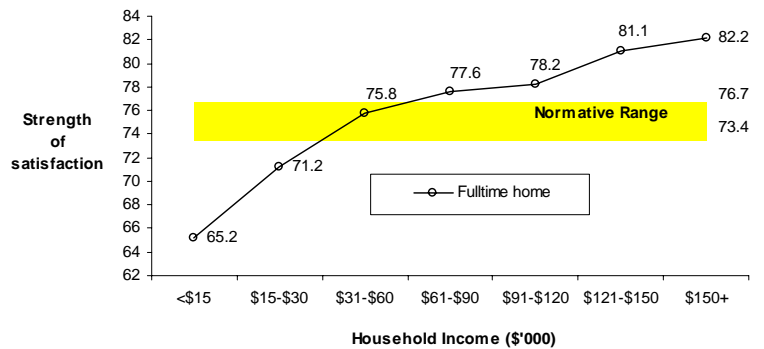
5. (a) Household incomes under \$30,000 combined with the presence of children, on average, take wellbeing below the normal range.
 (b) For people who also have a partner, wellbeing enters the normal range at about \$31,000. The wellbeing of sole parents enters the normal range only at an income of \$61,000-\$90,000.



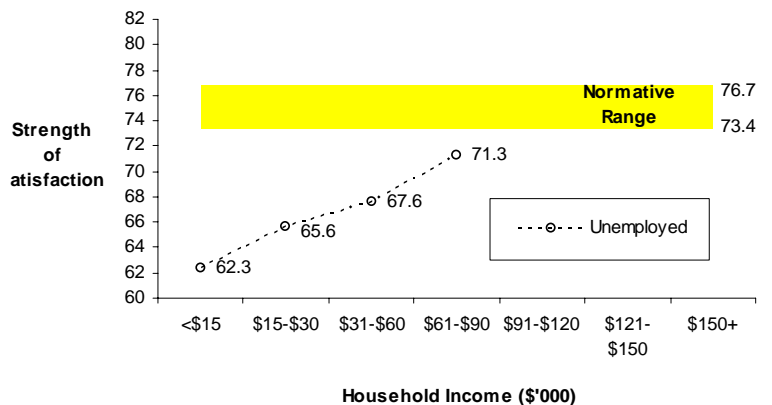
6. The negative effects of separation and divorce can be substantially reduced by a decent household income.



7. 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.



8. People who are unemployed have below normal wellbeing even when their household income is \$31-60K.



4. Gender

4.1. Overall Distribution

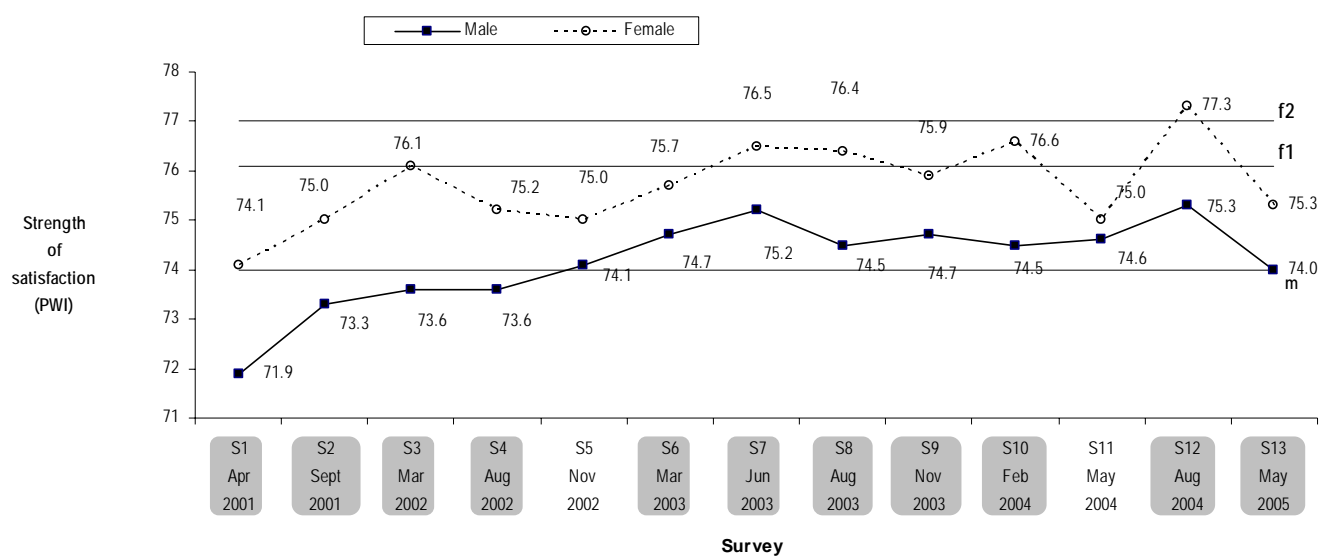
The sample comprised 989 males (50.2%) and 981 females (49.8%) (Table A4.1).

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 1.3 percentage points higher than males on the PWI (Table A4.2; Figure 4.1). The shaded surveys indicate those with a significant gender difference. There is no gender x survey interaction. In this current Survey 13, the gender difference is just significant, with female Personal Wellbeing Index falling more sharply than for males from its record high level (77.3) in Survey 12. As shown in Figure 4.1, the Personal Wellbeing Index for females became significantly higher than Survey 1 after one year (S3) and for males after about 1.5 years (S5). Following this rise, the level of personal wellbeing remained stable and higher for males, whereas for females the rise following Survey 3 has been less consistent. Now, for the first time in three years, neither gender has a Personal Wellbeing Index value higher than Survey 1.



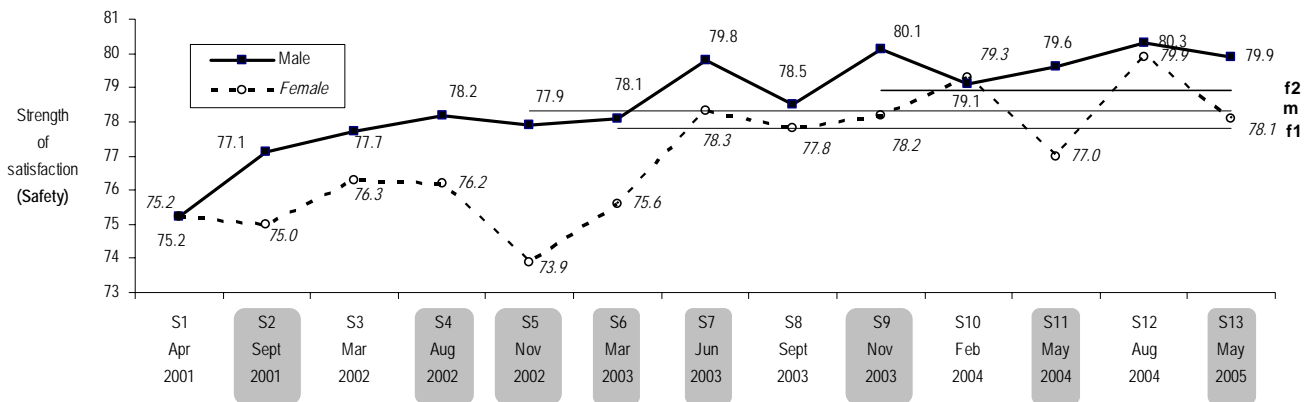
Key: Values above the trend-lines are significantly higher than Survey 1 for males (m) and for females (f).
The female trend-line f2 indicates values higher than S2, S4, S5 and S11.
Shaded boxes denote a significant between-group difference.

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

The general rise in personal wellbeing over the study period is clearly reflected by both genders. Remarkable, however, is the consistency of the separation between them over the 13 surveys, which has varied from 0.4% at Survey 11 to 2.5% at Survey 3. In other words, the degree of separation has varied by a maximum of 2.1 percentage points. No precedent exists in the literature for such consistency in survey data.

4.2.2. Personal Wellbeing Domains

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



Key: The male trend line *m* denotes values higher than Survey 1
 The female trend line *f1* denotes values higher than S1, S2, S5
 The female trend line *f2* denotes values higher than S3, S4, S6
 Shaded boxes denote a significant between-group difference.

Figure 4.2: 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 higher in males. This has occurred on eight occasions (shaded).
- Safety, split by gender, is the domain that is most sensitive to the events that have been impacting on population wellbeing. The trend lines for both males and females (Figure 4.2) generate 31 significant differences within gender across the surveys (Table A4.2). The next highest is Standard of Living with 17 significant differences. The maximum value for both males and females occurred at Survey 12 (Olympics). The maximum value for males (80.3 points) is 5.1 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.
- It is one of the two domains to produce a significant gender x survey interaction ($p=.04$, Table A4.2).
- The interaction is caused by the rising trend of female safety lagging behind males between Survey 1 and Survey 7. Whereas male safety satisfaction rose significantly by Survey 4 (one year following September 11) female safety did not rise until Survey 7 (10 months later following the end of the Iraq war). Following the end of Iraq war (S7) the safety of both genders was held above Survey 1 for a period of nine months. At 12 months following the war (S11) female safety fell to be no different from Survey 1 while male safety remained higher. Then, following the Olympics, safety for both genders reached a record high.
- It is the only domain that fails to contribute unique variance to the prediction of satisfaction with Life as a Whole (see Cummins et al., 2003b). And this 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 (unpublished) indicates that safety does contribute unique variance to 'life as a whole' in some other countries. Thus, while it may be regarded as a 'sleeping' domain in Australia, its inclusion in the Personal Wellbeing Index is far from gender-neutral as the following figures shows:

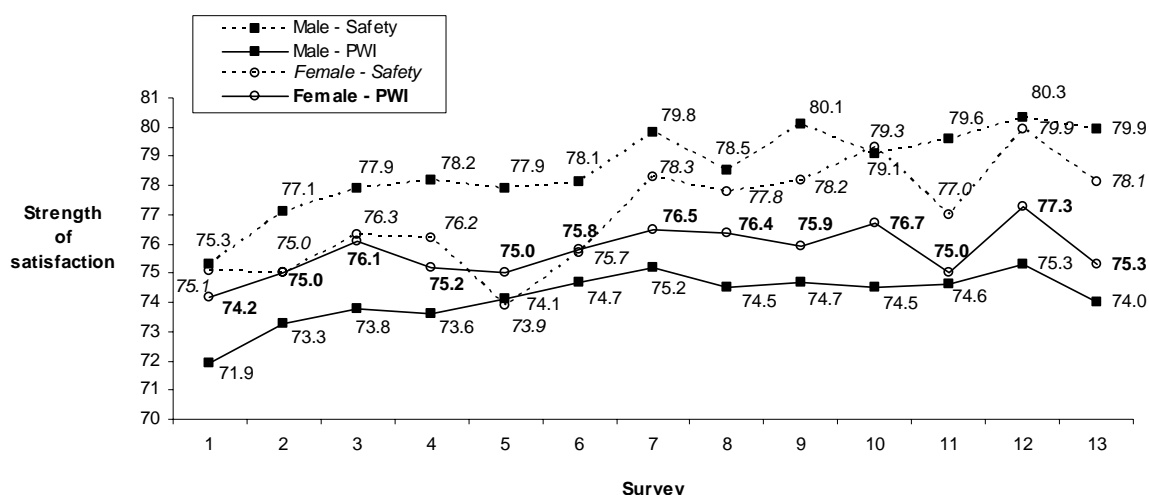


Figure 4.3: Gender x Survey (Safety and Personal Wellbeing Index)

In the figure above, safety is plotted along with the Personal Wellbeing Index for each gender. What is evident from this Figure is that the domain of safety tends to approximate the value of the whole index for females. The largest discrepancy is 2.6 points at Survey 10 and Survey 12. This is not true, however, for males. Here the safety domain lies consistently and substantially higher than the male Personal Wellbeing Index. The lowest discrepancy is 3.4 points (S1) and the largest is 5.9 points at Survey 13. Thus, the inclusion of safety in the Personal Wellbeing Index acts to reduce the overall Index advantage for females. It will be interesting to determine whether this also occurs in other countries.

4.2.3. 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 4.1 (below) for each gender (Table A4.2). Where each large change has been recorded within one gender (bold) the magnitude of change in the other gender in the same survey is also shown.

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

Domain	Surveys	Male	Female
Standard of Living	1-2	+4.18	+1.72
	11-12	+1.90	+3.08
	12-13	-1.94	-2.06
Achievements	1-2	+2.08	+0.12
	10-11	-2.06	-2.07
	12-13	-1.72	-2.09
Relationships	5-6	+2.69	-1.03
	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
	12-13	-2.04	-3.97
Future Security	6-7	+1.51	+2.43
	11-12	+0.17	+3.64
	12-13	-2.04	-3.97
Community	11-12	+1.07	+3.75
	12-13	-2.42	-3.21

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

1. It emphasizes the extraordinary stability of these measures. With one exception, no domain change between adjacent surveys has exceeded 3.8 points. Of the total 154 comparisons, (2 genders x 11 adjacent survey comparisons x 7 domains) only 12 (7.8%) have varied by >2%.

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 interesting that the change has occurred equally within both genders.
4. With two exceptions, these major changes are temporally linked to the period immediately following one of the four major international events: September 11 (S1-S2), Bali (S5-S6), the Iraq War (S6-S7), and the Olympics (S11-S12). Only two changes (Safety, Female, S4-S5, S10-S11) are located within one of the seven other periods (S2-S3; S3-S4; S4-S5; S7, S8; S9, S10-S11). This is further evidence that the Index changes are, indeed, 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.

4.2.4. *National Wellbeing Index*

For the first time since these surveys began, males show a marginally higher national wellbeing than females. This is caused by the domains of Economic Situation, Business, and National Security. It will be interesting to see whether this difference is sustained in future surveys. It does indicate that the higher female values on the Personal Wellbeing Index are not simply due to a differential gender response bias to questions of satisfaction.

4.2.5. *Survey-specific National Aspects*

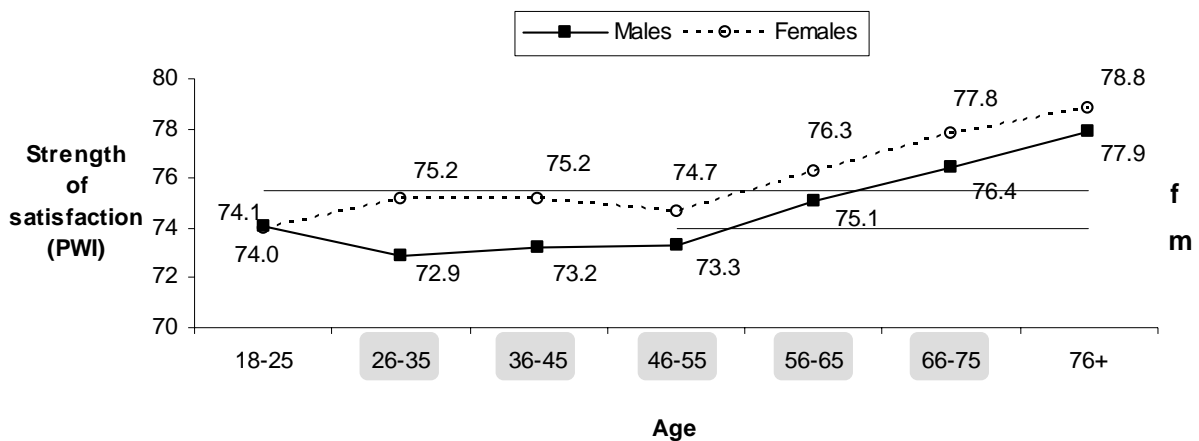
Table A4.1 shows a gender difference in the strength of feeling that a terrorist attack in Australia is likely, with females rating the probability as higher. This is the first time such a gender difference has appeared.

4.3. **Gender and Age**

4.3.1. *Personal Wellbeing Index*

Gender differences with age

Table A4.3 provides the Gender x Age analysis using the entire database from all surveys. The combined PWI data are shown below (minimum N=720 for Male 76+y).



Key: Values above these lines are significantly higher than Survey 1 for males (a) and for females (b). Shaded boxes denote a significant between-group difference.

Figure 4.4: 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, and a third rise at 76+ years. 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 ($p=.011$). As can be seen from Figure 4.4 differences between genders (shaded) are significant only between the intermediate age groups. There is no gender difference within the youngest (.08 points) or oldest (0.84 points).

The most interesting aspect of this comparison is the systematic change in the gender difference with age, as shown below.

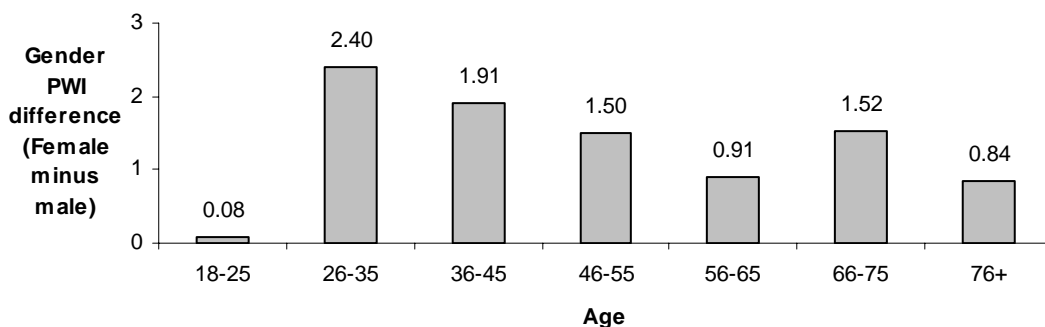


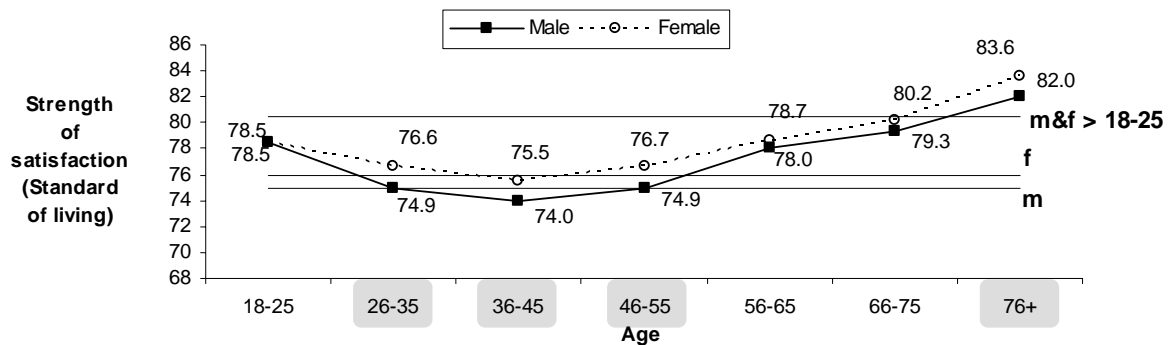
Figure 4.5: Gender x Age: **Female PWI minus Male PWI** (combined data)

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, to bottom-out at 76+ years.

Report 11.0 investigated whether this marked gender difference for the two youngest groups applies to the individual domains. Figure 4.6 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.

4.3.2. Gender x Age: Domains

Standard of Living



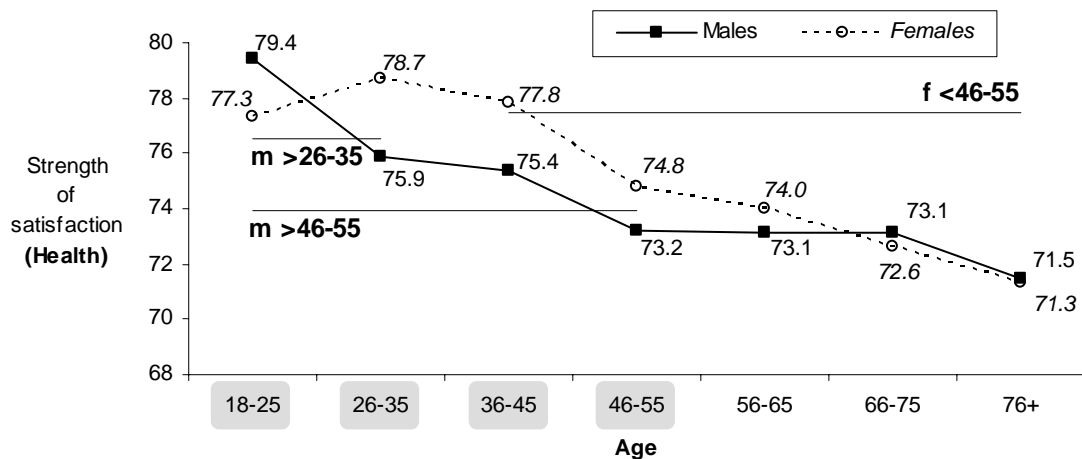
Key: Values above the trend-lines are significantly higher than 36-45 for males (m) and for females (f). Shaded boxes denote a significant between-group difference.

Figure 4.6: 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 A4.5). From an initial value of 78.5 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. Whether this pattern is caused by child-related expenditure is worthy of future investigation.

The pattern of Figure 4.6 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.

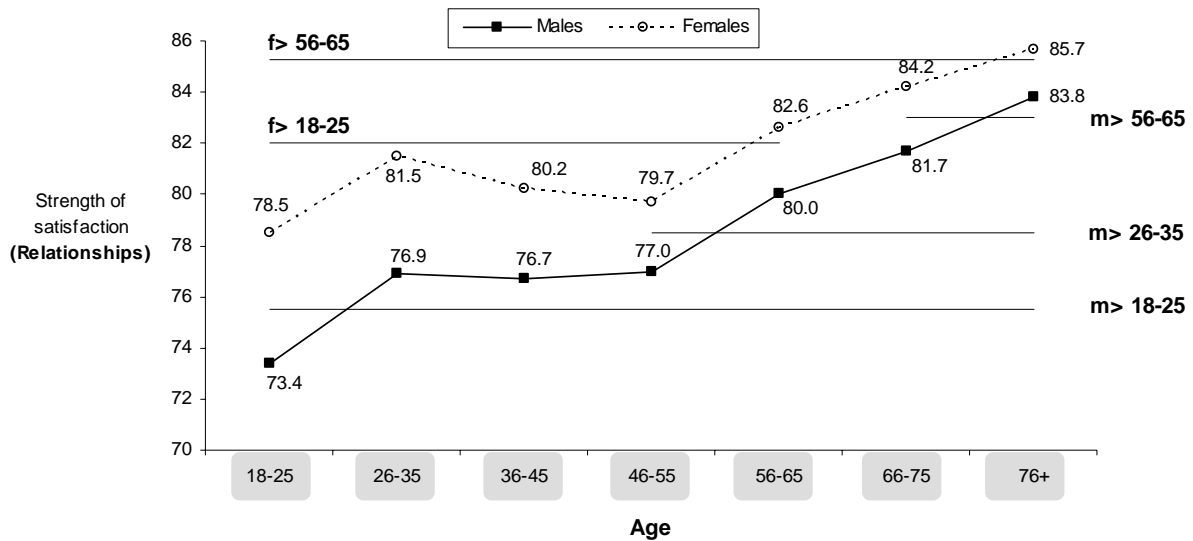
Figure 4.7: Gender x Age: **Health** (combined surveys)

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 : $p=.005$ Minimum N=1,080). Thereafter the two genders show a very different pattern of change.

Male health satisfaction shows an immediate drop of 3.5 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 3.0 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 56 years and older there is no gender difference in health satisfaction.



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 4.8: Gender x Age: **Relationships** (combined surveys)

Even though the gender difference is significant at each age group (minimum N = 732), there is also a significant interaction ($p = .04$). The gender difference is clearly diminishing with age, from 5.1 points at 18-25 years to 1.9 points at 76+ years.

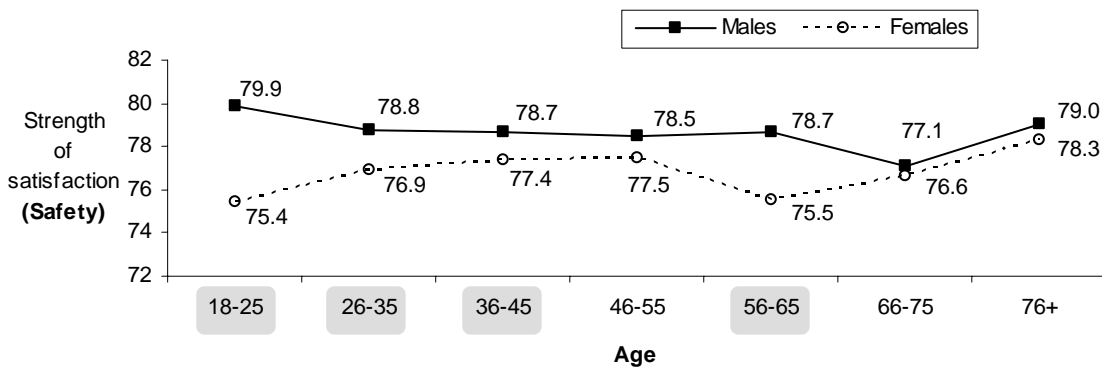
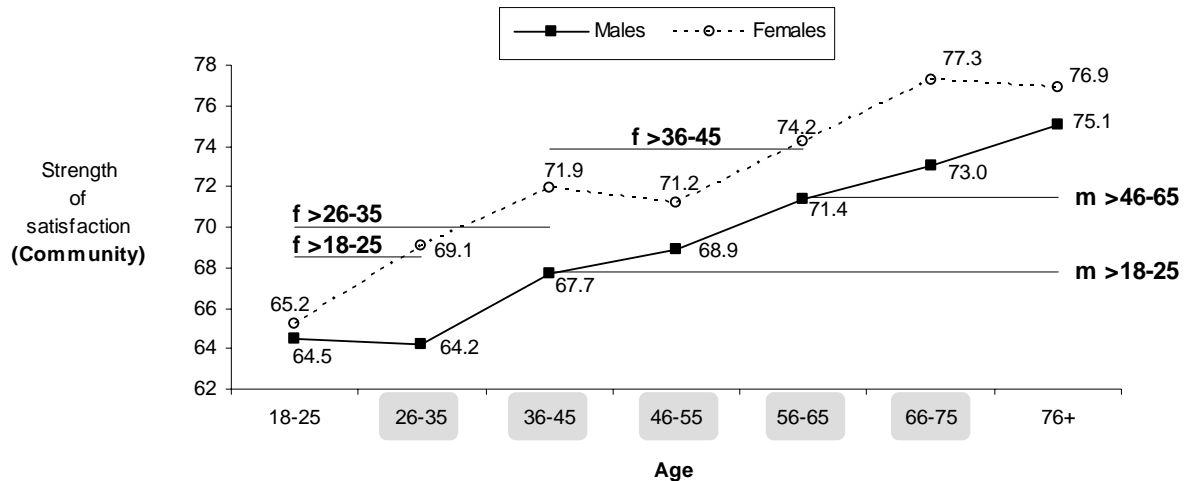


Figure 4.9: Gender x Age: **Safety** (combined surveys)

As with Relationships, there is a significant gender x age interaction ($p=.005$) reflecting convergence between the genders with increasing age. Gender difference in satisfaction with safety does not occur beyond 66 years (Minimum N=731).

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.

The other gender x age interaction occurs for Community ($p=.000$) and is shown in Figure 4.10 below (minimum cell size = 729).



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 4.10: 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 either within the 18-25y group or within the 76+y group. Moreover, whereas females show a marked 4.3% increase in satisfaction from 18-25 to 26-35, males show no change (0.3 points). Over the following decade, however, male satisfaction increases by 3.5 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.

4.4. Gender and Household Structure

Table A4.6 indicates higher personal wellbeing for females who live alone, with their partner, and with their partner and children.

Female wellbeing is above the gender-specific normative range (Table A4.12) for those living with their partner only (77.9 points) and for those living with their partner and children (77.6 points). This equally applies to males (76.8 and 76.1 points respectively).

Females living as sole parents (70.4 points) or with other adults (72.2 points) lie below the normative range. This also applies for males (70.2 and 70.9 points respectively). The type of household structure that has the strongest differential gender effect is living alone, as shown below.

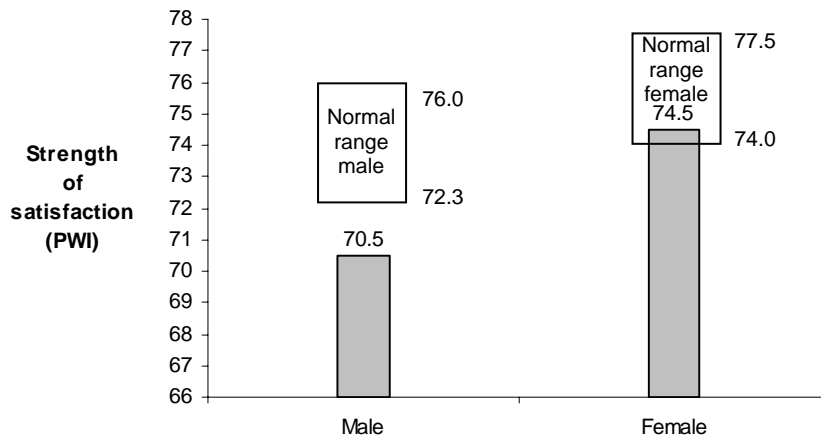


Figure 4.11: Gender x Living Alone: **Personal Wellbeing Index**

While both males and females who live alone experience a relatively low level of wellbeing, the level of females lies within their normal range. This is not so for males who live alone. Their Personal Wellbeing Index value of 70.5 is 1.8 points below their normal range and 4.0 points below the level of single-living females. This low level for males indicates a higher than normal risk of depression.

One of the remarkable differences between Survey 12 and other data are seen in relation to sole parents. These are shown below:

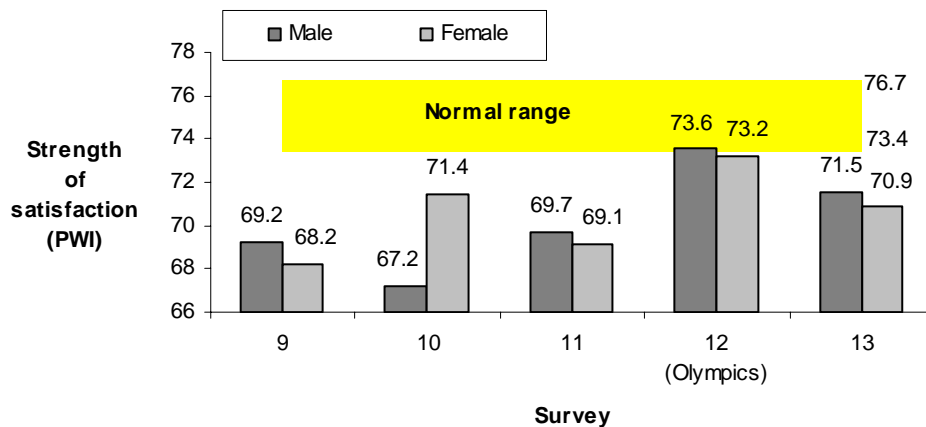


Figure 4.12: Gender x Sole Parents x Survey (Personal Wellbeing Index)

It is possible that the Olympics provided a common topic of conversation, entertainment, and shared pride. These, in turn, eased the burden of child-care.

4.4.1. Gender x Household Structure x Age

In order to examine the differential effects of gender on these data, Table A4.7 has been prepared. As yet some of the cells sizes are too small to be considered reliable. However, the data do comprise the aggregate of four surveys, and this increases their robustness.

Of special interest is the relative wellbeing deficit suffered by those groups scoring <70 points. These are as follows:

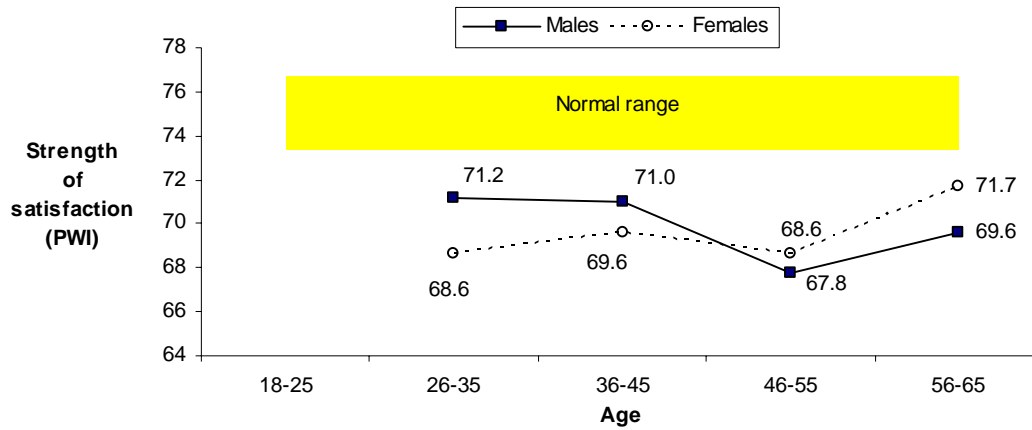


Figure 4.13: Age x Sole Parent x Gender (PWI)

The smallest cell size is N=21 (Male, 26-35y).

While there are more females than male sole parents in each age grouping, the highest disparity (2.6 points) occurs in the 26-35y group. It is possible that the unusual nature of their responsibilities and the young age of the children enhance the self-esteem of the males in this group.

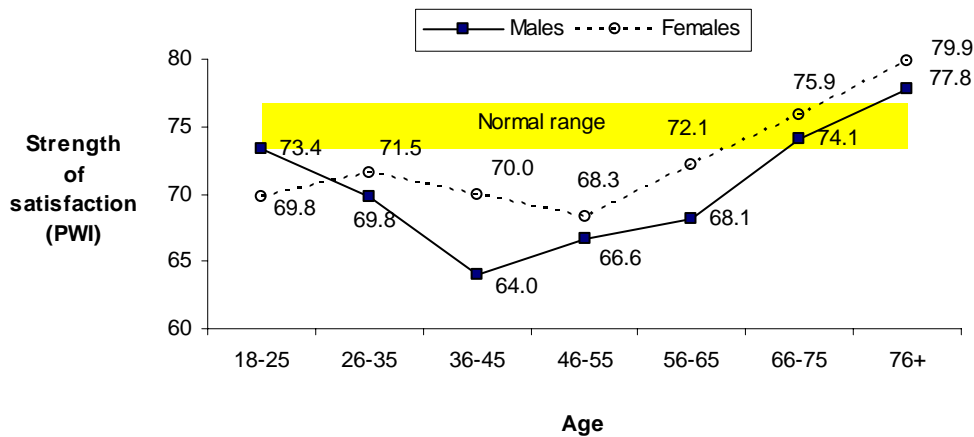


Figure 4.14: Age x Lives Alone x Gender (Personal Wellbeing Index)

The only age at which males have a wellbeing advantage (3.6 points) is at the youngest age. This trend then progressively reverses until at 36-45 years it is the females who have a 6.0 point advantage. Thereafter it is the males who continue to be most disadvantaged.

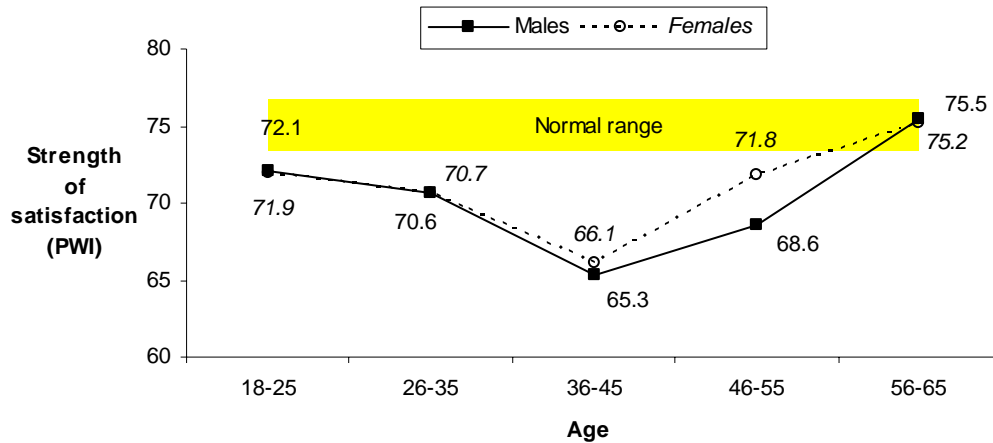


Figure 4.15: Age x Lives with Other Adults x Gender (Personal Wellbeing Index)

The two genders seem to 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.

4.5. Gender and Relationship Status

Reliable gender differences, favouring females, appear for people who are married and defacto (Table A4.8).

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 A4.16).

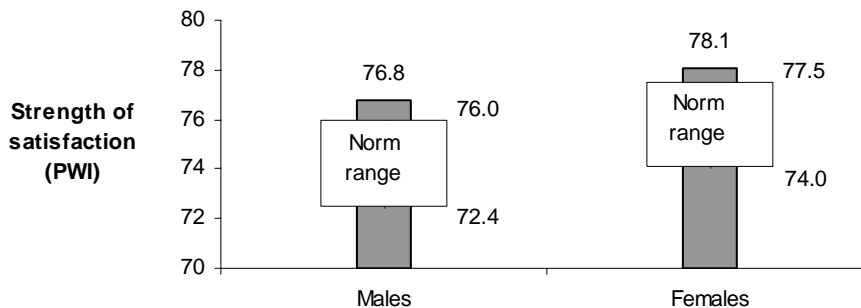


Figure 4.16: Married x Gender: Personal Wellbeing Index

In fact, relative to their normative range, married males have a non-significant 0.3 pp 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 -3.1 points; females -1.7 points). This difference is significant for males but not for females.

NORMATIVE DATA

4.6. Normative Data Based on Individual Scores

4.6.1. *Personal Wellbeing Index*

The normative data for individuals on the Personal Wellbeing Index are presented below derived from the individual values of 10,370 males and 11,801 females (Table A4.5).

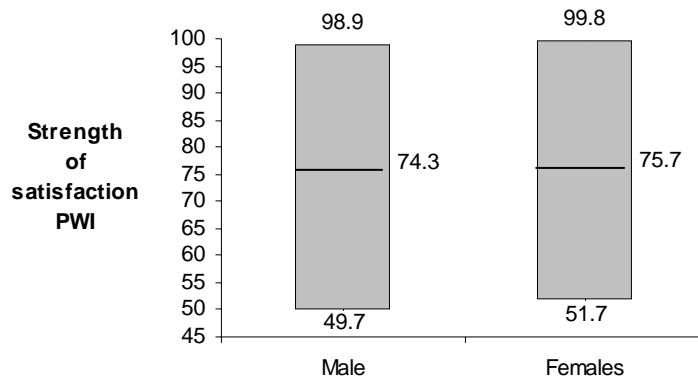


Figure 4.17: Gender Normative Data for Individuals: **Personal Wellbeing Index**

The vertical bars represent two standard deviations around the mean. As was also found with the normative data for household income, the groups differ more at the bottom of their distributions than at the top. At the upper end both distributions approximate the scale ceiling score of 100, and they differ by 0.9 percentage points. This difference is magnified to 2.0 percentage points at the bottom of each distribution. Moreover, since the male distribution actually lies below the 50 point threshold, it would be expected that more males are at risk of depression. This is interesting since it is the reverse of the almost universal findings that females display more depression than males.

A speculative resolution to this conundrum is as follows. Conventional depression scales measure the negative symptoms of depression, such as psychosomatic manifestations (eg. sleep problems) or negative emotions (eg. sadness). If females are more likely to report these states than men it would give the impression of more depression among females. This enhanced female reporting could be due either to greater sensitivity to such states or to greater willingness by females to admit such states. In any event, we always find females to score higher on questions of negative affect, and this is born out by the higher levels of stress reported by the females in previous surveys.

However, the measurement of depression through the Personal Wellbeing Index does not tap the negative symptoms of depression. If depression is defined as the loss of subjective wellbeing, then low levels of subjective wellbeing contribute a direct measure of this pathological state. This form of measurement is, thus, consistent with the higher rates of completed suicide among males. Complicating this story, however, is the higher incidence of suicide attempts by females.

4.6.2. *Individual Scores x Age*

These normative data are taken from Table A4.5.

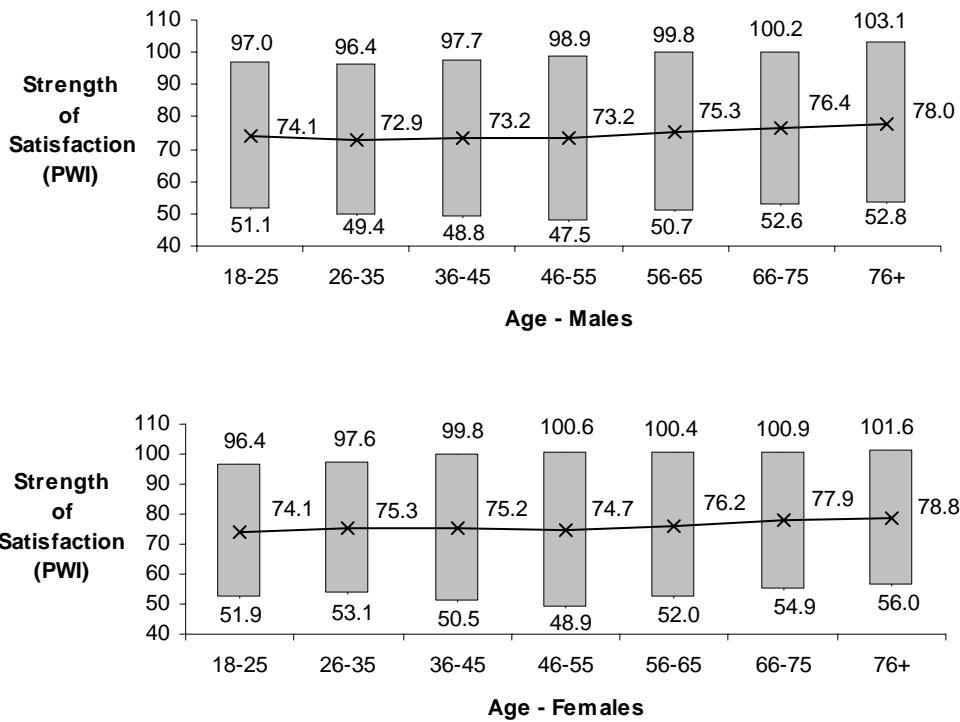


Figure 4.18: Gender x Age: Normative Data for Individuals: **Personal Wellbeing Index**

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.

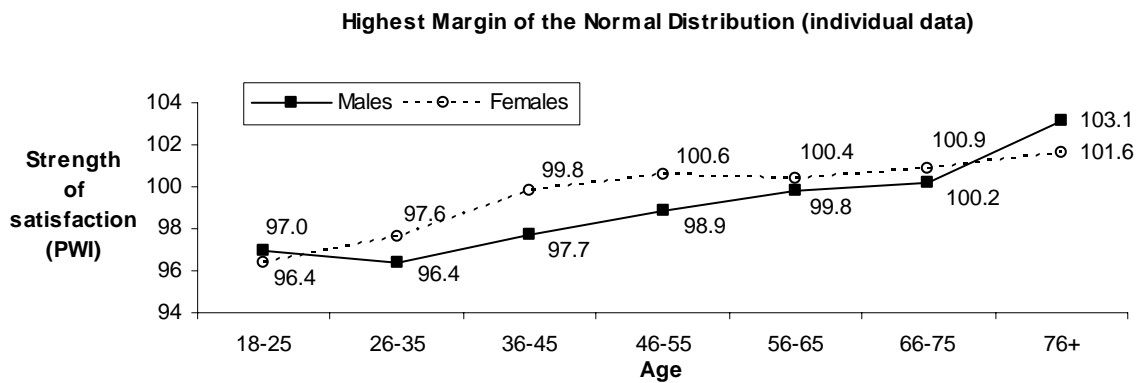


Figure 4.19: Gender x Age: **Highest Margins of the Normal Range Calculated from Individuals**

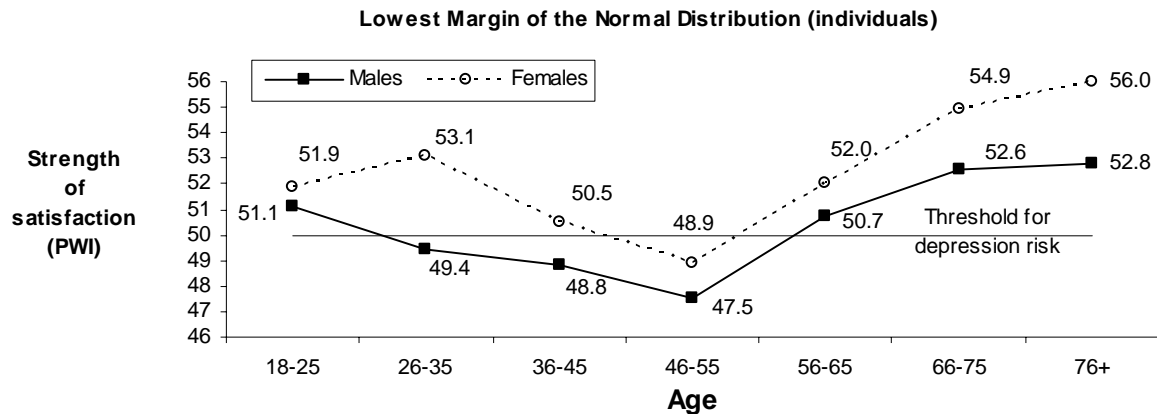


Figure 4.20: Gender x Age: **Lowest Extent of the Normative Range Calculated from Individuals**

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 4.19. The bottom of the ranges shows a bi-phasic pattern, where the range extends downward to 46-55 years, after which it rises.
2. The decrease in the bottom of the distribution starts earlier (26-35y) in males than in females (36-45y), and because of this, is more sustained. Three age cohorts of males (26-35, 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 4.4. In general, the top of the female range is higher and the bottom of the female range is higher. 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 oldest groups. As can be seen, at the lower range margin there is a consistent advantage to females (Figure 4.20). However, at the top of the ranges, the oldest group shows a marginally higher level for males than for females (Figure 4.17)
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.
6. Also notable is the earlier onset of the drop in the lower range in males. Presumably this reflects some form of differential experience in the 26-35 year group that impacts more negatively on males than on females.

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 2.03 pp advantage to the females, whereas the top scores advantage females by an average of just 0.48 pp.

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.

4.7. Normative Data based on Survey Mean Scores

4.7.1. Personal Wellbeing Index and Domains

Survey mean scores (N=13, Table A4.12).

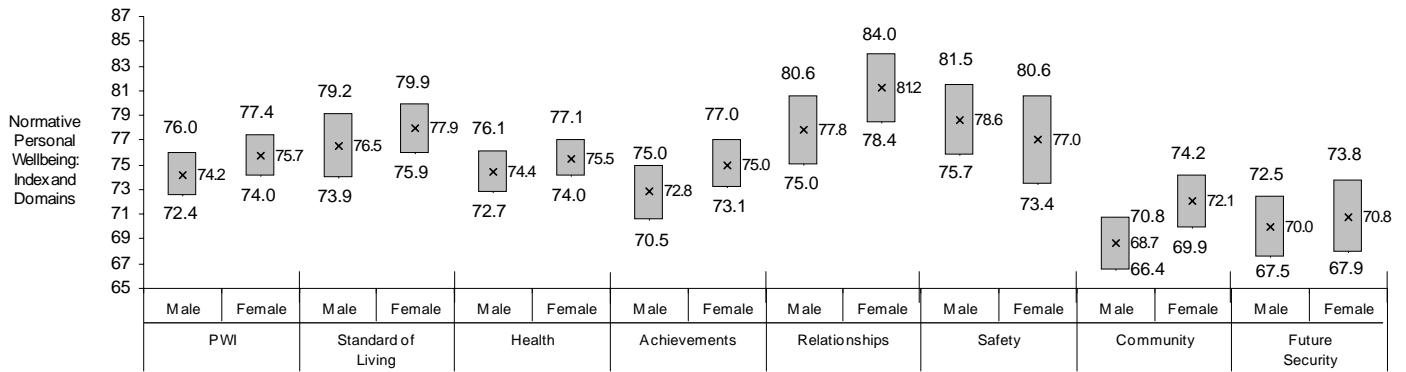


Figure 4.21: Index and Domains: Normative Personal Wellbeing

The interesting feature of Figure 4.21 is the magnitude of the 2SD range. This indicates the extent of variation over the course of the 13 surveys and, so, shows the relative volatility of the 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

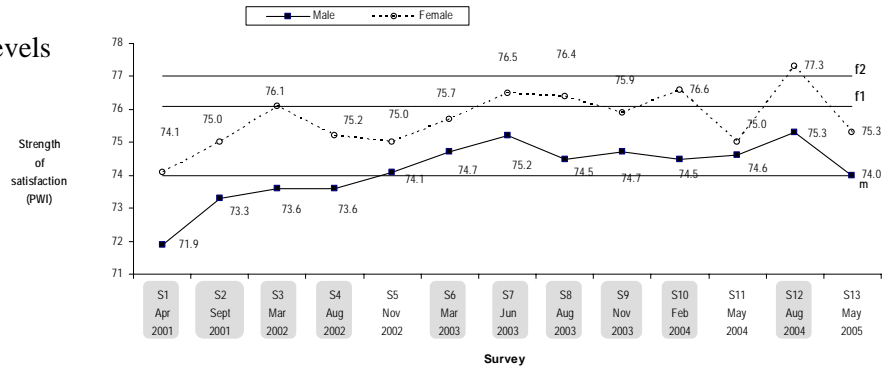
	PWI	Standard	Health	Achieve	Relations	Safety	Community	Future Security
Male	3.6	5.3	3.3	4.5	5.6	5.7	4.4	4.9
Female	3.4	3.9	3.1	4.0	5.6	7.2	4.3	5.9
Difference M-F	+0.2	+1.4	+0.2	+0.5	0.0	-1.5	+0.1	-1.0

In relation to these values and Figure 4.21 the following observations can be made:

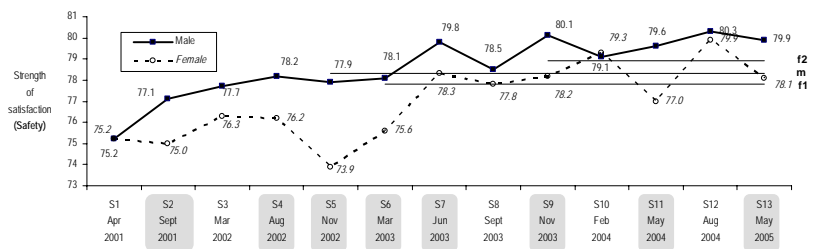
1. The pattern of domain volatility across surveys is similar for males and females.
2. For both genders, the most volatile domain is safety, with a 2SD range of 5.7% (males) and 7.2% (females).
3. For both genders, most stable domain is 'health' (3.3 and 3.1).

Dot Summary Points for Gender

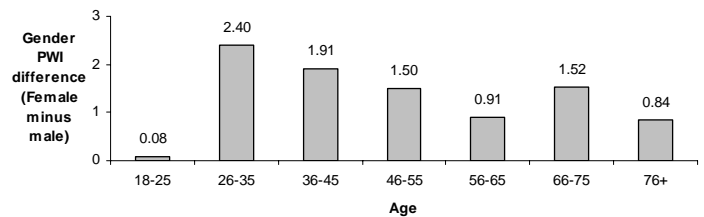
1. Females generally have higher levels of personal wellbeing than males.



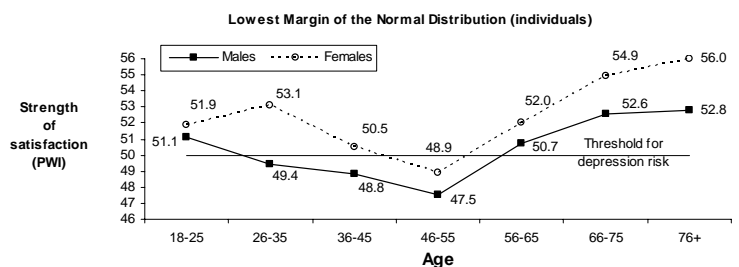
2. The only personal domain to be lower for females is safety. This dropped lower following September 11 for females but not for males. These differences were maintained for about 18 months. Since then the gender differences have been unpredictable.



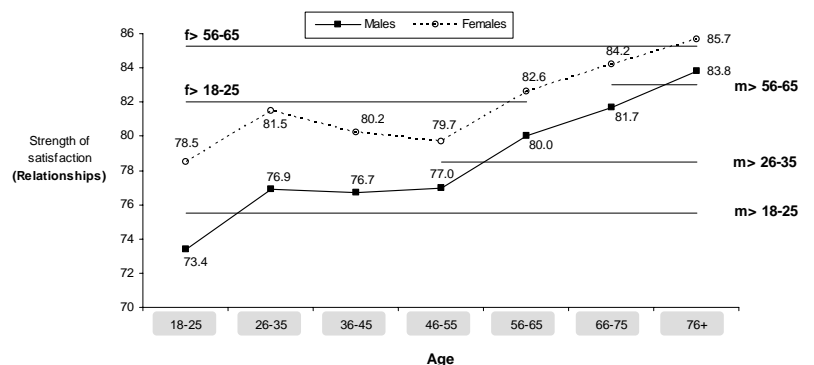
3. Gender differences in personal wellbeing only emerge at 26-35 years of age. They then progressively decrease with increasing age. The reason for this is not understood.



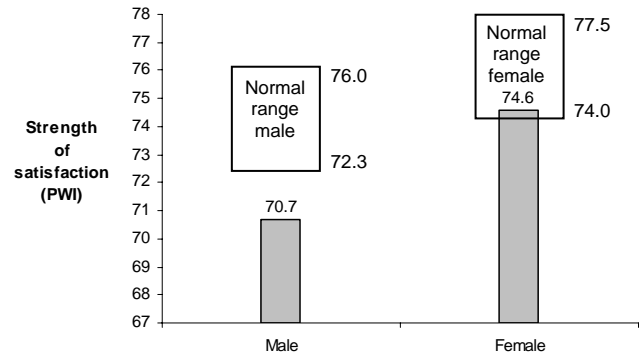
4. In terms of the lowest margin of the normal distribution, the risk of depression (scores <50) is highest in males aged 26-55 years and females aged 46-55 years.



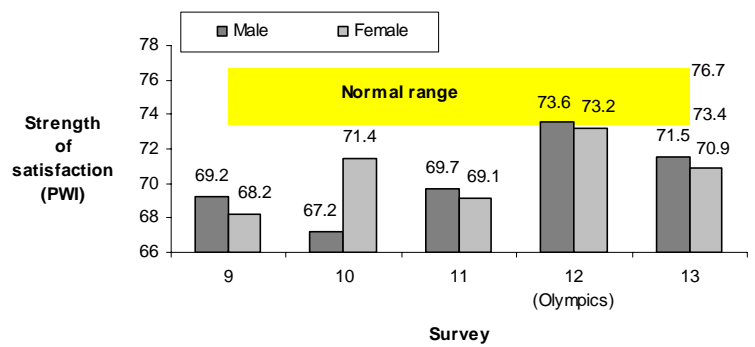
5. The gender difference in satisfaction with relationships is most pronounced in the youngest groups. Males are lower than females.



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



7. The wellbeing of sole-parents rose to lie at the lower margin of the normal range during the Olympics. The burden of child-care seemed to have been temporarily eased by the shared experience between the parents and their children.



5. Age

5.1. Distribution Overall

The sample is well represented in all age groups for Survey 13 (Table A5.1). The minimum number of respondents is in the 76+y group (N=93) and the maximum in the 36-45y group (N=420).

5.2. Age and Wellbeing

5.2.1. *Personal Wellbeing Index*

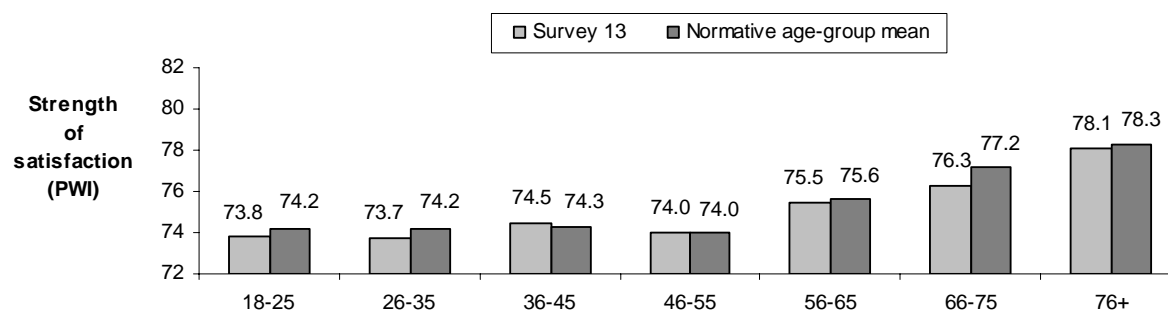


Figure 5.1: Age: **Personal Wellbeing Index** (Survey 13 vs. Normative Data)

It is apparent that most age groups in Survey 13 (Table A5.1) scored at or below their normative levels (Table A5.25). The margin for each age is -0.4 points (18-25), -0.5 (26-35), +0.2 (36-45), 0.0 (46-55), -0.1 (56-65), -0.9 (66-75), -0.2 (76+). Thus, the elevated personal wellbeing occasioned by the Olympic success has long gone. Survey 12 was the first time that the 18-25y group had shown any change between surveys (Figure 5.2). This has also now dissipated.

5.2.2. *Age x Surveys*

In Survey 1, immediately prior to September 11, no age-related differences in personal wellbeing were evident (Table A5.2). In subsequent surveys the three oldest groups showed a progressive increase in personal wellbeing. The different patterns for the youngest and oldest groups are shown in Figure 5.2. It can be seen that the youngest group remained remarkably steady prior to Survey 12, with a maximum variation of only 1.9 points. However, this changed dramatically with the Olympic success, which increased this range to 3.3 points. The difference from the previous surveys has now disappeared with a significant fall since Survey 12 (Table A5.2).

In contrast, the oldest group (Table A5.4) has changed over a range of 8.4 points (Survey 1: 72.5, Survey 6: 80.92) in two rising phases. One is in association with September 11 (Survey 3: +5.9 points), and the other in relation to the Iraq War (Survey 6: +3.5 points). Since then it has remained high and stable, fluctuating by only 2.2 points over the next 18 months (Surveys 6-12). It showed no significant response to the Olympics. It has now fallen to its lowest value since March 2003 (Survey 6) and is no longer different from Survey 1.

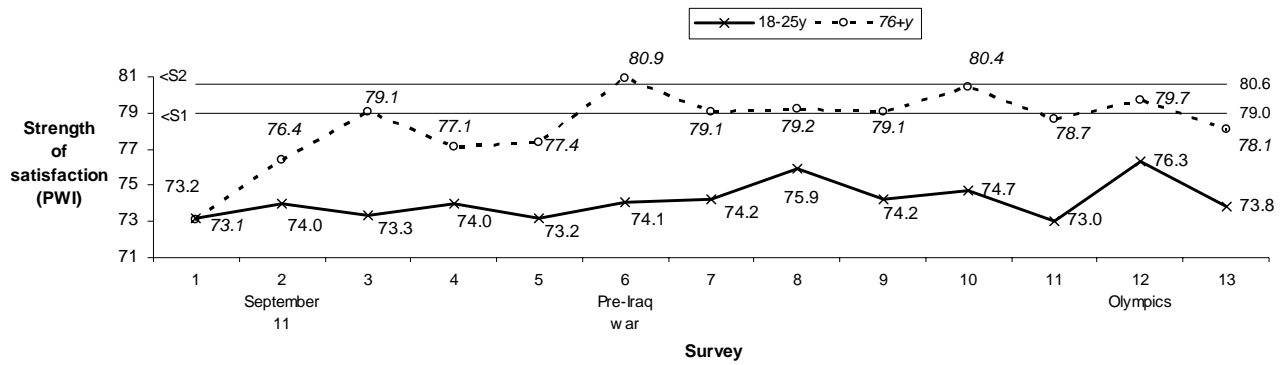


Figure 5.2: Age x Survey (Personal Wellbeing Index)

See Figure 5.2: The scores for the second oldest group (66-75y) became significantly higher than Survey 1 (+3.8 points) immediately following the Iraq war (S7). They are now returned to baseline and show no reaction to the Olympics. The current value of 76.3 points is 0.9 points above the level at Survey 1, which is a non-significant difference.

The 56-65 year group also rose above baseline following September 11 (+2.8 points, S3), but prior to the Olympics dropped-back to be no different from the younger age-groups (Table A5.2 : Figure 5.3). Even though the Olympics elevated this group by 1.0 percentage point, the 2.3 point elevation over Survey 1 was only marginally significant. This has now been reduced to a 1.6 point elevation over Survey 1 which is not significant.

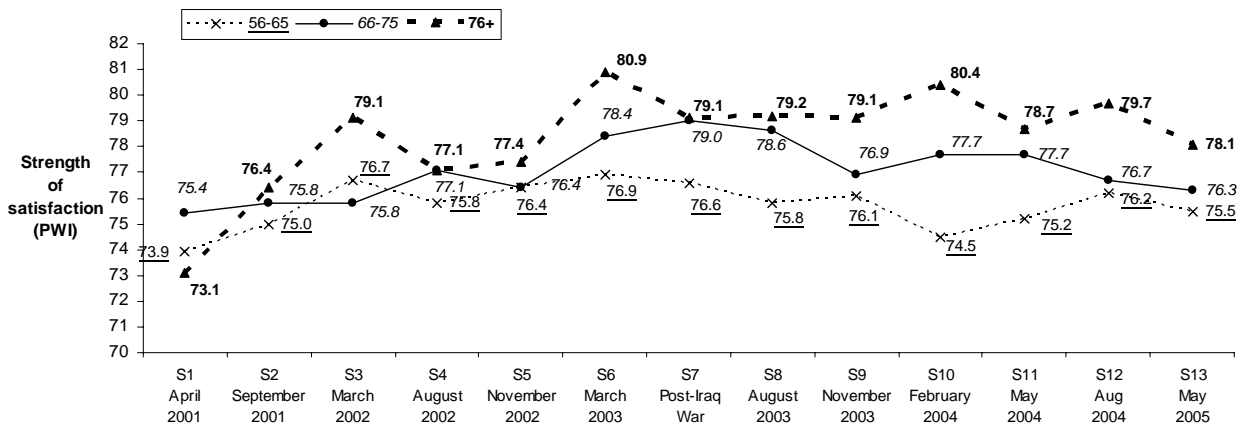


Figure 5.3: Age (3 oldest groups) x Survey (PWI)

Any explanations for this pattern must account for the transitory nature of the rise in the oldest groups. Possible contenders 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, and fewer elderly people consider the terrorist risk in Australia to be high. 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 transitory nature of the rises in wellbeing, and neither does it 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.

This hypothesis is tested by studying the relative influence on the domains (Table 5.1). The data are the mean domain scores for the 76+ year group from Survey 6, at which point this group’s Personal Wellbeing Index reached its maximum (Figure 5.2) through to the present Survey 12 (Table A5.4). Thus, each calculation is based on seven domain mean scores.

Table 5.1: Mean Domain Score for 76+y over Surveys 6-12 (Personal Wellbeing Index)

Domain	Values at Survey 1	Mean	SD	Survey 12 relative to Survey 1	Current Survey 13 relative to Survey 1
Standard	78.06	84.02	1.82	+6.76	+6.6
Health	66.21	72.42	2.33	+6.21	+3.3
Achieve	75.73	77.63	1.36	+1.90	-6.4
Relations	78.23	86.11	1.24	+7.88	+0.5
Safety	71.85	80.01	1.46	+8.16	+9.9
Community	69.92	77.17	1.85	+7.25	+6.1
Future Security	71.45	79.16	2.23	+7.71	-0.7

It can be seen from these figures that the domains fall into two groups as:

1. One domain (Achieve in Life) has shown a dramatic fall over the last survey.
2. The other six domains show highly variable levels in relation to Survey 1.

The two domains of Health and Relationships are illustrated in Figure 5.4.

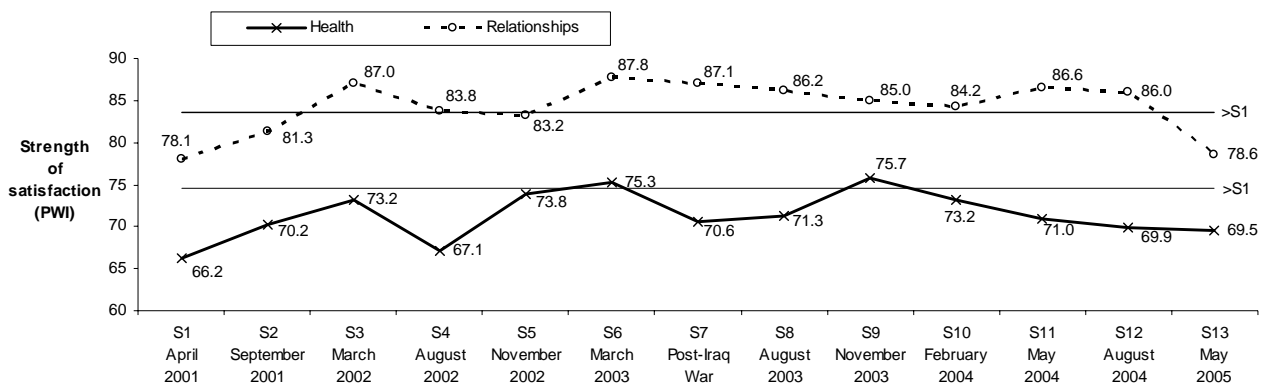


Figure 5.4: Age x Survey: 76y+ and Four Domains

The fact that the domain of Achievement did not rise with the others adds credibility to the reliability and validity of the changes that have been found. Moreover, if some generic influence was the cause, such as a change in positive arousal, it would be expected that all of the domains would rise. The fact this has not occurred lends credence to the idea that an elevated sense of relationship satisfaction could be the engine behind these changes.

If this is so, why are only the most elderly group affected in this way. Could it be because more of them are living alone than the other age groups?

The data from Table A5.5 (Report 12.0) indicate that the proportion of people living alone in each age group are as follows:

18-25y (8.6%)	56-65y (20.5%)
26-35y (10.2%)	66-75y (30.3%)
36-45y (8.9%)	76+ (49.8%)
46-55y (13.5%)	

These proportions are consistent with some influence that operates on people who live alone masquerading as an age-effect. But testing for this is not simple. People who live alone were not identified in the first survey. Moreover, the number of young people who live alone is too small to be reliable for individual surveys. So an indirect test of this hypothesis must be devised. These are:

1. The effect should be absent in people who are 76y+ and who live with their partner.
2. Since the effect is not evident in people younger than 56 years, these people who live alone can be combined from the four age groups 18-25, 26-35, 36-45, 46-55. These people should show the effect, while a similarly-generated group of people who live only with their partner should not.

These hypotheses remain to be tested.

5.2.3. Personal Wellbeing Domains

Most of the domains show the same pattern as shown in Figure 5.1 (Table A5.1). However, Achieving in Life shows no change and Health decreases with age. These results are consistent with previous surveys. The data for Health satisfaction in Survey 13 are shown below in relation to age-normative data (Table A5.18).

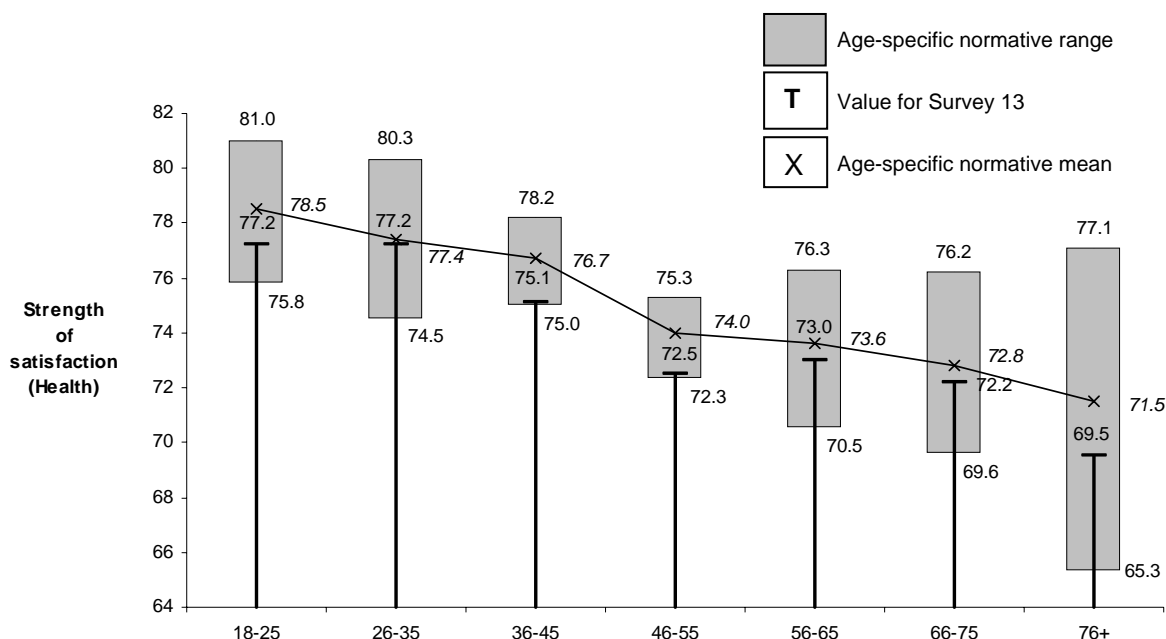


Figure 5.5: Age: Satisfaction with **Health** (Survey 13)

In terms of normative data, the minimum cell size is N=1,766 (Table A5.18). The incremental decrease in health satisfaction benchmarked to the 18-25y groups is as follows: 0.82, 1.47, 4.26, 4.63,

5.27, 6.60. This is evidence of a gradual decrease in health satisfaction that plateaus between 45 and 65 years, but otherwise decreases at a rate of about 1 point per decade.

In terms of Survey 13 data, the values lie uniformly within the lower half of the normative range.

5.2.4. Physical Pain

The age x pain data for Survey 13 are provided in Table A5.6a and for the combined surveys in Table A5.17. There is a big difference in the association of pain and wellbeing between the oldest and the youngest groups.

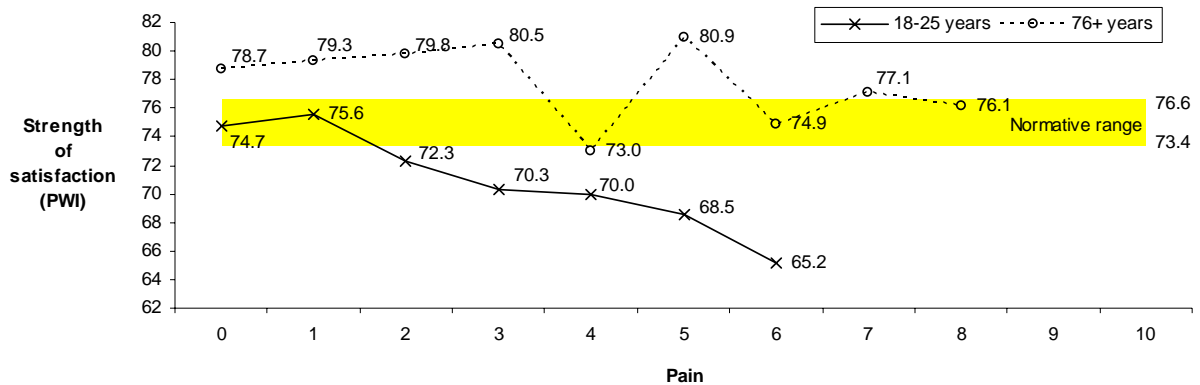


Figure 5.6: Oldest and Youngest Groups (Pain)

It is evident that the effect of pain to reduce wellbeing is much more pronounced in the youngest group. This is consistent with a progressive decoupling of pain and wellbeing as people age, as confirmed by Tables A5.10 and A5.11. Here it can be seen that while the relationship is fairly substantial in the youngest groups mean = -.36) it is much attenuated in the oldest group (mean = -.12). This represents a reduction in shared variance from 13.0% to 1.4%. It is evidently adaptive to allow such dissociation to occur in the presence of accumulating chronic pain.

5.2.5. Life as a Whole

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

5.2.6. National Wellbeing Index

The National Index shows no age-related differences (Table A5.1).

5.2.7. National Wellbeing Domains

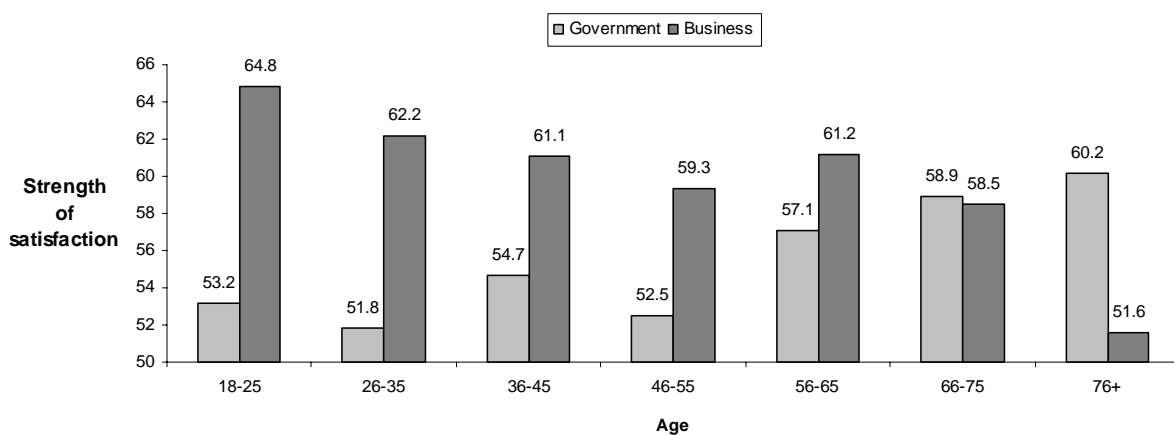


Figure 5.7: Age: National Wellbeing Index domains (Survey 13)

While both Government and Business show a significant trend with age (Table A5.1), the trends are in opposite directions. Satisfaction with Government substantially increases with age.

5.2.8. National Survey Specific

Over the past five surveys there has been no reliable age-related difference in the perceived likelihood of a terrorist attack.

5.3. Age and Household Structure

The cumulative data from Surveys 9-13 are presented in Table A5.5. The trends in personal wellbeing are shown below in the context of the age-specific normative range (Table A5.31).

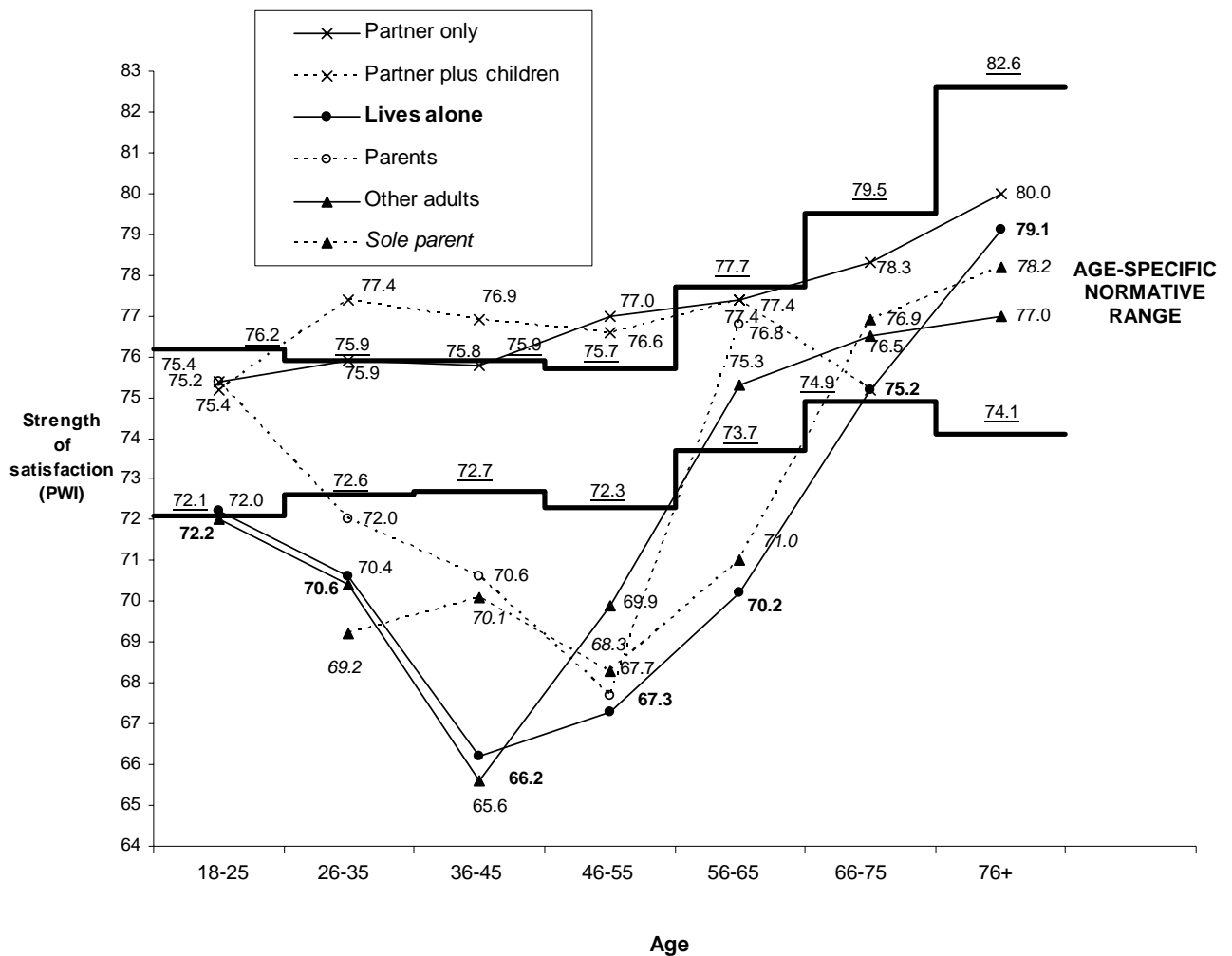


Figure 5.8: Age x Household Structure (cumulative data)

The normative-range data have been taken from Table A5.31 and the Age x Household data from Table A5.5.

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 56 years, it applies very strongly to the middle age groups. It appears that

having a partner to live with, between the ages of 26-55 years, is a crucial ingredient for personal wellbeing.

Other observations in relation to

Figure 5.8 are as follows:

- (a) People living with their partner alone, or living with their partner and children, are indistinguishable up to age 56-65. Beyond that, the addition of children reduces wellbeing to below the normal range. People aged 66-75y living with their partner and children constitute 4.8% of this age group. It is likely that some of these parents are caring for a child who is disabled.
- (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.
- (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.

5.4. Age and Relationship Status

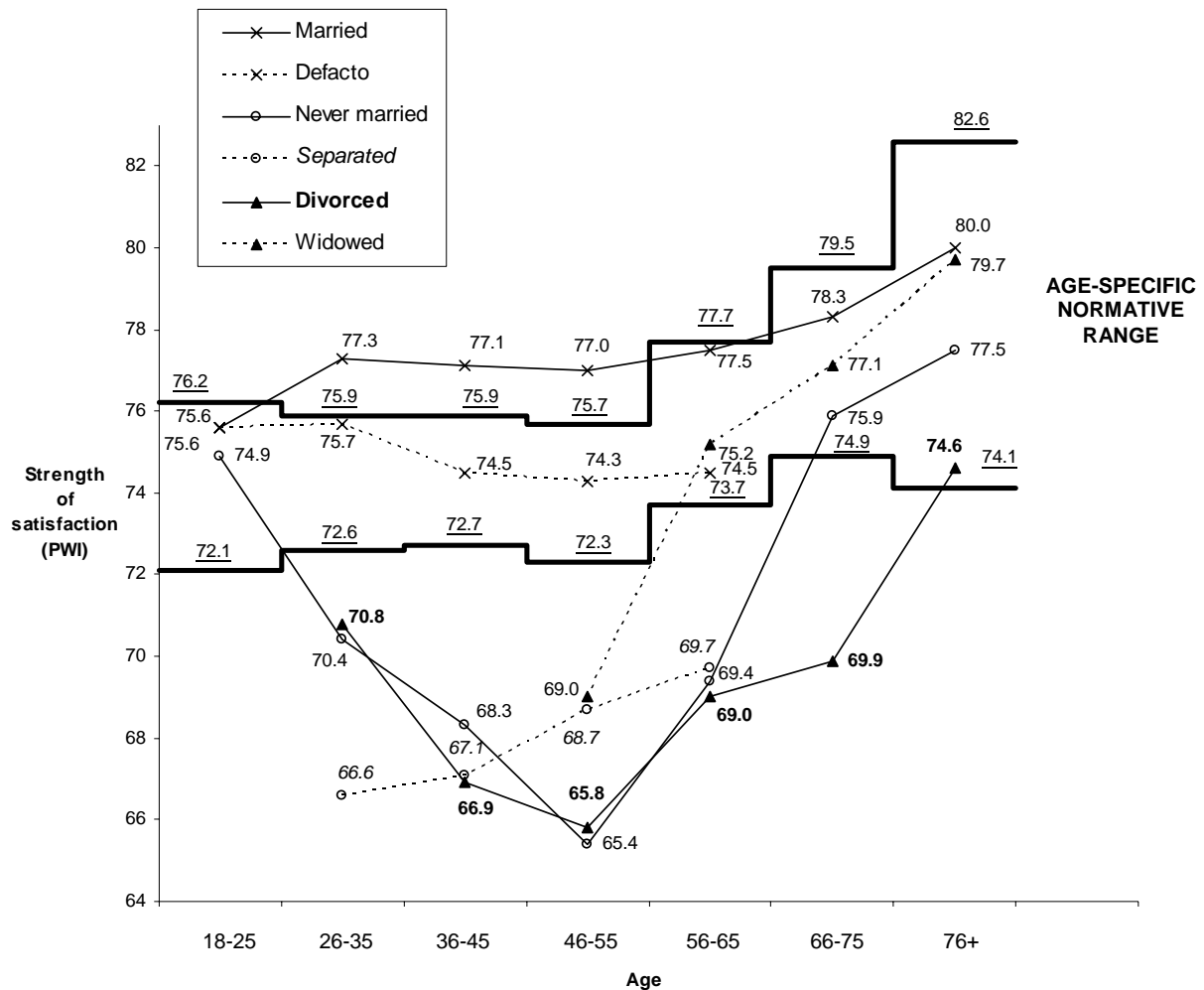


Figure 5.9: Age x Relationship Status: Personal Wellbeing Index (cumulative data)

The cumulative data from Surveys 9-12 are presented in Table A5.6 and Figure 5.9. 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 3.4 percentage points.
- The decrease in the normal range of individual data in middle age (see Figure 5.9) 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 3.4 points. What seems more clear is that not having a partner in middle-age is generally quite catastrophic for personal wellbeing.
- Defacto couples have a consistently lower level of wellbeing than couples who are married. This difference is 2.8 points for people aged 46-55y. 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 (79.7) at age 76+ years. This possibly supports the proposition that happy people live longer or is a consequence of the decoupling effect discussed in Section 5.7.
- (h) The majority of people aged 18-25 years who have never married (83.0%), have normal levels of wellbeing (74.9). However, in later age-groups the size of this group relative to each age cohort falls markedly (Table A5.12) and, as it does so, group wellbeing systematically falls up to the 46-55 year group (Figure 5.9). Following this, however, wellbeing progressively rises, to become no different from married at 76y+.

This pattern of data does not 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. Their subsequent rise in wellbeing at older ages suggests a different cause.

One plausible explanation is provided by the previously cited data on the proportion of people in each age cohort who live alone. This remains at around 10% until the 56-65y group when it reaches 20%, then 30% by 66-75y, and 50% by 76+ years. This progressive increase in the normality of living alone, which presumably is the situation for most of this group, matches almost perfectly their rise in wellbeing. It is notable that much the same pattern is evident for people who live alone (Figure 5.8).

We therefore hypothesize that people who remain single become unhappy because their situation is unusual. That is, most people have a partner and those who do not feel excluded. In order to demonstrate the evidence of this, the relationship between the wellbeing of people who live alone and the overall proportion of their age cohort who live in similar circumstances is shown below.

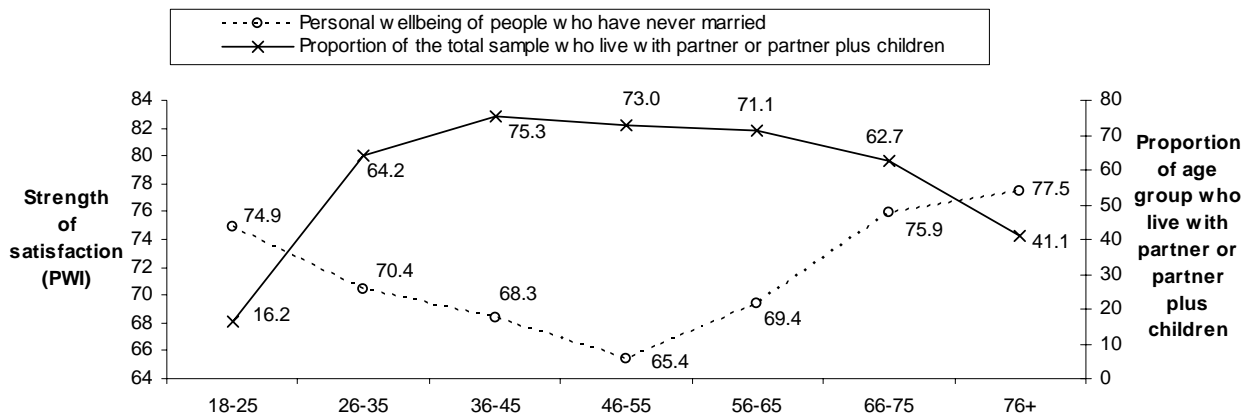


Figure 5.10: Never Married: **Personal Wellbeing x Proportion of Each Age Cohort Living Alone**

The pattern of these data supports the hypothesis. The correlation between these two variables is just significant ($r = .77$, $df = 5$, $p < .05$) even though the data are clearly non-linear. The maximum proportion of people living with their partner roughly corresponds with the lowest levels of wellbeing for people who have never married.

5.5. Correlations Between Pain and Personal Wellbeing Index

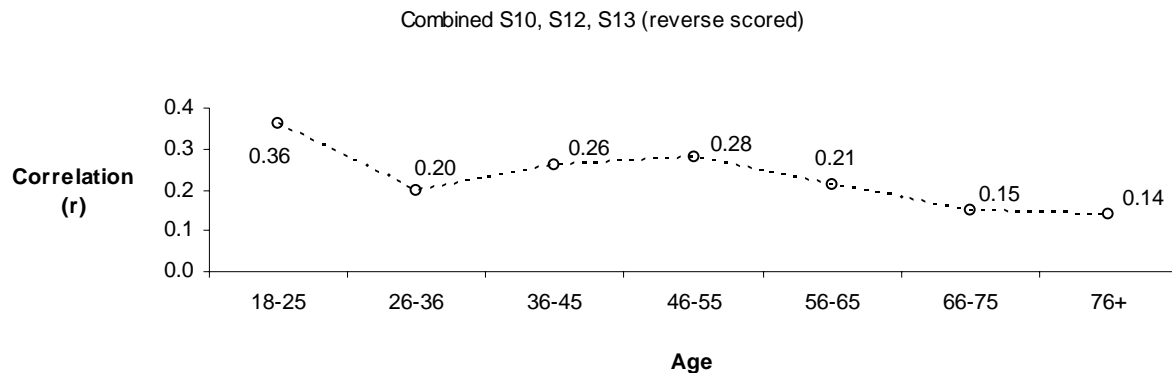


Figure 5.11: Age: Pain Correlated with the Personal Wellbeing Index

It is apparent that there is a decreasing strength of correlation with increasing age (Tables A8 to A11). While the strength of the relationship is strong in the younger groups, there is a gradual uncoupling of this relationship. Comparing the maximum and minimum correlations in these tables, the extent of loss in shared variance (r^2) is from 13.0% to 2.0%, which is significantly different, with Z obs > 1.96 (Pallant, 2001).

We offer a speculative reason for this pattern of change as follows:

There are two major forces at play, and between them they have to achieve two major goals: These are:

- a. The maintenance of SWB by the homeostatic system.
- b. Reflecting on and learning about the environment in relation to particular situations that are harmful.

To this end, we propose an interaction between the two systems of wellbeing and illbeing that works as follows:

During youth, the general situation that confronts the organism can be described in the following terms:

- a. The organism has a need to learn about aspects of environment that may damage its ability to maintain normal levels of SWB.
- b. The organism is physically resilient. It mends fast from physical damage and carries no chronic sources of disability or pain.
- c. Pain, either physical or emotional, has the purpose of withdrawing the organism from the offending source and, through simple operant learning, the organism learns to avoid such situations in the future. This is a capacity utilised by all animals. But the process of withdrawal can have added benefit for an animal if it has a period of quiet introspection concerning the events that have taken place.

Such action requires not only a level of cognitive development that would support such introspection, but also a behavioural state of low arousal that would facilitate such introspective activity.

This state could be achieved by reciprocally linking illbeing and wellbeing. Then, as illbeing went up due to some negative experience, wellbeing would come down and, in the process, change motivation in accordance with Fredrickson's model of Broaden and Build. According to this theory, for which there is much supporting empirical data, a state of high wellbeing causes the organism to be outward-

looking, exploratory, and gregarious. In this state animals experience new and challenging situations thereby increasing their stores of knowledge and adaptive strategies. In states of low wellbeing, on the other hand, animals become ruminative and introspective, analysing the source of their misery for clues as to why their particular situation arose. While this strategy may be of little use to snails, it increases the power of the learning experience for animals with substantial powers of cognition. It encourages the ruminative exploration of the antecedent circumstances thereby allowing a shift from reflexive avoidance to planned avoidance, and even consideration of how a similar situation might be exploited to one's own benefit on a future occasion.

However, this mechanism only works in the short-term. It is dependant on the period of reduced positive affect being long enough to allow reflective rumination, but not so long that the person is incapacitated from engaging in the necessary tasks of life. It is, thus, not suited to old age.

As people age their bodies become less resilient. They are more easily damaged and take longer to mend. Additionally, they tend to accumulate various chronic medical conditions, some of which cause persistent pain or disability. Under such conditions, where there is a chronic source of illbeing, it is maladaptive to also chronically reduce wellbeing. It is more adaptive to reduce the strength of coupling between the two systems, thereby allowing the presence of normal level SWB even in the presence of illbeing.

The only cost associated with such decoupling is that the people concerned would be less inclined to ruminate and plan after having experienced negative events. But perhaps this strategy has lost its advantage in old age anyway. The negative experiences are far less likely to be novel than they were in youth. Moreover, if previous periods of ruminative analysis failed to prevent the recurrence of such events, it is unlikely that further ruminative periods will confer much advantage.

For similar reasons, there is a progressive decoupling of the states of illbeing from one another. In particular, pain becomes progressively isolated as an emotional state, and especially from the cognitive awareness of depression as measured in this survey.

There are a number of predictions that arise from this model and these are discussed in Report 12.0.

5.6. Age and Work Status

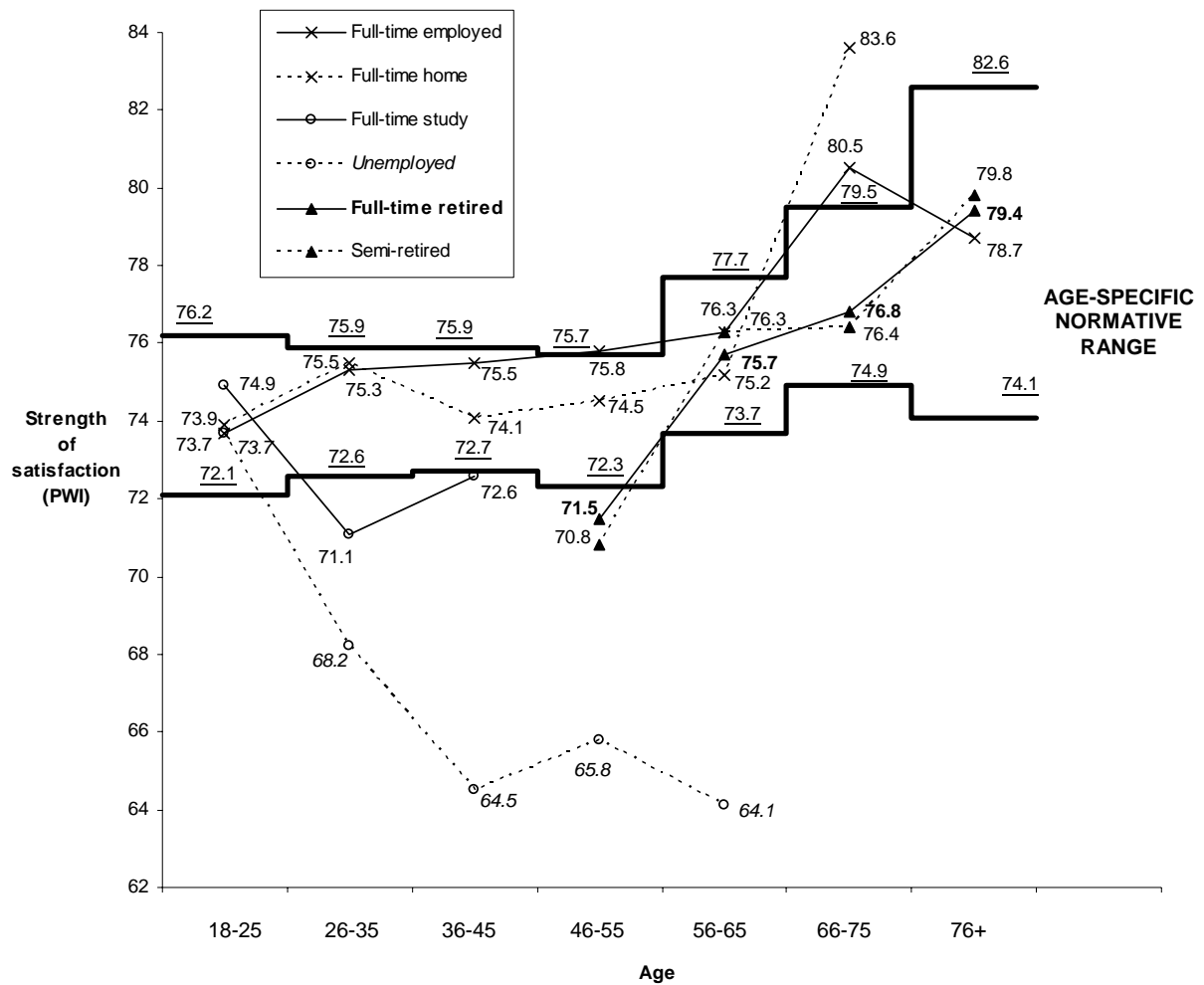


Figure 5.12: Age x Work Status (Personal Wellbeing Index)

While most groups lie within the age-normative range (Table 5.14), the following are exceptions:

- (a) People who are unemployed lie within the normative range at 18-25y. Beyond that age their personal wellbeing shows a marked deterioration and remains well below normal up to 56-65y. Beyond this age, people without paid employment would usually describe themselves as retired rather than unemployed.
- (b) The wellbeing of full-time students is normative provided they are young (18-25y). Thereafter their wellbeing lies towards the bottom of the normal range.
- (c) Early retirees (46-55y) have below normal wellbeing.

5.7. Normative Data Generated from Individual Scores

Table A5.28 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=1,533 (76+ year group). These results are shown in Figure 5.13.

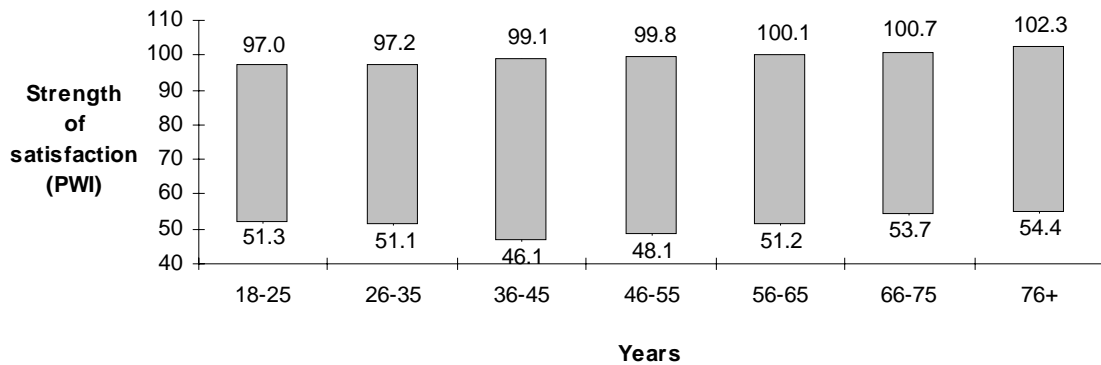


Figure 5.13: Normative Range for Each Age Group Derived from the Scores of Individuals (**Personal Wellbeing Index**)

There are three interesting features of these data as follows:

- (a) They are very regular in two respects. First the range of two standard deviations for the entire database (N=22,219) conforms almost precisely with the theoretical normal range of 50-100 points. The top of the empirical range (Table A5.30) averages 99.3 points and the bottom averages 50.8 points. Second, the differences between the ranges of the seven age groupings is just 2.9 points (from 45.8 : 18-25y to 51.7 : 46-55y). The correlation between the mean and standard deviation across the seven age groups is .198 (NS).
- (b) The base of the ranges show a dip in the 36-55y age groups. This indicates a downward extension of the Personal Wellbeing Index and indicates a higher than usual (compared with the other age groups) proportion of the sample experiencing homeostatic failure (individual values <50). This is due to the people without partners within this age range. Following 55 years this dip disappears, and of particular interest is the lack of any downward range extension within the oldest group (76y+). This indicates that homeostatic failure, producing lower Personal Wellbeing Index scores, is no more common among the most elderly sample than among the younger age groups. This attests to rugged maintenance of homeostatic control within the most elderly group and is consistent with the decoupling hypothesis presented earlier.
- (c) The top of the range shows a gradual but persistent rise. This is quite different from the analysis using mean scores which shows the sudden emergence of higher scores at 56+ years (Figure 5.16). 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 0.6 %, 1.5%, 1.1%, 0.1%, 0.9%, 1.9%. 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.

5.8. Normative Domain Scores (raw data)

Tables A5.32 and A5.34 show the accumulated data for health and relationships.

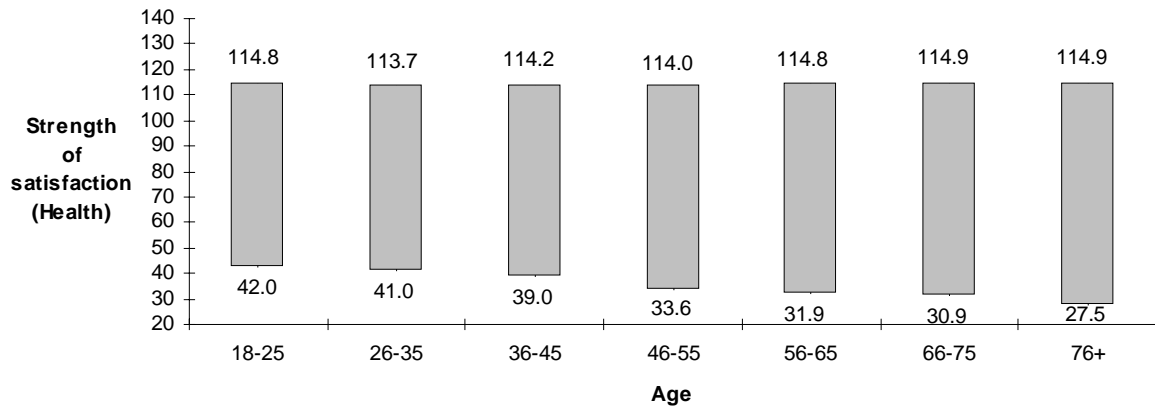


Figure 5.14: Age x Satisfaction with Health: Normative Raw Data

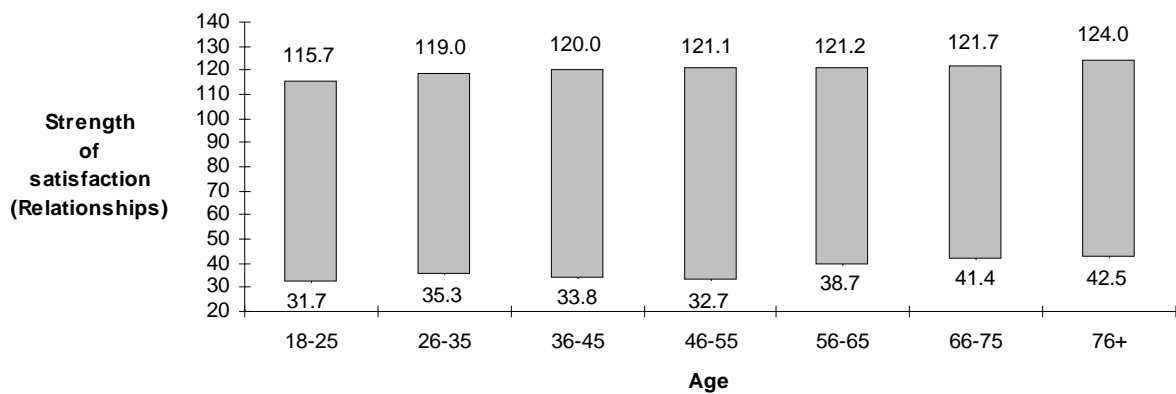


Figure 5.15: Age x Satisfaction with Relationships: Normative Raw Data

It is evident that most of the variation with age occurs at the lower margin of each normative range. The +2SD range of health varies by just 1.2 percentage points across the seven age ranges, which is evidence of remarkable stability. The +2SD range for relationships is 8.3 percentage points. In contrast, the -2SD range for health is 14.5 points and relationships is 10.8 points. 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.

5.9. Normative Data from Survey Mean Scores (N=13)

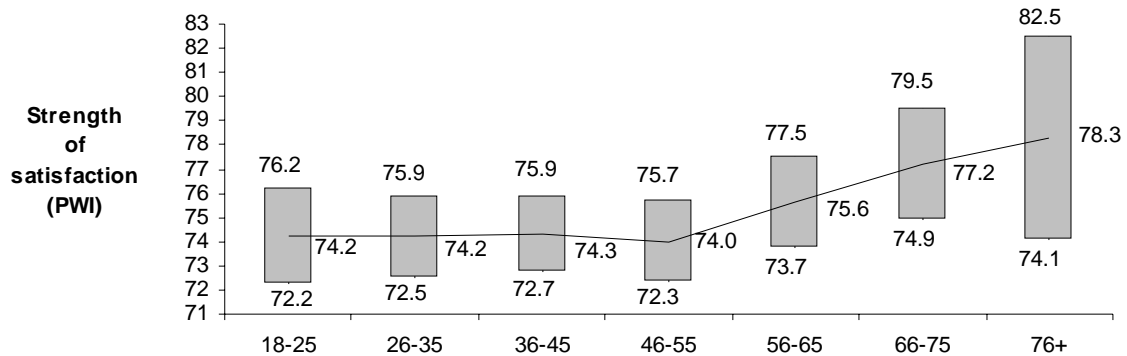


Figure 5.16: Normative Range for each age group derived from the survey mean scores (**Personal Wellbeing Index: N=13**)

Figure 5.16 has been constructed by using the survey mean scores for each age-group as data (Table A5.25). The vertical bars denote the range created by two standard deviations on either side of the age-group mean. While this is based on the aggregation of only 13 survey means, the overall stability of these measures is so high that the displayed ranges are likely to be reliable. Comparing the ranges as calculated previously (Surveys 1-10) with these that include Survey 11, the maximum degree of change is 0.1 of a percentage point.

The range for the oldest (76+y) group (8.4 points) is far larger than for the younger groups (4.0 points for 18-25y group). Moreover, the gradual rise in this range is evident from the 66-75 (4.6 points) and 76+y groups (8.4 points). Indeed, the seven group means and standard deviations correlate 0.864 ($p < .01$).

It is also evident that this increased variance is occurring from the top of the range. From Figure 5.16 it can be seen that the top of the 76+y range (82.5 points) is around 7% higher than it is for the four youngest groups, while the bottom of the range (74.1 points) is comparable. 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).

5.10. Normative Domain Scores (Survey Mean Scores : N=13)

Tables A5.26 and A5.27 show the accumulative data for health and relationships.

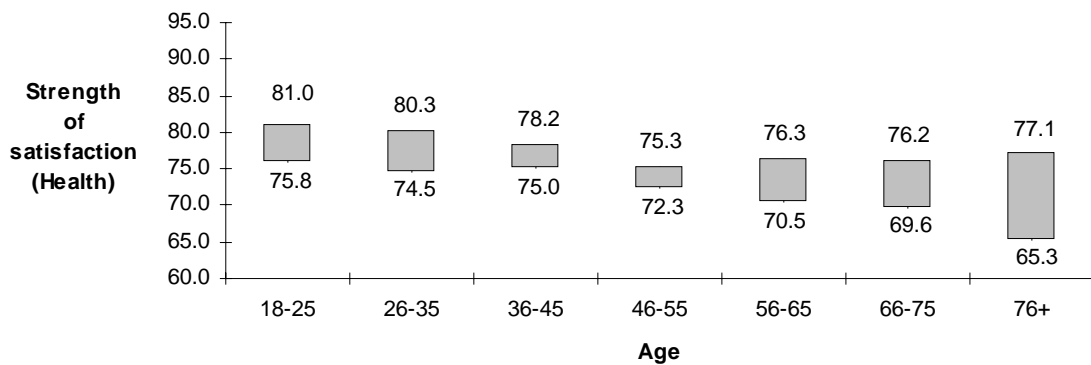


Figure 5.17: Age x **Satisfaction with Health**: Survey Mean Scores

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. This decreasing trend continues for the bottom of the range, but becomes stable, or even increases at the top of the range. The reason for this pattern is not clear.

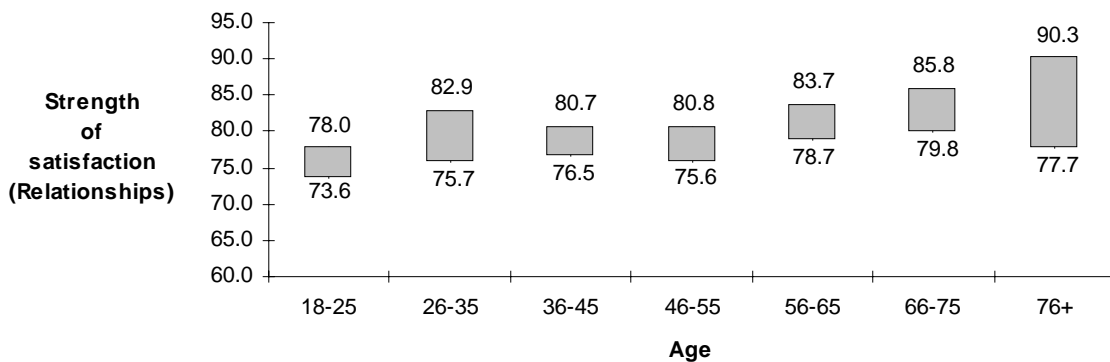


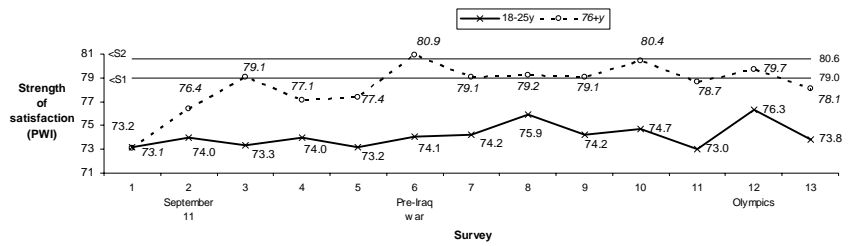
Figure 5.18: Age x **Satisfaction with Relationships**: Survey Mean Scores

The changes in responsiveness of Relationships over the surveys does not begin until 56-65 years. This is then manifest as a rise that is stronger from the top of each range than from the bottom.

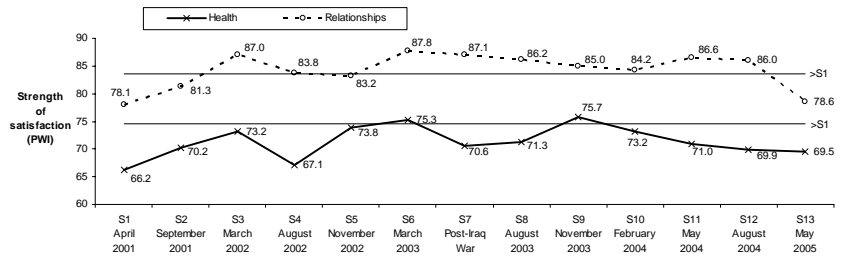
In summary, it is the bottom of the health range that changes across surveys and the top of the relationship range.

Dot Summary Points for Age

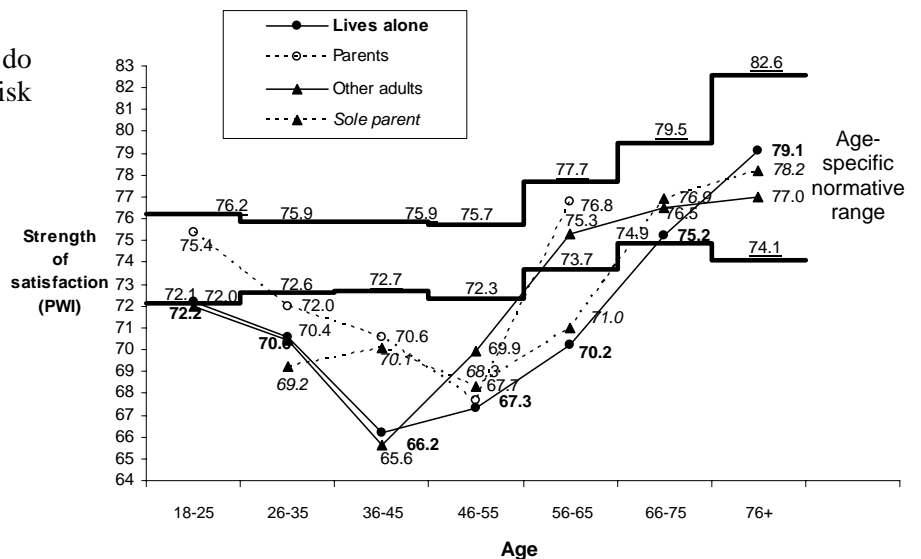
1. The personal wellbeing of all age groups has returned to be no different from Survey 1 following the Olympic rise.



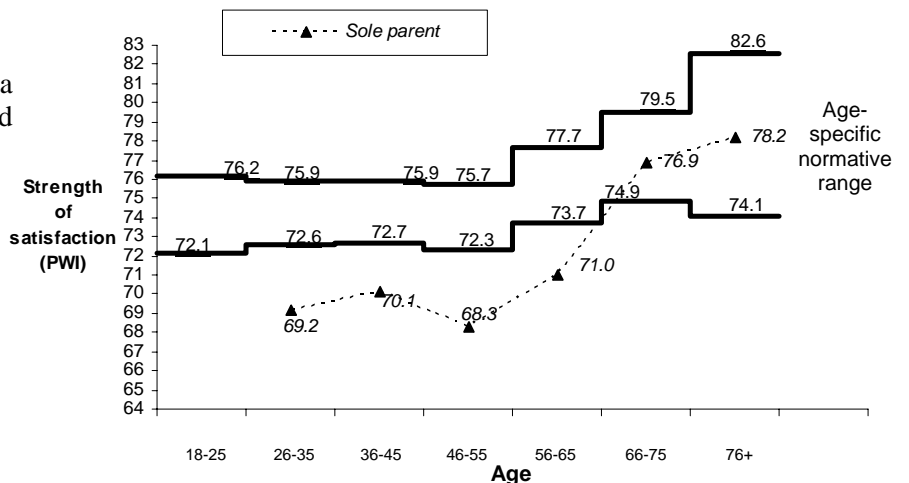
2. All domains have returned to be no different from Survey 1. Relationships and Health are shown here.



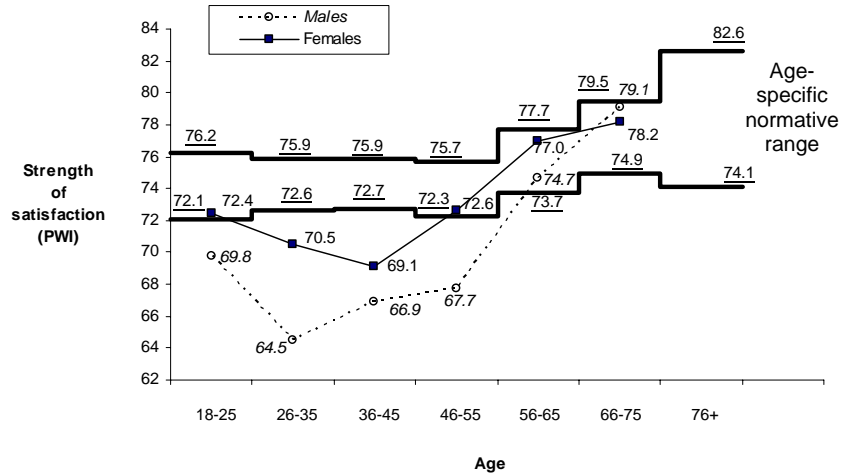
3. In the middle age, people who do not live with a partner are at risk of low wellbeing.



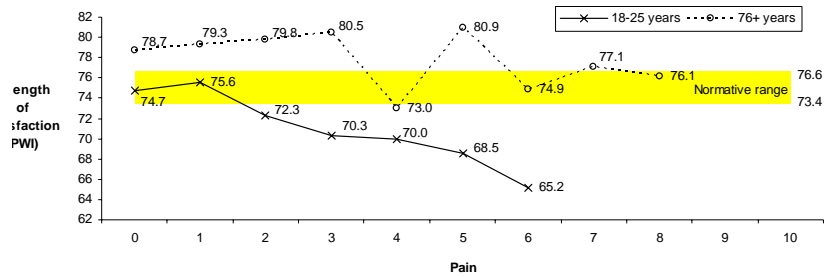
4. Living with your children as a sole parent from 66 years and older is good for your wellbeing.



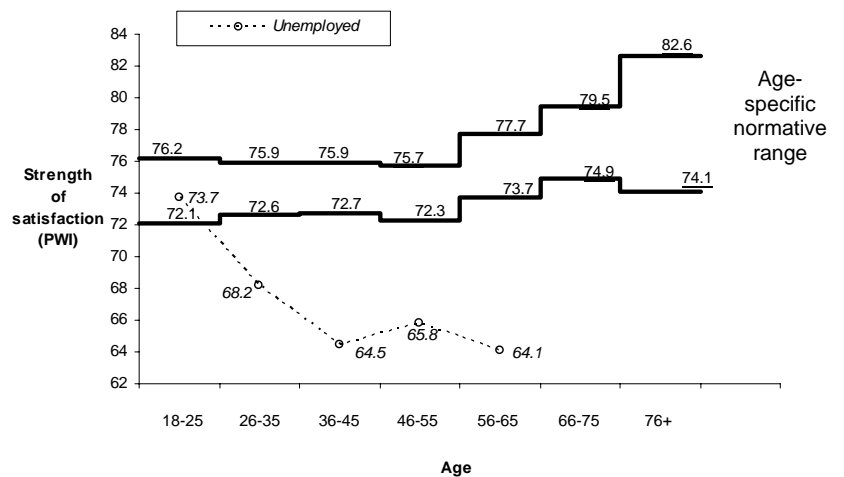
5. Middle-age males who do not live with a partner are at higher risk of homeostatic failure than equivalent females.



6. Physical pain is more effective in decreasing the wellbeing of young than of older people.



7. Unemployment has a devastating effect on personal wellbeing beyond 25 years of age.



6. Household Structure

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 13)	%
No one, you live by yourself	306	16.0
You live with your partner	1168	61.0
With one or more children	789	41.2
With one or both of your parents	147	7.7
With one or more adults who are neither your partner nor your parent”	136	7.1

The proportions above are very similar to the combined survey data (Table A6.1).

Since people can make multiple category nominations, the further break-down of these categories is provided in Table A6.2. This table shows each unique category.

It is notable that the highest proportion of respondents (31.7%) live only with their partner, while 30.9% live with their partner and one or more children. The third most common form of household structure is people living alone (17.3%).

6.2. Household Structure and Wellbeing

6.2.1. *Personal Wellbeing Index*

The data for Survey 12 are presented in Table A6.3. The figure below relates the Personal Wellbeing Index calculated from combined data (Table A6.2).

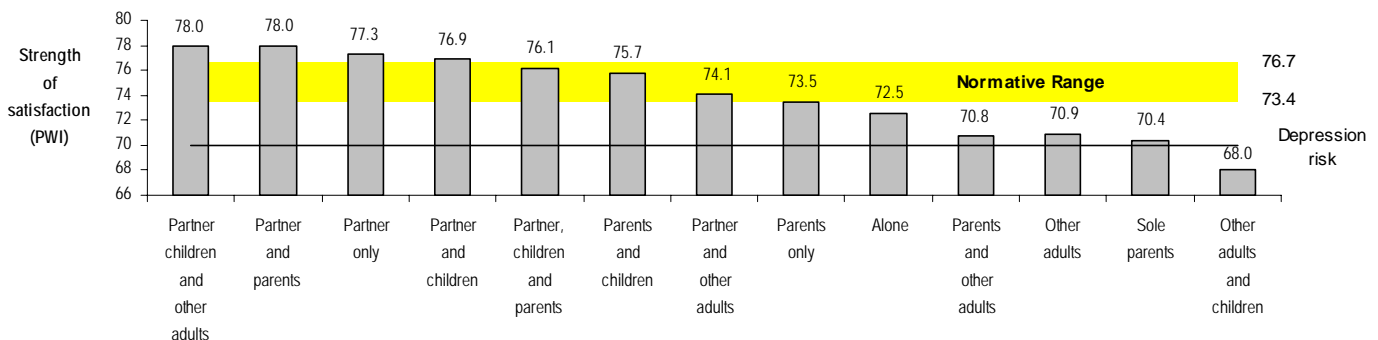


Figure 6.1: Household Structure: **Personal Wellbeing Index [combined data]**

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 (5.7% of the sample) have a mean score which lies at this threshold, and people who live with other adults and children lie below this threshold.

- (c) There is a 10.0 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 the complex household structure of Partner, children and other adult(s). This structure comprises only 0.3% (N=23) of the total sample but the standard deviation is low, indicating reliability for this result. It seems likely that many of this small group have live-in assistance to manage the household and children.
- (e) The presence of children has a highly variable effect on adult wellbeing, depending on the other people present in the household.

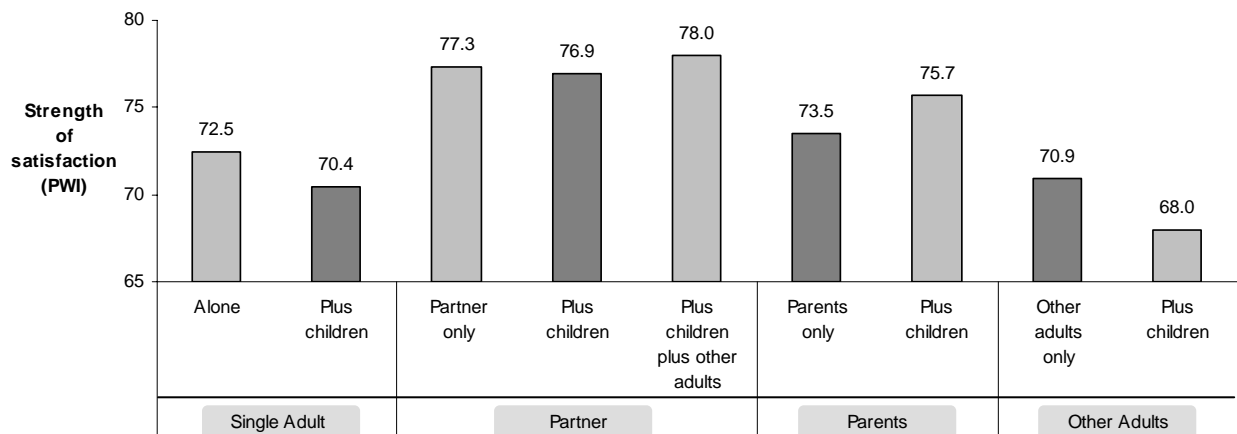


Figure 6.2: Effects of Children on Adult Wellbeing

- With no other adult present, the influence of children is highly negative, with the wellbeing of single parents (70.4) being into the territory of high risk for depression. Their wellbeing is 2.2 points lower than people who live alone. The wellbeing of sole parents however, is highly income dependent (Chapter 3).
- In the presence of a partner, the additional negative influence of children is non-significant (-0.4 points), but the further addition of live-in home-help, plus the income necessary to support such a person, lifts wellbeing 0.7 points from living with partner alone. How much of this rise is income-dependent remains to be determined.
- In the presence of parents, the addition of children raises wellbeing by +2.2 points.
- In the presence of other adults, the addition of children lowers wellbeing by -1.1.

In summary, these results can be understood within a conceptual model where children drain the resources of cohabiting adults. This is most obviously apparent in the case of single parents. In other circumstances where multiple adults are present, the overall influence is to cause wellbeing to rise, presumably due to the additional adult resources as follows:

- The addition of parents adds 5.3 points to living with children alone.
 - While the addition of children to people living with their partner exerts a small negative influence (-0.4 points) this is counteracted by the addition of another adult (+1.1 points).
- (f) Of the six 'partner' groups, five lie above the normative range (76.7). Living with other adults in addition to partner reduces wellbeing by 3.2 percentage points over living with partner alone.

- (g) Living with parents allows normative range wellbeing except when other adults also live in the household. This reduces wellbeing by 2.7 percentage points from living with parents alone.
- (h) Living with other adults 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 slightly below the bottom of the normative range.

6.2.2. Personal Domains

Table A6.4 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 who live alone below.

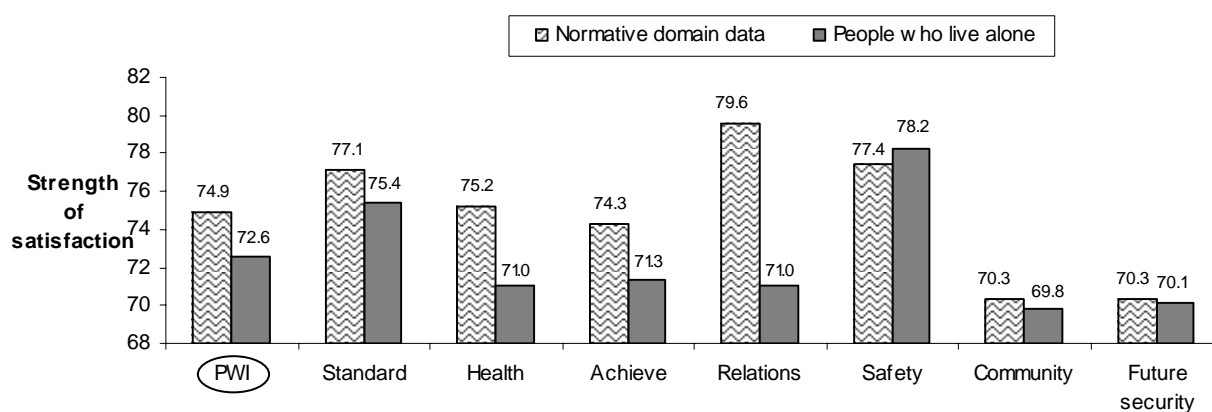


Figure 6.3: Live Alone: Domain vs. Normative Data (**Strength of Satisfaction**)

The normative data shown above reflect the total data-base (Chapter 2). It can be seen that the domains values for the people who live alone are generally below the normative means for the population. This is significant for the Personal Wellbeing Index and the domains of Health, Relationships and Achieve in Life. The largest deficits are in relationships (-8.6 points) and health (-4.2 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, this is not true for the other four domains which do not differ from population norms (standard, safety, community and future).

The other interesting comparison is in relation to the people living with their partner in the presence or absence of children.

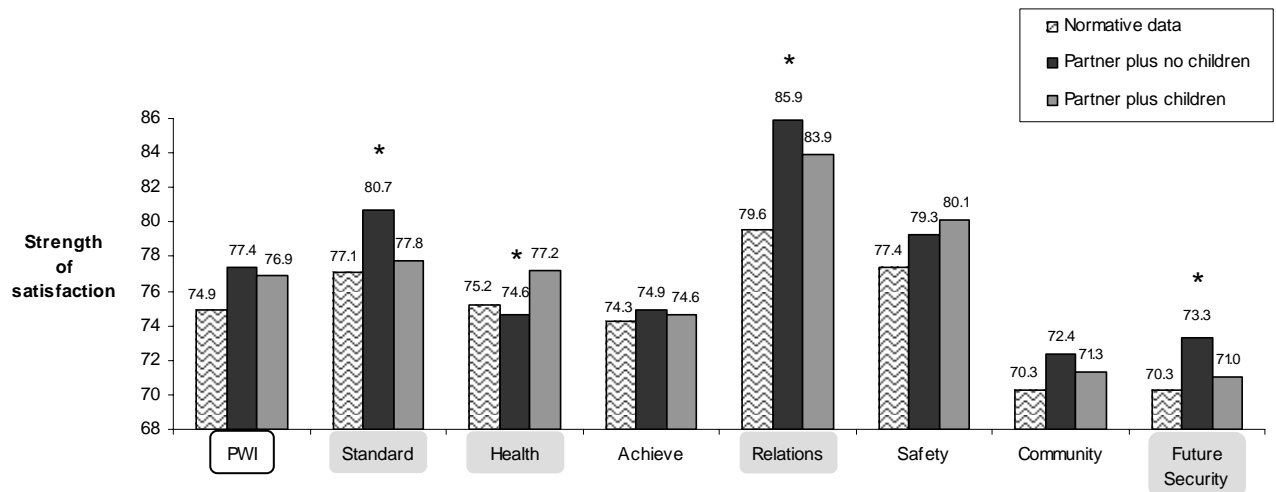


Figure 6.4: Live with Partner in the Presence/Absence of Children

The overall pattern shows that living with a partner is generally advantageous to wellbeing, but that the addition of children diminishes that advantage. This is significant in the case of three domains as Relationship, Future Security, and Standard of Living. 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. 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.

6.2.3. Life as a Whole

This shows much the same pattern as the Personal Wellbeing Index. People who live only with their partner have a significant 2.9 point advantage over partner plus children.

6.2.4. National Wellbeing Index

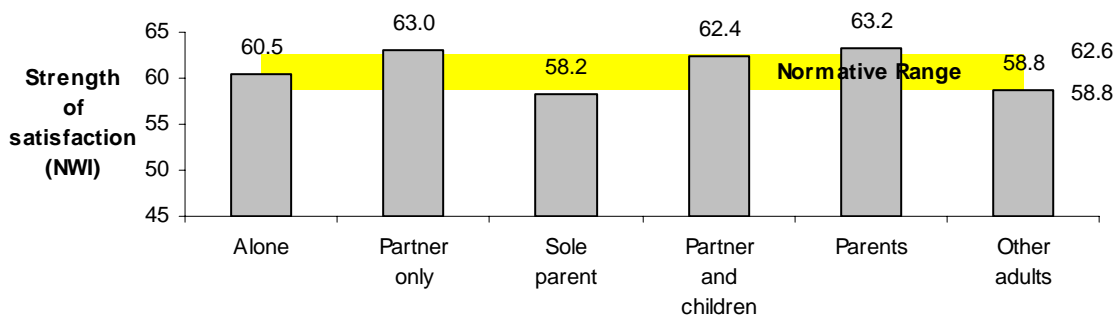


Figure 6.5: Household Structure: National Wellbeing Index

This pattern is roughly similar to that of the personal wellbeing index except that people who live with their parents do relatively better on the National Index.

6.2.5. National Wellbeing Domains

These generally follow the same pattern as shown by the National Index.

6.2.6. Life in Australia

No significant differences were found. It is interesting to note that the pattern of inter-group differences in Table A6.4 is similar to that of the National Index, but the substantially higher scores recorded for Life in Australia (around 20 points higher) seems to have attenuated the extent of the differences. While the highest and lowest groups differed by 5.0 percentage points on the National Index, this is reduced to 2.6 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?’.

6.2.7. National Survey-Specific Aspects

Of those who thought there would be a terrorist attack in Australia, people living with their partner and children regarded this as being the most likely to happen (64.3% agreed) (Table A6.4). While people living with other adults were the least likely to agree that an attack was likely (55.8%). This latter result may be influenced by the youth of the respondents (see Chapter 5).

Of these people who considered an attack likely, the threat was most strongly felt among Sole Parents as shown below.

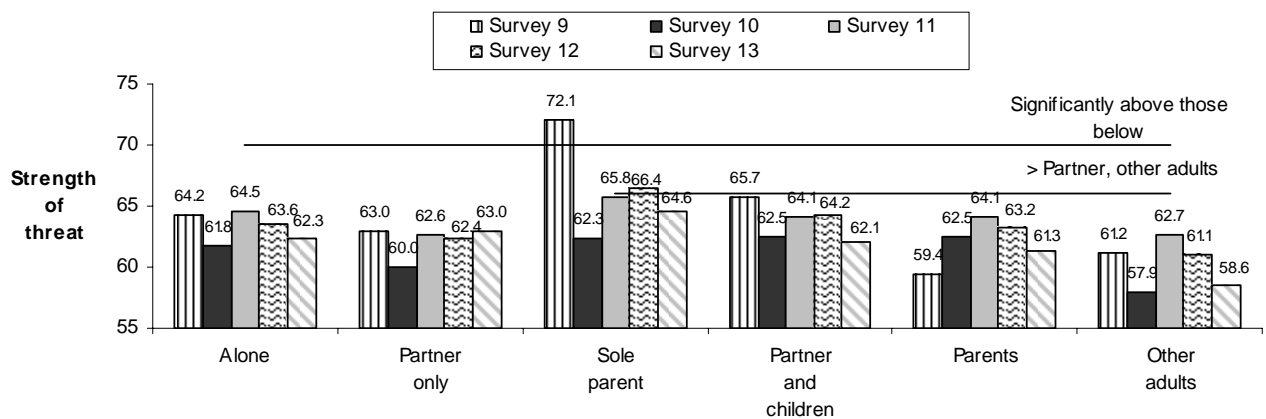


Figure 6.6: Household Structure: **Terrorist Attack Probability Strength**

From this Figure it is clear that, the aggregation of data across all three surveys shows a higher sense of threat among sole parents (Table A6.4). This is most marked in Survey 9 but is again significant in Survey 12. It seems likely that this response may be a consequence of their heavy personal responsibility for the children in their care.

6.3. Household Structure and Marital Status

Table A6.5 provides the comparative data. However, as can be seen, some of the cells contain too few respondents to provide reliable data. Consequently, only those in bold will be discussed.

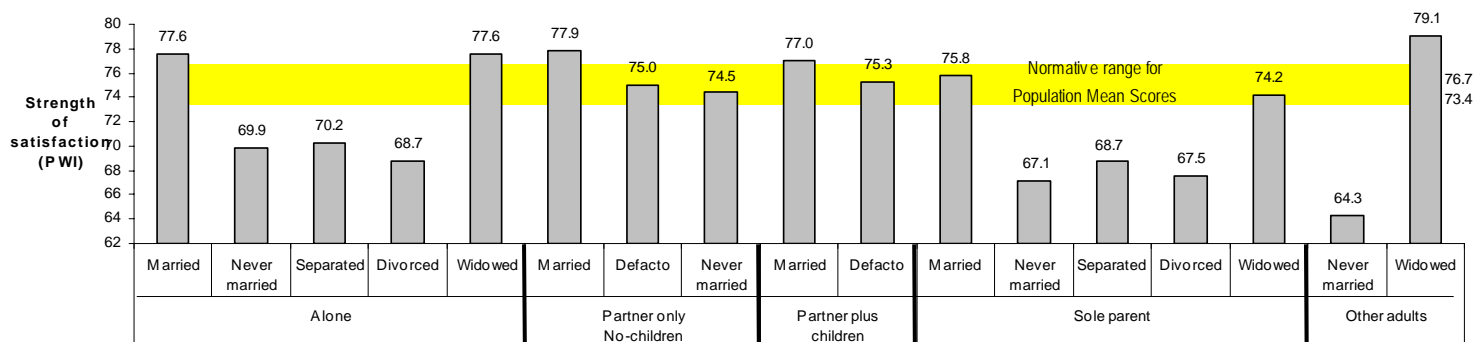


Figure 6.7: Household Structure x Marital Status: **Personal Wellbeing Index**

- (a) If people are living with their partner and children, they have a +1.7 point advantage if they are married rather than defacto, which is non-significant. However, in the absence of children, married couples have a significant +2.9 point advantage over defacto. This could be due to greater general compatibility between married couples which is strained by the presence of children.
- (b) Widows living either alone or with other adults have high wellbeing. These people tend to be elderly with financial security through either a pension or superannuation. However, widowed sole parents lose about 4 points, but still lie within the normative range.
- (c) People who have never married and who have moved away from their parents without a partner, have low wellbeing. It does not make much difference whether they live alone (69.9) or with other adults (70.4).
- (d) As expected, people who are separated or divorced have low wellbeing. However, it is interesting that, compared with living alone, the wellbeing of both groups marginally decreases still further in the presence of children (separated -1.5 points; divorced -1.2 points). These differences are not significant.

6.4. Household Structure x Full-time Work Status

The data on people who are unemployed (Table A6.6) are shown below:

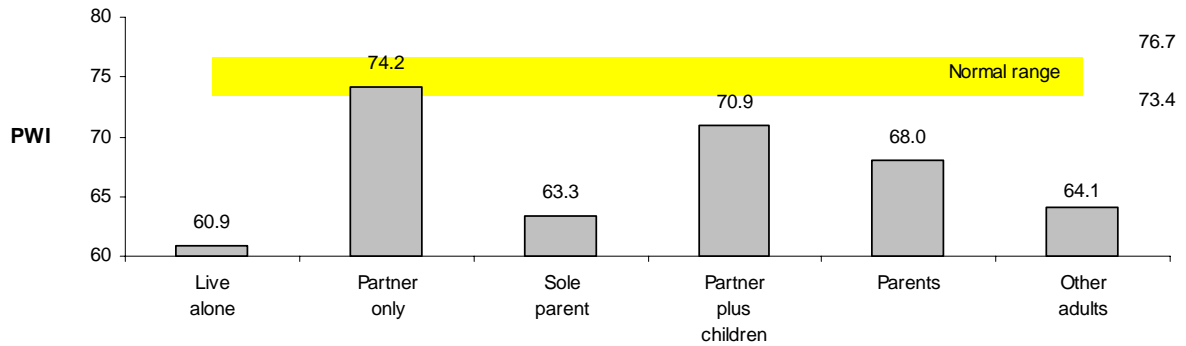
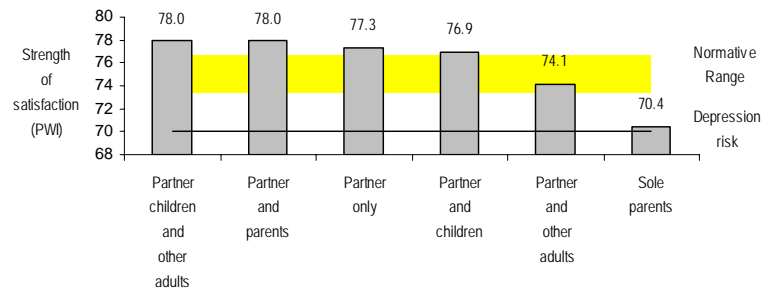


Figure 6.8: Household Composition x Unemployment: Personal Wellbeing Index

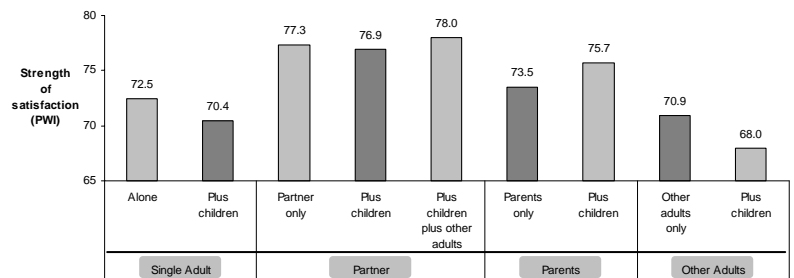
The protective element of having a partner is very evident here. Even the addition of children to their partner provides a 10.0 point advantage over living alone. Indeed, this group of unemployed people living alone have one of our lowest levels of wellbeing on record (60.9 points).

Dot Point Summary for Household Composition

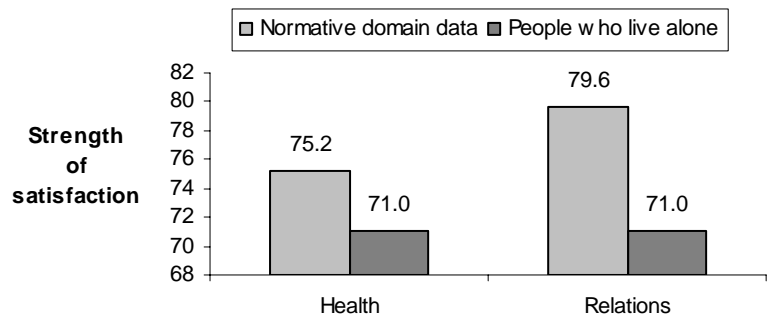
1. The highest levels of personal wellbeing are achieved by people living with their partner, children and one or more adults to assist with child care. The lowest personal wellbeing is found among sole parents. Their low wellbeing puts them at risk of depression.



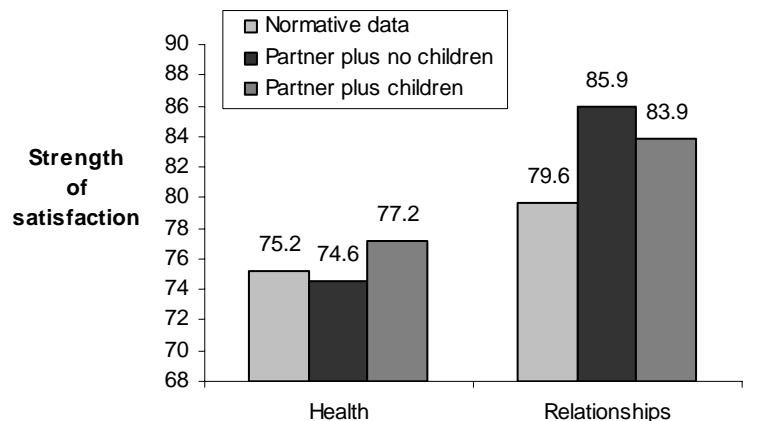
2. Children drain the resources of cohabiting adults. This is most evident in the reduced wellbeing of sole parents compared with adults who live alone. When other adults are available to carry the resource provision load, the influence of children is generally non-significant as long as no other stressor (e.g. low household income) is present.



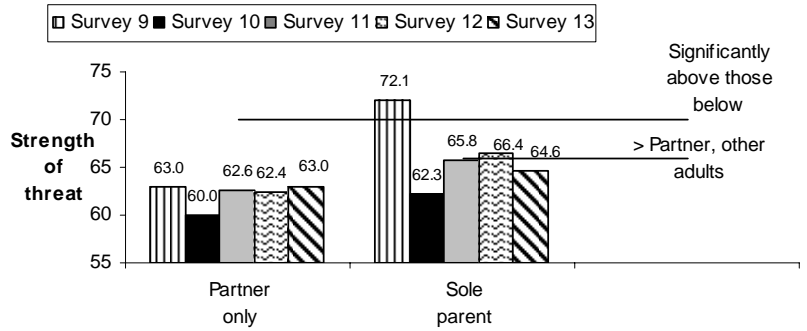
3. People who live alone have a major loss of wellbeing in terms of relationships and health. The relative lack of buffering caused by poor relationship availability makes the person more vulnerable to life stressors. Thus, minor health issues seem important due to the lack of a close friend with whom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



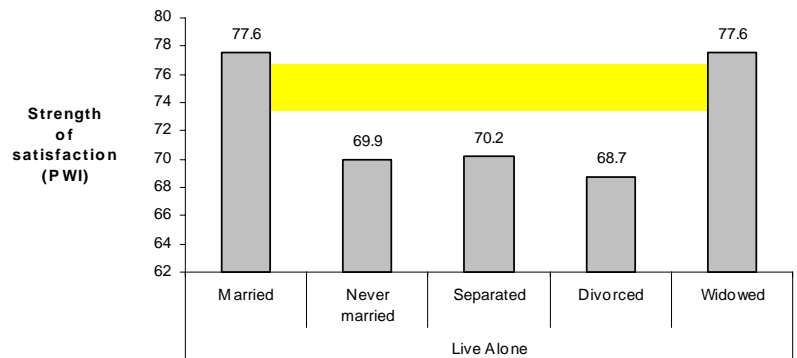
4. People who live with their partner alone have higher satisfaction with their standard of living, relationships and future security than people who live with their partner and children. However, the addition of children increases adult satisfaction with their health. Perhaps the responsibilities of child-care cause adults to feel more positive about their own health in order that their own health problems do not compromise their ability to provide care.



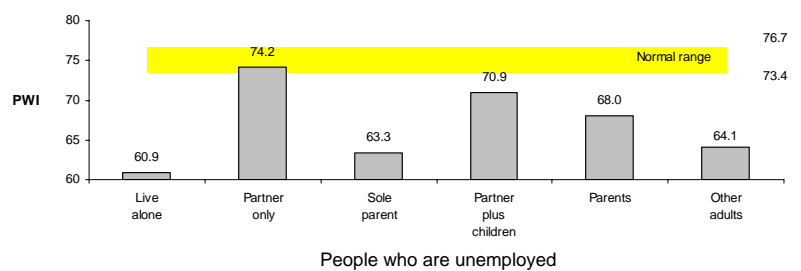
5. In circumstances were a terrorist attack is generally considered likely, sole parents consider such an attack more likely than people who live only with their partner.



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



7. The key to wellbeing fore people who are unemployed is to live with a partner in the absence of children.



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 13		Combined Surveys 9-13	
	N	%	N	%
Married	1083	55.4	5611	57.8
Defacto or living together	165	8.4	675	7.0
Never married	361	18.5	1621	16.7
Separated but not divorced	63	3.2	287	2.9
Divorced	154	7.9	708	7.3
Widowed	128	6.6	806	8.3
Total	1954	100.00	9708	100.00

The proportion of respondents in each category for Survey 13 (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)*

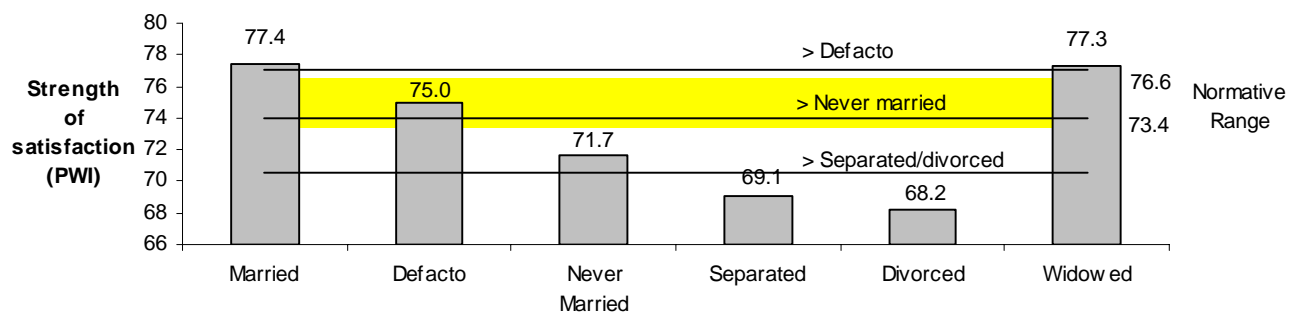


Figure 7.1: Marital Status: **Personal Wellbeing Index**

People who are married have a higher personal wellbeing than those who are in a defacto relationship (Table A7.2). However, people in defacto relationships have higher personal wellbeing than those who have never married.

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 having normal-range personal wellbeing (Section 5.4). Moreover, as we have commented before, 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 5.9. As a total group (Figure 7.1) their wellbeing does not differ from people who are married, and is higher than all other groups.

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 do not differ on any personal domain. 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.

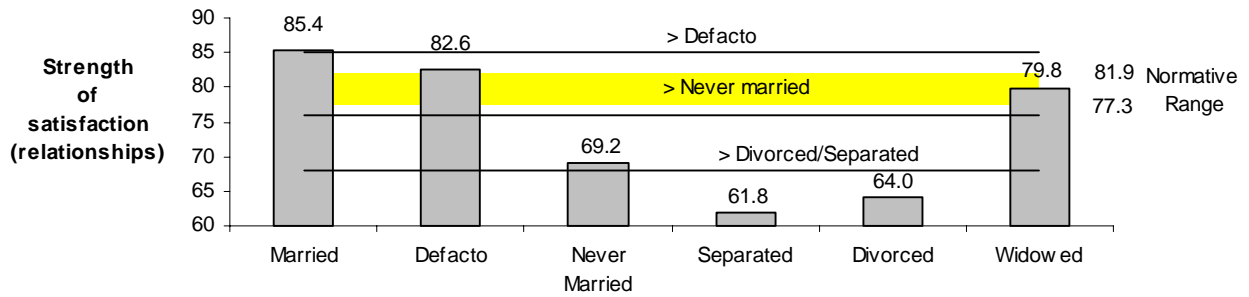


Figure 7.2: Marital Status: **Relationship Satisfaction**

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 64.8% of the sample comprises people in a relationship, the overall normal range is dominated by such people. This raises the possibility of the creation of a normative range for each marital group separately.

It is notable that people who have never married have higher relationship satisfaction than both widowed and divorced. The consequences of marriage breakdown are severe indeed.

The other domain that differentiates married and widowed is Health.

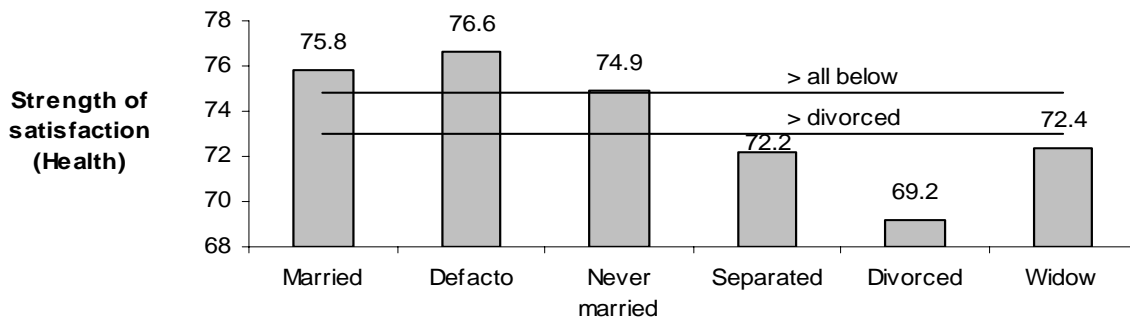


Figure 7.3: Marital Status: **Health Satisfaction**

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).

7.1.3. *Life as a Whole*

This shows a similar pattern to Figure 7.1.

7.1.4. *National Wellbeing Index*

Combined data from Table A7.2.

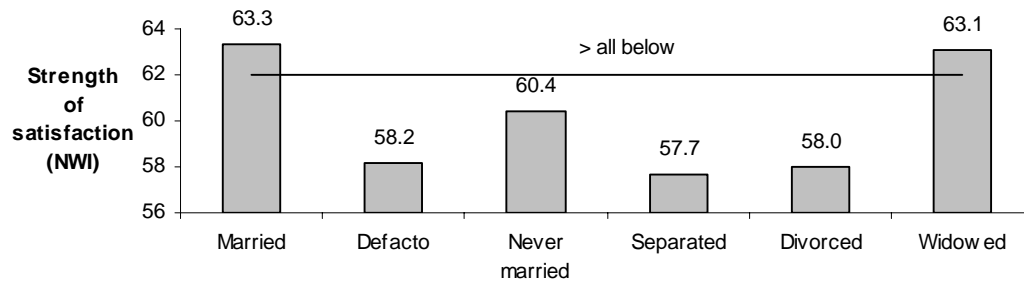


Figure 7.4: Marital Status: National Wellbeing Index

The group showing a very different level of satisfaction compared with the Personal Wellbeing Index is people in a defacto relationship. Their level of national wellbeing does not differ from people who are separated or divorced.

7.1.5. National Wellbeing Domains

The national domains (Table A7.2) show a significant pattern of difference that resembles Figure 7.4 with the exception of National Security.

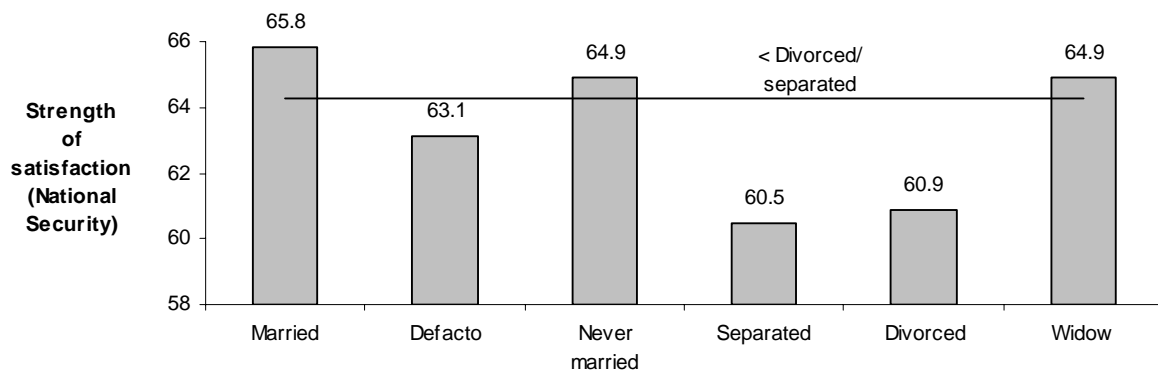


Figure 7.5: Marital Status: National Security

This domain, as well as Social Conditions, shows no difference between married and never married. The reason for this differential domain sensitivity is not known.

7.1.6. Life in Australia

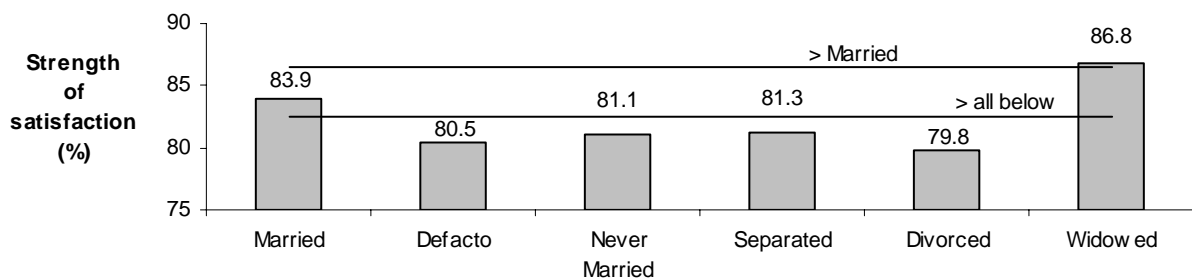


Figure 7.6: Marital Status: Life in Australia

Married and widowed have higher satisfaction with Life in Australia than the other groups, and Widows have higher satisfaction than married.

7.1.7. Likelihood of Terrorist Attack

The perceived likelihood of a terrorist attack is shown below.

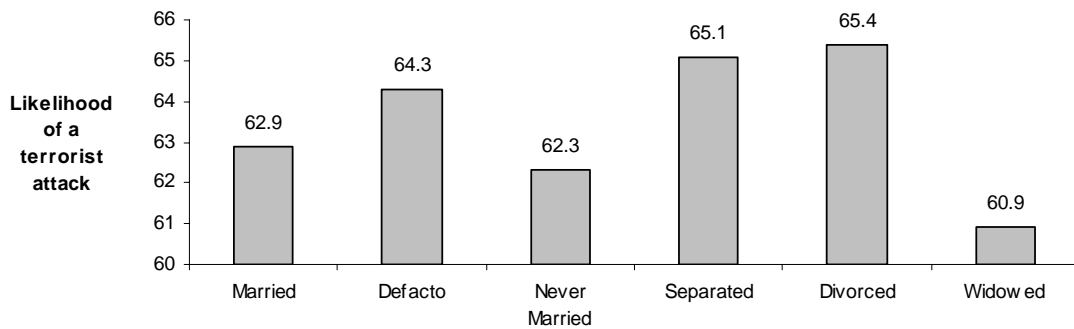


Figure 7.7: Marital Status x Perceived Likelihood of a Terrorist Attack (from 0-100)

It seems that this perception may be influenced by levels of overall negative affect, with the separated/divorced groups scoring highest (Table A7.2).

7.2. Work Status

The pattern of wellbeing for people in full-time employment is shown in Table A7.3 for the combined samples below.

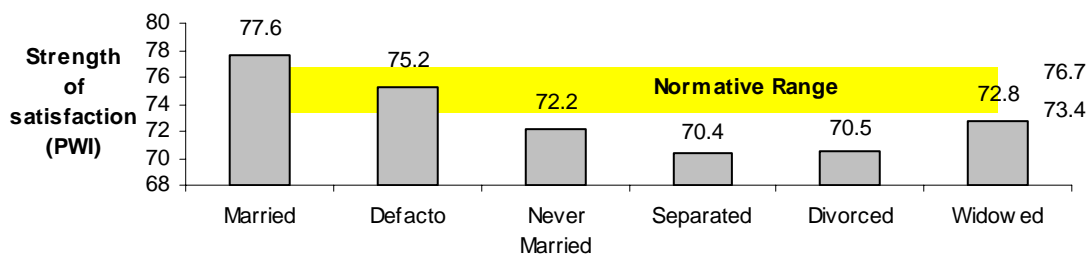


Figure 7.8: Marital Status x Full-time Employment: **Personal Wellbeing Index**

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 or divorced 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.

The data presented in Table A7.3, also show how the negative effects of unemployment are somewhat buffered through marriage (Figure 7.9). The combination of divorce and unemployment is devastating for personal wellbeing.

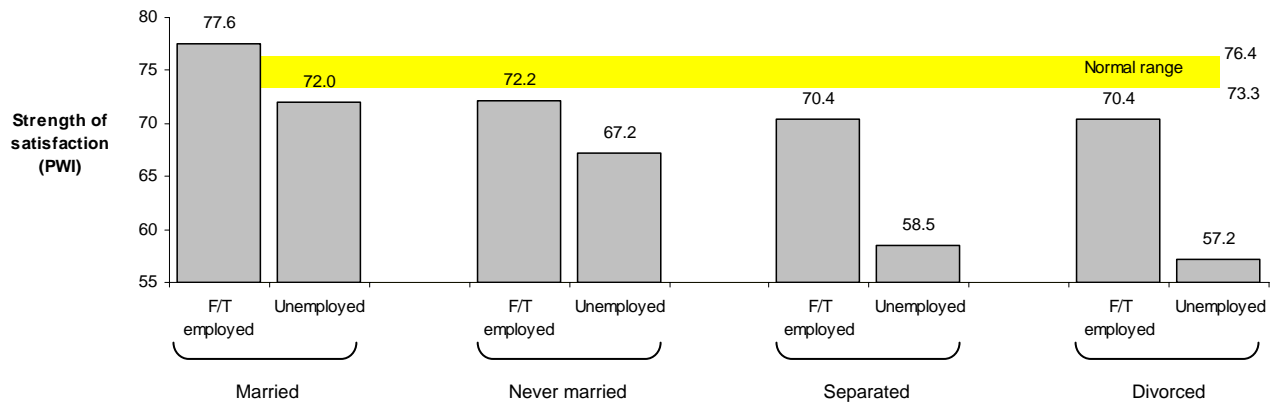


Figure 7.9: Marital Status vs. Employed/Unemployed: **Personal Wellbeing Index**

From the above figure it can be seen that the effects of unemployment impact negatively both on people who are married (-5.6 points), never married (-5.0 points), separated (-11.9 points), or divorced (-13.2 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 from both an emotional and a financial aspect.

7.3. Part-time Volunteering

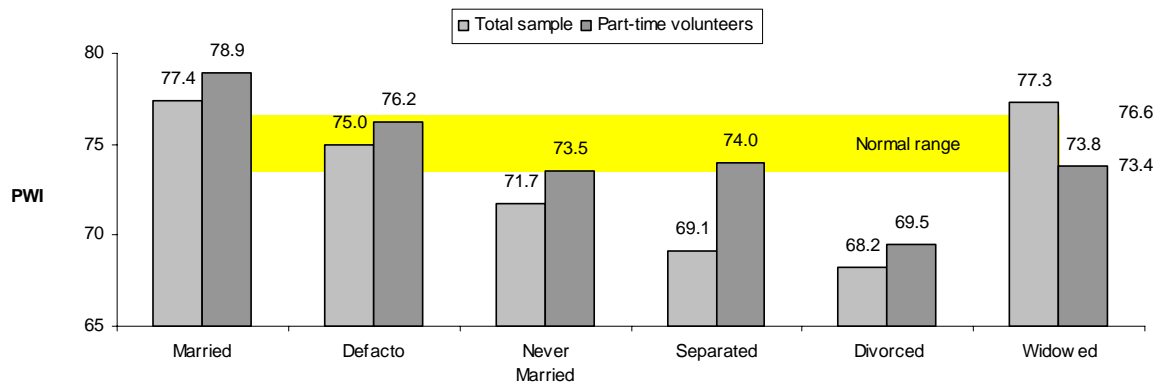


Figure 7.10: Marital Status x Part-time Volunteering (Personal Wellbeing Index)

Generally, across the groups, part-time volunteers have marginally higher wellbeing than the total comparison group (Table A7.4). There are two exceptions. One is the strong positive association for people who have separated (+4.9 points) which is 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. The second are widows who show a decrease of 3.5 points if they volunteer. This may represent a chronically lonely sub-set of widows who volunteer to find companionship. If this is so, this sub-set would likely be even lower in the absence of their voluntary labour.

Overall, therefore, volunteering is associated with a small increase in the Personal Wellbeing Index. Whether this is due to the actual activity itself or to the kind of person who volunteers cannot be resolved from these data.

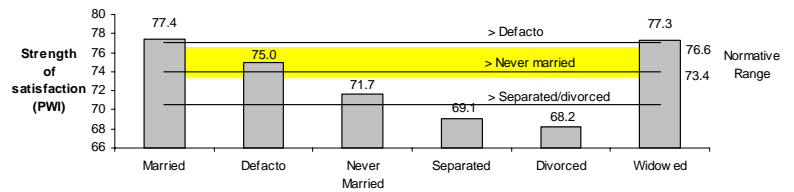
The proportion of each martial group who engage in part-time voluntary work is as follows:

	<u>% of part-time volunteers</u>
Married	15.4
Defacto	8.1
Never married	8.6
Separated	14.3
Divorced	15.0
Widowed	19.2

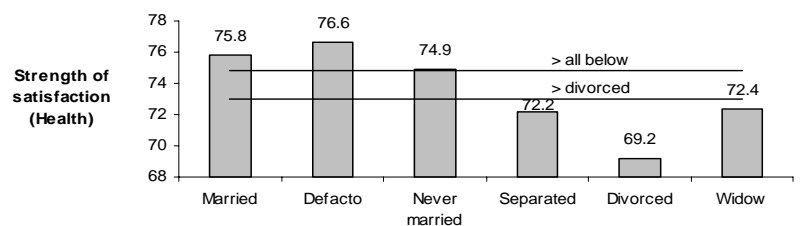
There is no simple association between the probability of volunteering and having or not-having a partner.

Dot Summary Points for Relationship Status

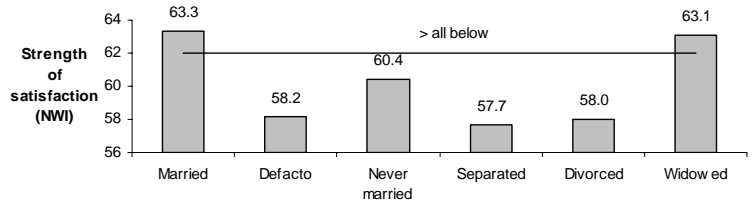
1. People who have never married have a level of personal wellbeing that lies between people who remain married and those who have separated or divorced. However, this is age dependent and likely reflects the accumulation of people with naturally low levels of wellbeing in the never-married group.



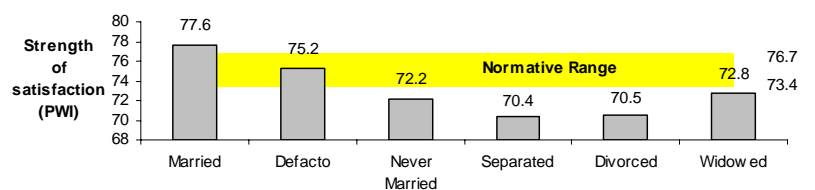
2. Widows have relatively low health satisfaction. This is probably due to the burden of accumulated medical condition, that yield pain, such as arthritis.



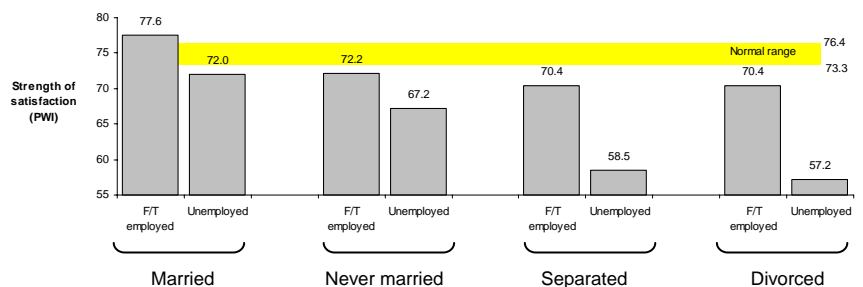
3. The National Wellbeing Index is unusually low for people in defacto relationships.



4. The fact of full-time employment is not, of itself, able to bring all marital status groups into the normal range.



5. 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 (57.2).



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 13		Combined Surveys 9-13	
	N	% Total	N	% Total
Full time paid employment	876	54.1	3773	45.6
Full time retired	371	22.9	2532	30.6
Semi retired	68	4.2	260	3.1
Full time volunteer	14	0.9	45	0.5
Full time home or family care	150	9.3	908	11.0
Unemployed	96	5.9	357	4.3
Full time study	45	2.8	404	4.9
Total	1620	100	8279	100

[If employed]

(a) *Have you been in the Work for the Dole Program sometime during the past year?*

(b) *Are you currently in the Work for the Dole Program?*

Table A8.5 indicates that only 5 people who were unemployed took part in this program. This is too few for any meaningful analysis.

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

	Survey 13		Combined Surveys 9-13	
	N	% Total	N	% Total
Part time paid work	354	44.5	1540	40.9
Part time voluntary work	241	30.3	1430	37.9
Part time paid & voluntary work	65	8.2	322	8.5
Part time study	135	17.0	477	12.7
Total	795	100.0%	3769	100.0

“Are you looking for work?”

	Survey 13		Combined Surveys 9-13	
	N	% Total	N	% Total
Yes	265	13.5	828	10.6
No	1702	86.5	6995	89.3
Total	1967	100	7823	100

The above tables indicate a high degree of congruence between the proportion of people in each work status category in Survey 13 and the combined data from Surveys 9-13. An exception is fewer people full-time retired.

8.1. Overall Distribution

This is provided above and also in Tables A8.1, A8.2, A8.3 and A8.4. It is interesting that about 13.5% of the sample are looking for work. This is a rise of 4.6% from Survey 12 and for higher than the proportion of the sample who are unemployed 2.8%. Thus, this category includes people who are under-employed in part-time work.

8.2. Work Status and Wellbeing

Data are taken from Table A8.7.

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

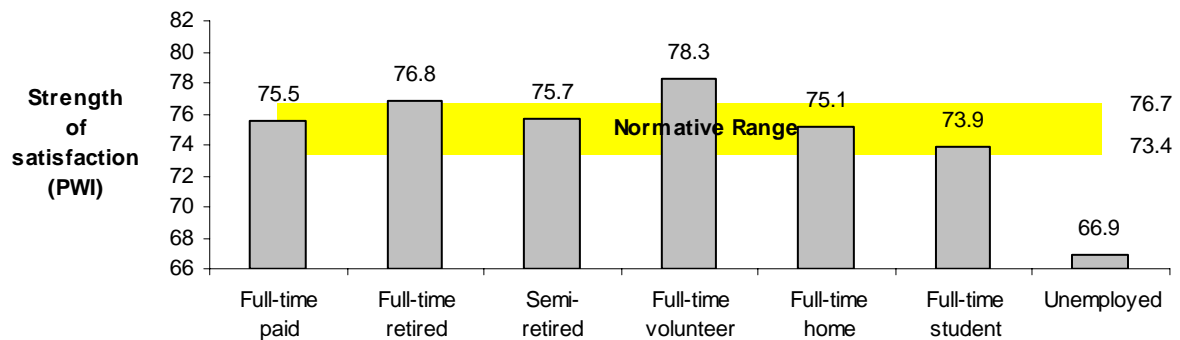


Figure 8.1: Work Status: **Personal Wellbeing Index** (combined data)

Most groups approximate the normal range (Table A8.7). The exceptions are people who are fulltime volunteers, 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 A8.7) generally show the same pattern as Figure 8.1 with the exception of Health and Safety which are lowest for people in Fulltime retirement.

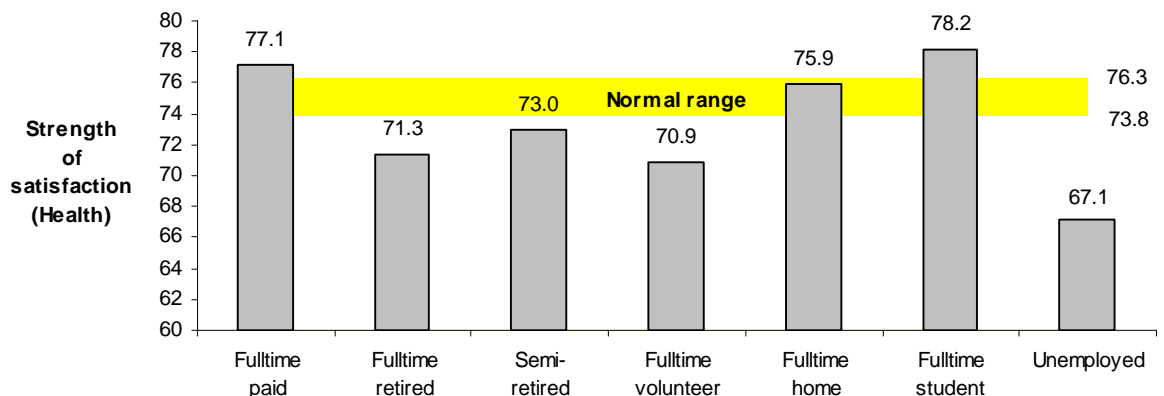


Figure 8.2: Work Status: **Satisfaction with Health** (Combined Data)

These data from Table A8.7 indicate the lack of congruence between overall feelings of wellbeing and satisfaction with health. People who are full-time retired or full-time volunteers 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. This shows the invalidity of Health Related Quality of Life as a measure of overall wellbeing.

The domain profile for the Full-time Volunteers (N=45) is as follows:

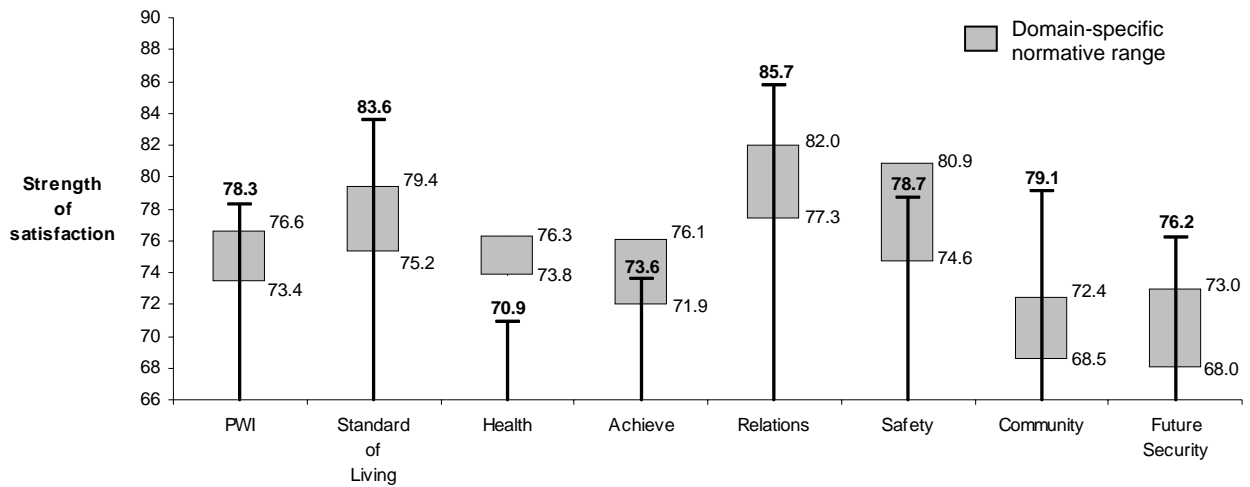


Figure 8.3: Work Status: Full-time Volunteers x Personal Domains (Combined Data)

It is apparent that the full-time volunteers are likely to have an out-going personality and a naturally high set-point. However, they have poor health satisfaction, as indicated. Thus, they engage in 'domain compensation' by maintaining levels of other domains considerably higher than the normal range as: Community (+6.7 points), Standard of Living (+4.2), Relationships (3.7), Future Security (+3.2).

The domain profile for Full-time Employed (N = 3,773) is as follows:

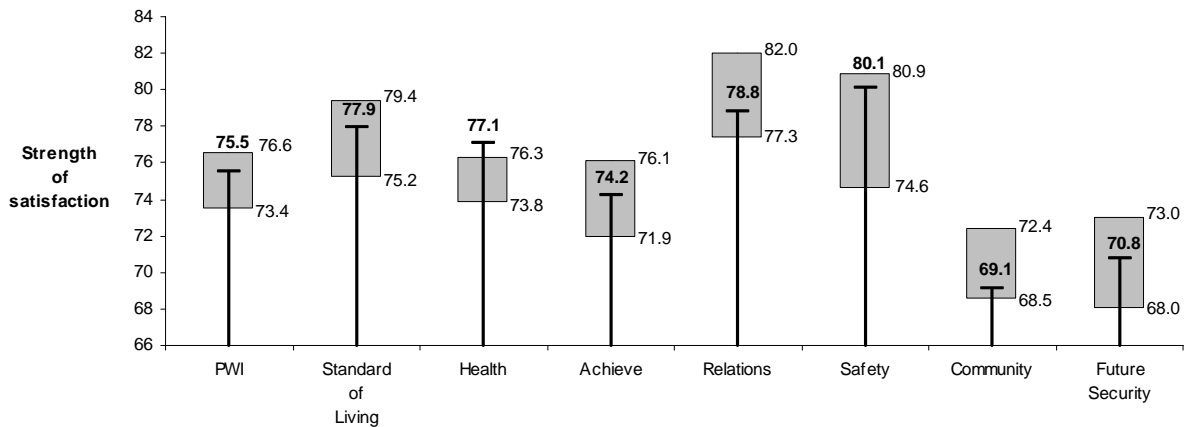


Figure 8.4: Work Status: Full-time Employed x Personal Domains (Combined Data)

This domain profile is remarkable in so far as all domain values fall within the normal range except Health which lies +0.8 points higher.

The domain profile for Full-time Retired (N = 2,532) is as follows:

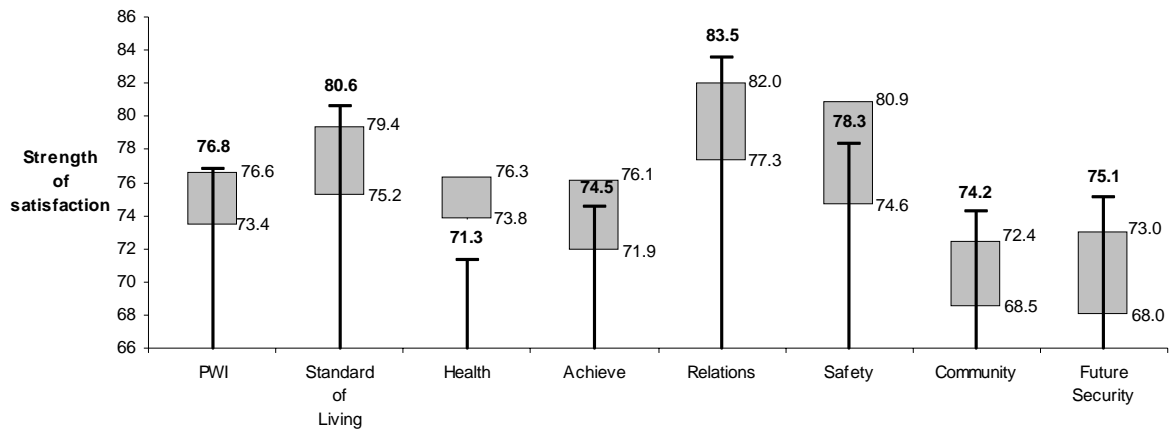


Figure 8.5: Work Status: Full-time Retired x Personal Domains (Combined Data)

The profile is almost exactly the same as that of the full-time volunteers, but more muted.

The domain profile for Semi-retired (N = 260) is as follows:

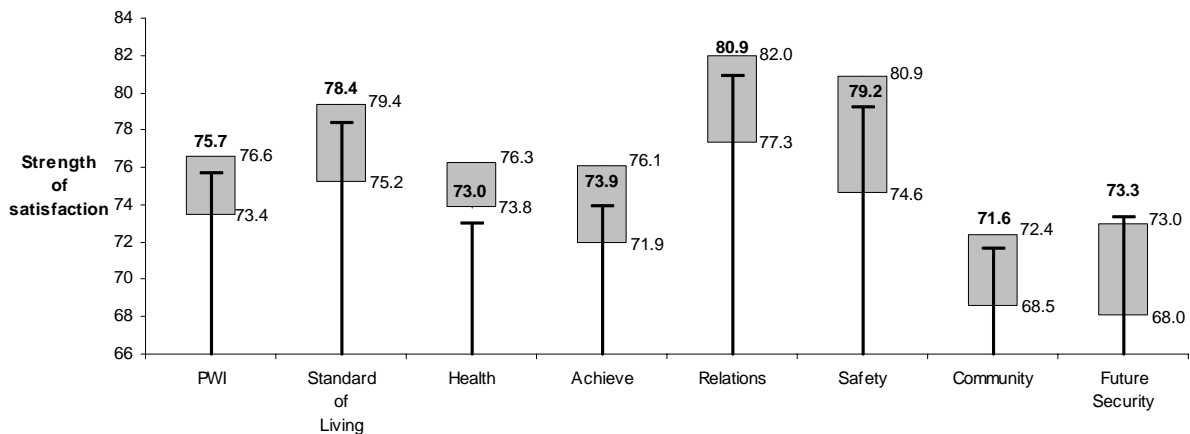


Figure 8.6: Work Status: Semi-retired x Personal Domains (Combined Data)

With the exception of Health, that lies -0.8 points below the normal range, all other domains are normative.

The domain profile for Full-time Home or Family Care (N = 908) is as follows:

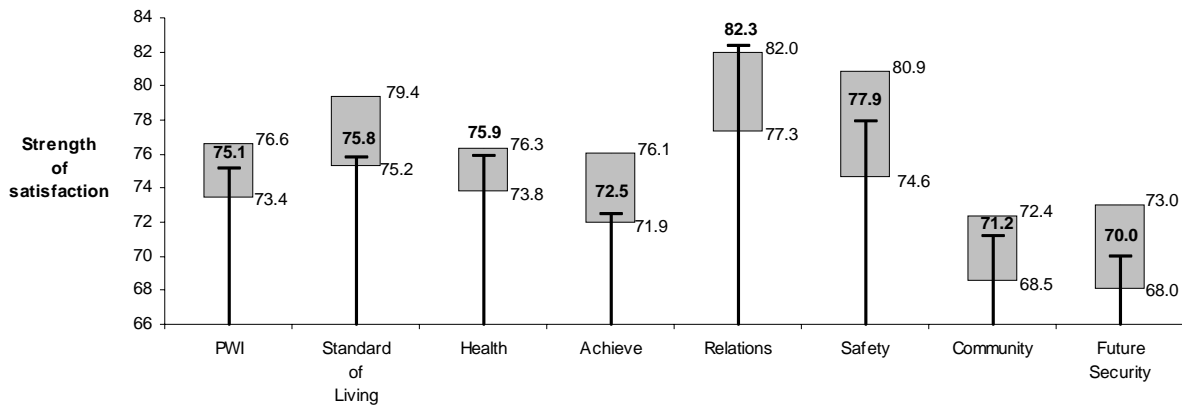


Figure 8.7: Work Status Full-time Home or Family Care (Combined Data)

With the exception of Relationships, which lies +0.5 points above the normal range, all other domains are normative.

The domain profile for Full-time Students (N = 357) is as follows:

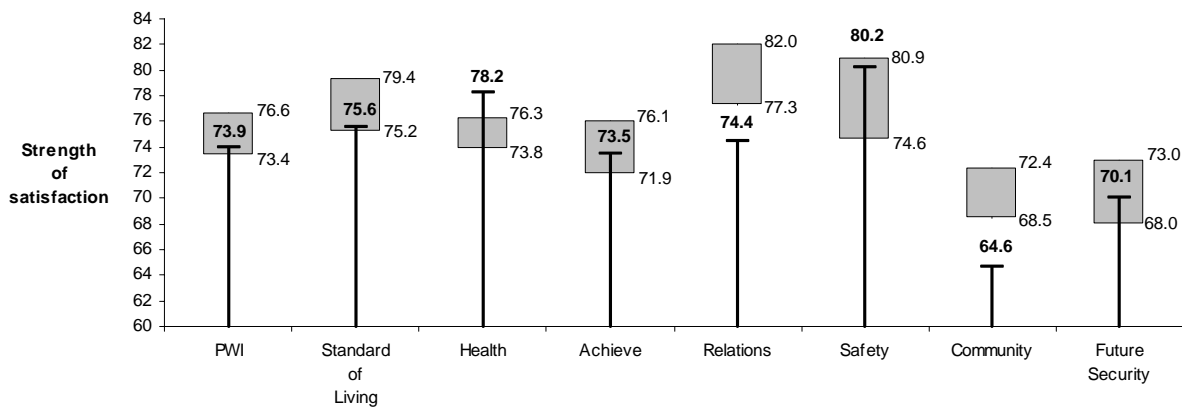


Figure 8.8: Work Status Full-time Students x Personal Domains (Combined Data)

The Personal Wellbeing Index of students lies at the bottom of the normal range. It is notable that the two domains that involve interaction with other people are below normal (Relationships -3.4% points; Community -4.0 points). These deficits are marginally compensated by higher than normal health satisfaction (+1.9 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 = 404) is as follows:

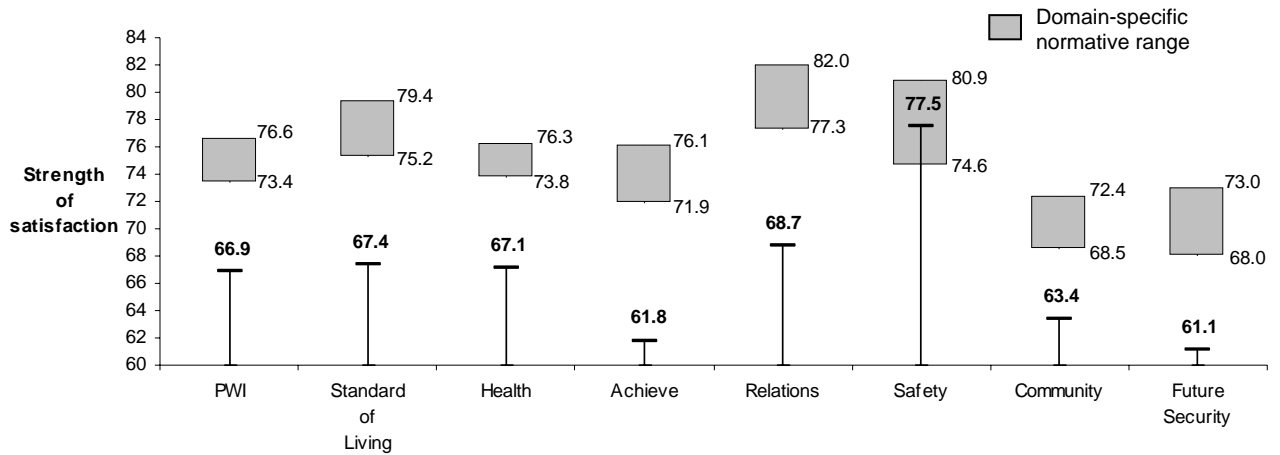


Figure 8.9: Work Status: People who are Unemployed x Personal Domains (Combined Data)

The domains are quite uniformly below normal with the exception of Safety which is normative. The reason this domain is protected is not known, but it is notable that all of the Work-Status sub-groups have normative safety satisfaction

8.2.3. Life as a Whole

This shows the same pattern as Figure 8.1.

8.2.4. National Wellbeing Index

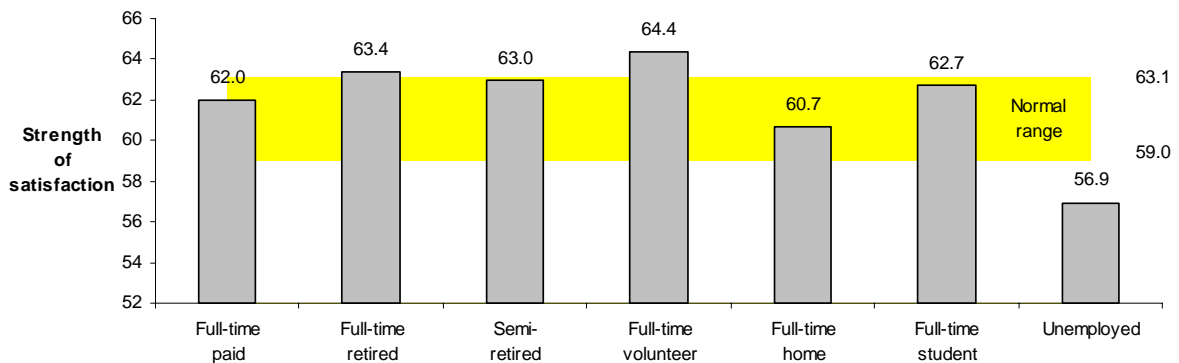


Figure 8.10: Work Status: National Wellbeing Index

The major out-of-range group are the unemployed who score -2.1 points below and the full time volunteers who score +1.3 above.

8.2.5. National Domains

While the general direction of effect is the same as Figure 8.11.

8.3. Looking for Work

8.3.1. Personal Wellbeing Index



Figure 8.11: Looking for Work: **Personal Wellbeing Index** (combined data)

The above data have been drawn from Tables A8.9 and A8.11. It is evident that the 9.0% of people who are employed full time and looking for work have a level of personal wellbeing that is 2.0 points below the normative range.

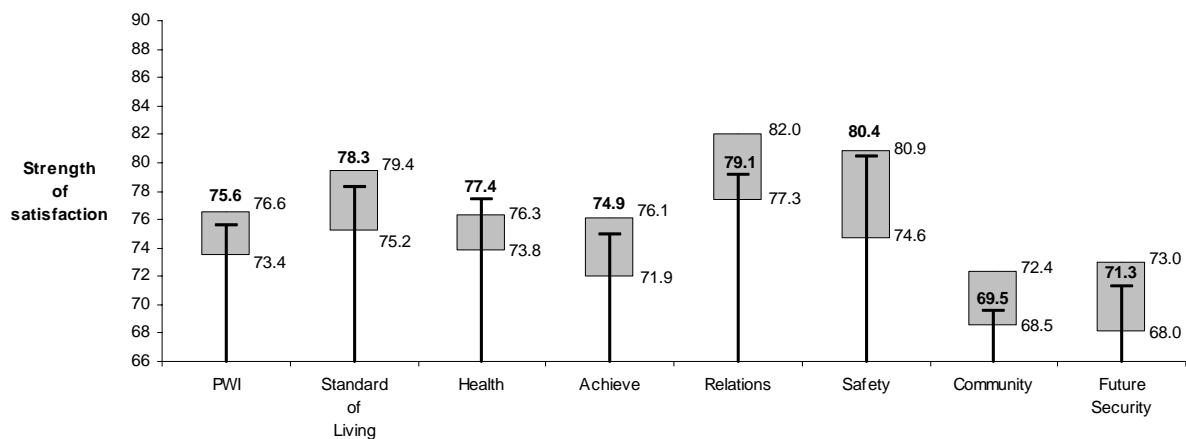


Figure 8.12: Work Status: Full-time Employed not Looking for Work

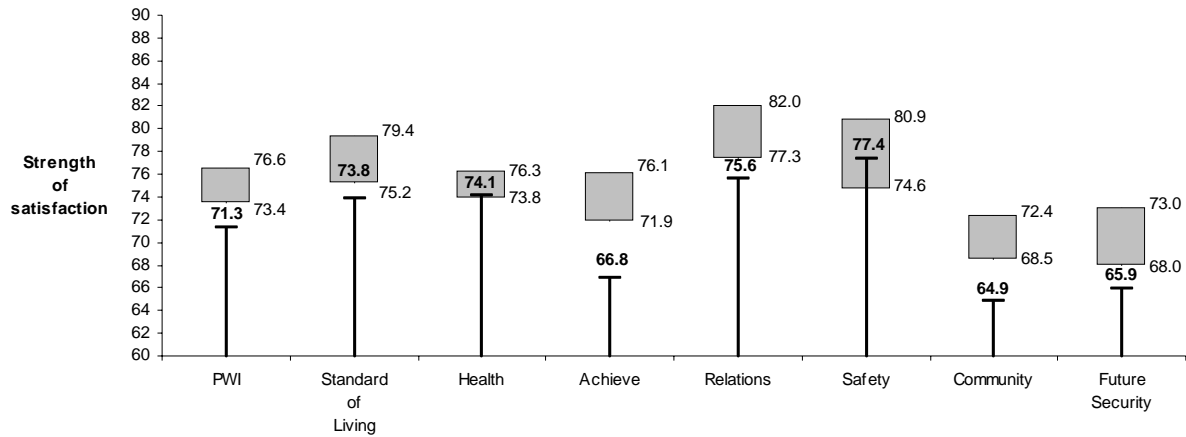


Figure 8.13: Work Status: Full-time Employed Looking for Work

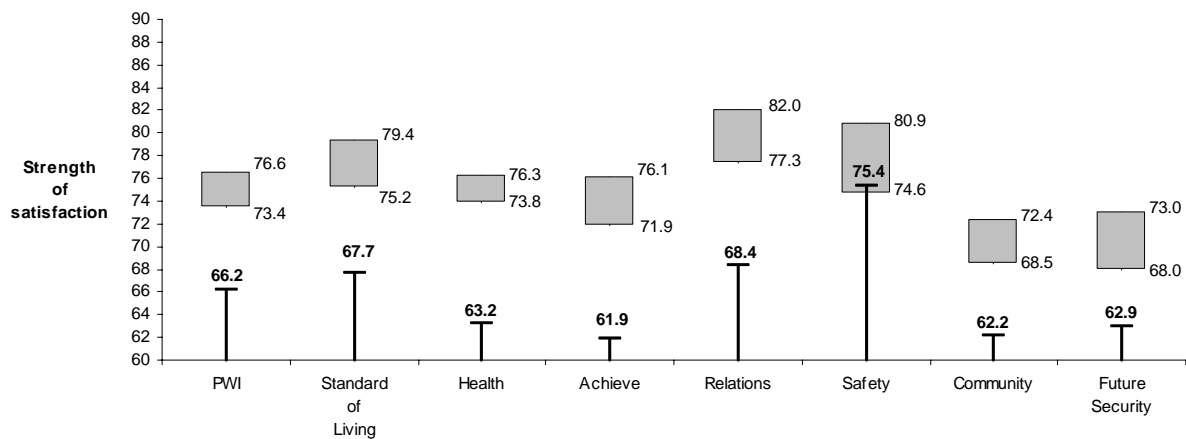


Figure 8.14: Work Status: Unemployed not Looking for Work

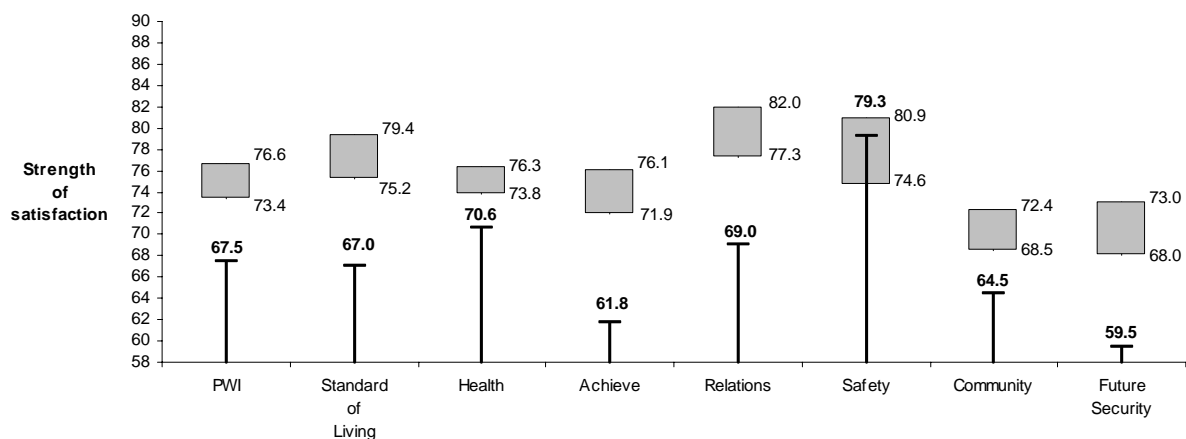


Figure 8.15: Work Status: Full-time Employed not Looking for Work

Looking for work is damaging to relationship satisfaction. It may be that the lack of a suitable job is damaging inter-personal relationships. However, it also appears that relationships are sustaining the people in Fulltime employment who are looking for work, far more than for people who are

unemployed. The additional load of unemployment appears to further damage relationship satisfaction, and it seems to be unrelated to whether the person is seeking employment or not.

8.4. Part-time Voluntary Work

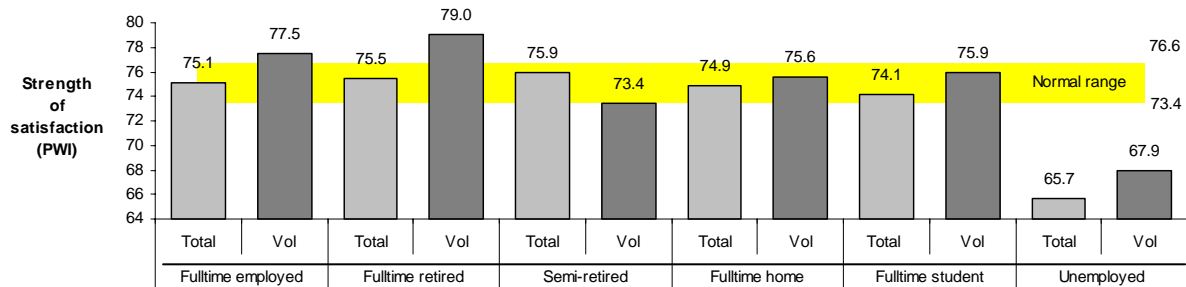


Figure 8.16: Full-time Work Status vs. Part-time Volunteer

These data come from Tables A8.6 and A8.13. It can be seen that for most of the work status groups, part-time volunteers gain a 2-4 point advantage, which is significant. However, this is not true of people who are semi-retired, where the reverse trend is evident. It may be that these people would prefer not to be retired and find volunteer work, which they have adopted as a substitute activity, unrewarding.

The other groups to show no significant benefit from part-time voluntary work are people in full-time home duties (+0.7 points). Voluntary work is probably of minor relevance to these people since they are already fully engaged in child or other-person care.

8.5. Gender and Work Status

Given that there is a general 2.0 percentage point advantage to females in the Personal Wellbeing Index (see Chapter 5), it can be seen that this is generally carried-over into the various work-status groups (Table A8.14). However, full-time employment reduces the female advantage in personal wellbeing to a non-significant 0.7 points. 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.

Other matters of interest from Table A8.14 are as follows:

- (a) The proportion of each gender who become full-time volunteers greatly favours females (79.0% vs. 21.0%).
- (b) Males (N=140) who are engaged in full-time home or family care have a level of wellbeing that lies comfortably within the normal range.

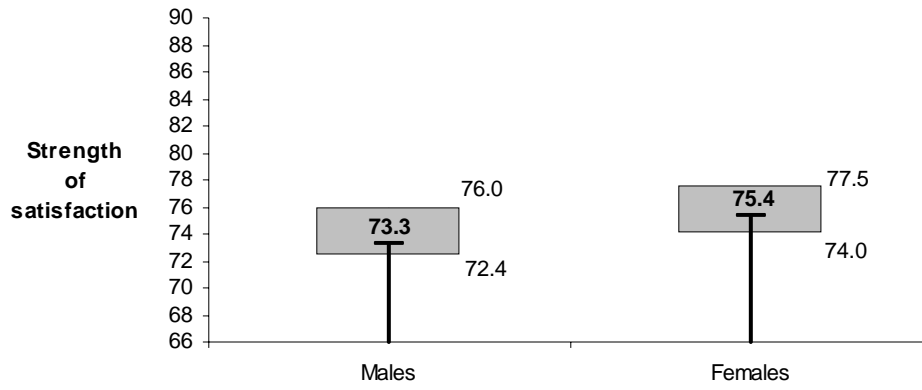


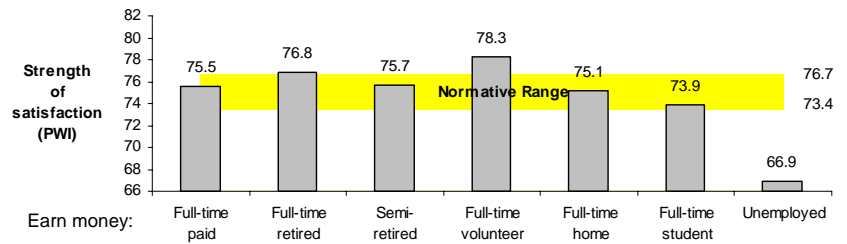
Figure 8.17: Full-time Home or Family Care x Gender: Personal Wellbeing Index

It is interesting that this minority of home-carers who are males (16.0%), engaged in a non-traditional occupation, do as well in terms of their personal wellbeing as do females.

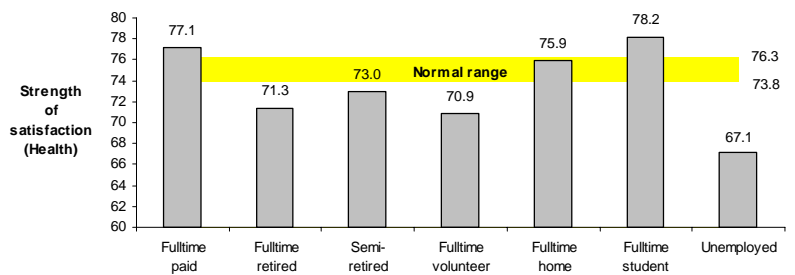
- (c) The gender difference is much reduced by full-time study (0.1 percentage points), semi-retirement (0.2 points), and paid-employment (0.7 points).

Dot Point Summary for Work Status

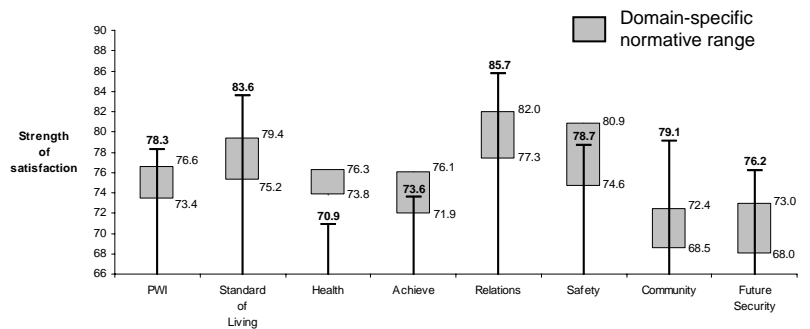
1. The personal wellbeing of all work-status groups falls in the normal range except for fulltime volunteers who lie above the range, and people who are unemployed who fall below.



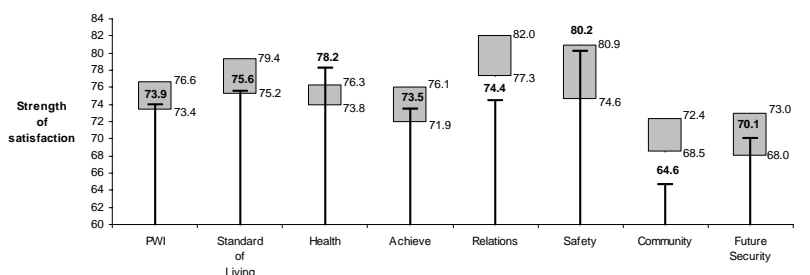
2. Even though full-time retired and volunteers have lower than normal health satisfaction (this figure) their personal wellbeing is above normal (see above). This emphasises that measures of subjective health are invalid as measures of overall wellbeing.



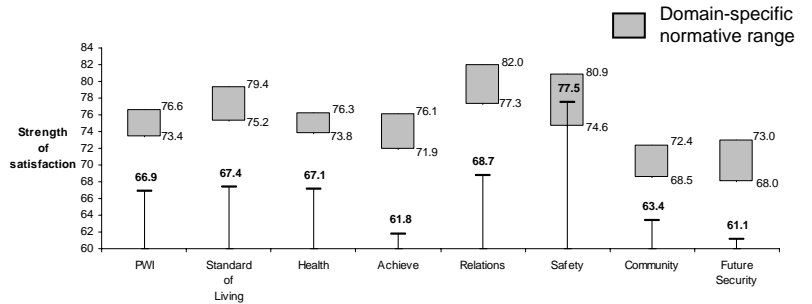
3 Full-time volunteers have lower than normal health satisfaction but compensate by having higher satisfaction in other domains, notably those involving other people (Relationships and Community).



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.



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

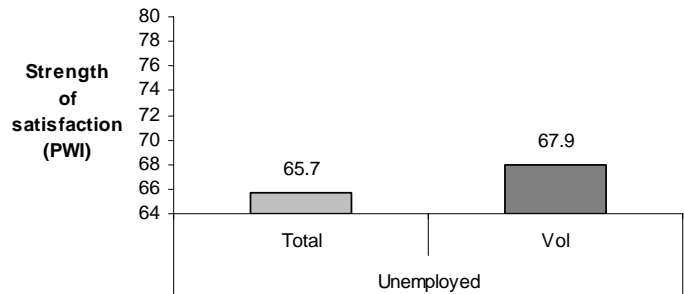


5. (a) The 9.0% of people who are Fulltime employed and yet looking for work have lower than normal wellbeing. It is likely that these people will be functioning poorly in their current employment.

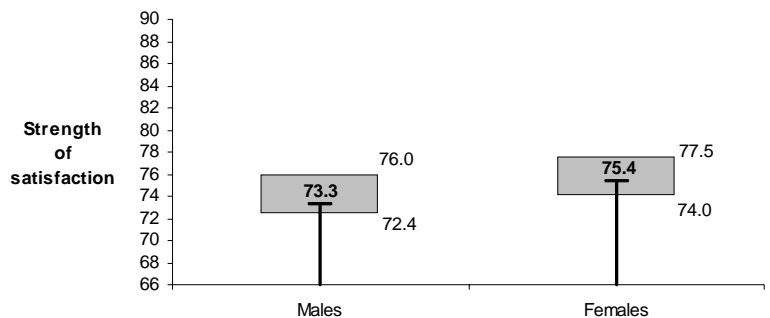


(b) Whether people are looking for work or not makes no significant difference to the low personal wellbeing of people who are unemployed.

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



7. Males and females engaged in full-time home or family care are equally positioned within their respective normative ranges. Thus, this non-traditional role is beneficial for the males involved.



9. Health and Body Mass Index

We asked: “How satisfied are you with your health?” [a domain of the PWI]

“Do you have a medical or psychological condition that makes you visit the doctor on a regular basis?”

If ‘Yes’: (a) From the following list, please indicate your major condition.

(b) How long have you had this condition?

‘On a scale from zero to 10, how much physical pain do you experience each day?’

“What is your approximate height and weight?”

9.1. Height, Weight and Body Mass Index

These figures are created on the combined survey data from Tables A9.1, 9.2 and 9.3.

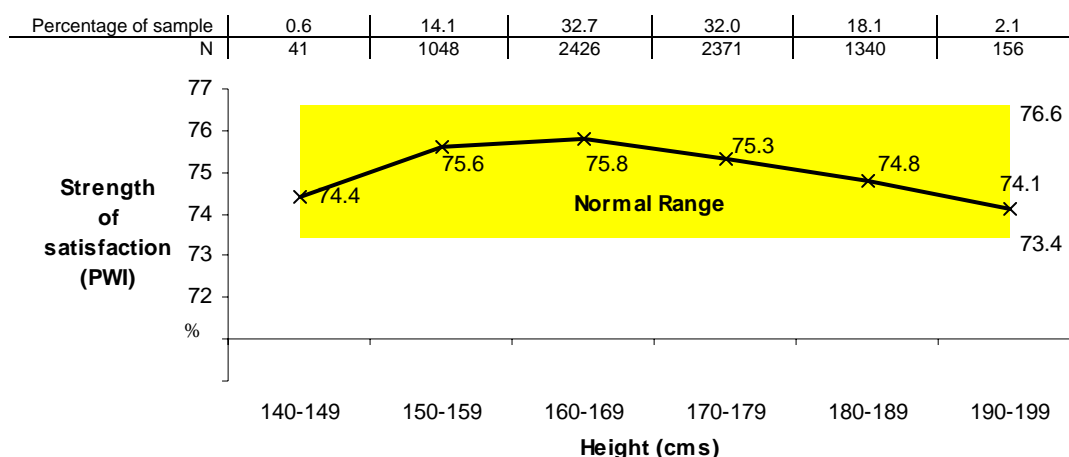


Figure 9.1: Height (Personal Wellbeing Index)

It is evident that personal wellbeing is not significantly influenced by height over the range 140-199 cms.

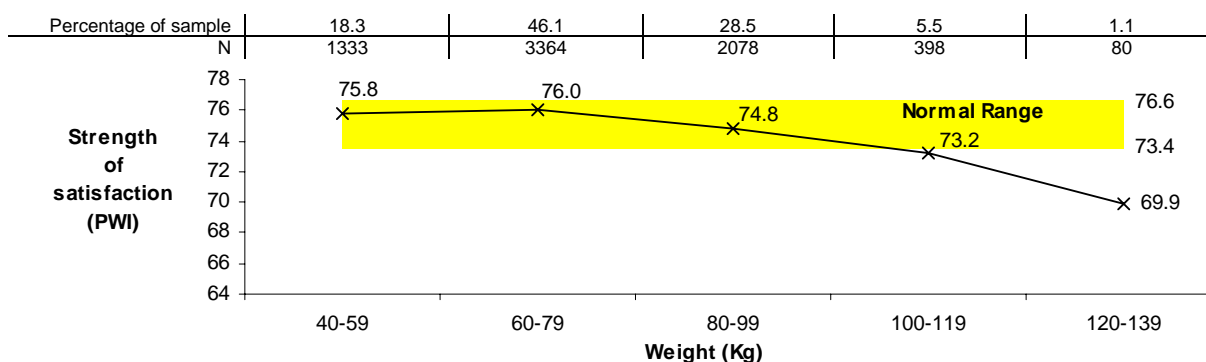


Figure 9.2: Weight (Personal Wellbeing Index)

These data are drawn from the combined surveys in Table A9.2.

It is evident that no significant decrease in wellbeing occurs up to a body weight of 100Kg. People with a body weight of 100-119Kg have a level of personal wellbeing (73.2) that falls at the bottom of

the normative range. There is then a sharp decrease in wellbeing (69.9) for people who weigh 120-139Kg.

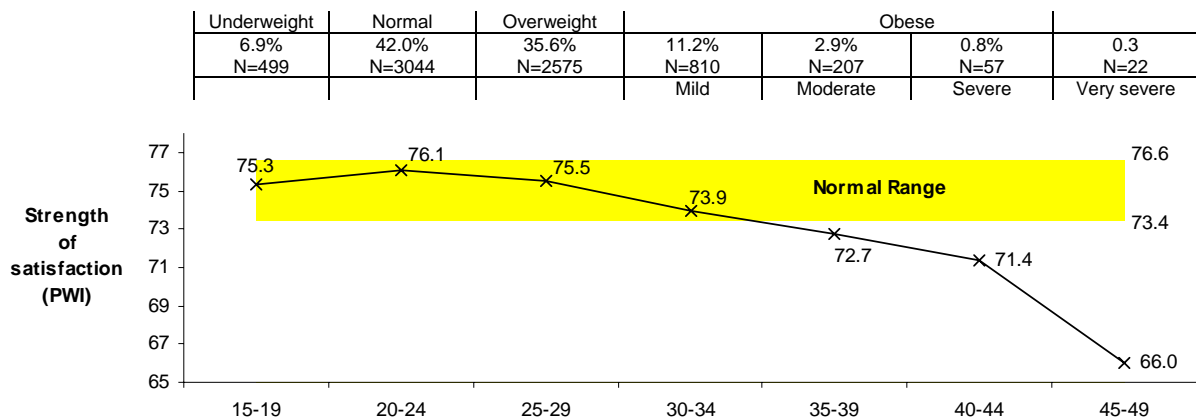


Figure 9.3: Body Mass Index (Personal Wellbeing Index)

Body Mass Index is calculated as the body weight in Kg divided by the square of the height in meters. It is evident that BMI is relatively insensitive in relation to personal wellbeing (Table A9.3). Even the lowest grade of pathology (mild obesity) does not take subjective wellbeing outside the normal range. However, this does occur with moderate and severe obesity.

There are several matters to note from these results as:

1. Our BMI intervals do not correspond precisely with the current WHO definitions of 18.5-24.9 (normal), 25-29.9 (overweight) and 30+ (obese). However, the critical upper value of 25 is in accordance with the official classification.
2. From Table A9.3 it can be seen that, of the 7,240 respondents to this item, 3,044 (42% of the sample) had a BMI of 20-24. It is evident that either this 20-24 range does not denote normality for the Australian population or our sample is highly biased towards a high BMI.
3. The literature on body weight is strident in its condemnation of obesity as a major public health issue. All manner of medical pathology appears to be visited upon people who are obese. As a consequence they are regarded as a public health menace and, more broadly, subjected to discrimination and personal condemnation for their condition. These circumstances are ideal for engendering scientific reports that tend to confirm what is known; obesity is bad for you, in almost every imaginable way.

This view is reflected in a recent Government report from the Australian Institute of Health and Welfare (O'Brien & Webbie, 2004). This analysis is based on a 2001 survey of 26,900 people by the Australian Bureau of Statistics (ABS).

This survey measured SWB through the item "How do you feel about your life as a whole, taking into account what has happened in the last year, and what you expect to happen in the future?"

This is a rather odd variation on the original version developed by Andrews and Withey (1976). In its original form there was a general form of introduction to the set of questions concerning satisfaction with life that read "Please tell me the feelings you have now – taking into account what has happened in the last year and what you can expect in the near future" (p. 19). The actual item then became "How do you feel about your life as a whole?" (p. 66). The ABS items has added confusion by failing to indicate the intention to measure 'the feelings you have now' and emphasizing the past and the future. The effects of these changes on the performance of the item is not known.

On the basis of data from this question, the authors ‘highlight’ their finding that “obese women were less likely to report being delighted or pleased with their life” (p. 1). They do not highlight their other finding that “There was little variation in self-reported quality of life among men” (p. 4), and they misrepresent these data in their discussion as “Both men and women who are obese reported ---- lower quality of life than people of healthy weight” (p. 12).

The biased nature of their reporting is further exemplified in their conclusion that “The analyses presented here found that overweight and particularly obesity were related to a number of other adverse healthy conditions and behaviours, such as fair or poor self-reported health, diabetes, heart and circulatory conditions, and low participation in leisure-time physical activity” (p. 14). In relation to this it is important to note:

- (a) People tend to grow fatter as they get older. Older age is also associated with an increased incidence of disability and disease. This co-variation, if uncorrected, leads to the impression of obesity per se leading to poorer health. Thus, a crucial and fundamental procedure in such research is to use age as a co-variate. The authors failed to do this.
- (b) The authors also found that people who were obese were less likely to smoke. However they fail to address the relative health risk of smoking vs. body weight.
- (c) The authors fail to acknowledge the presence of an increasing body of contemporary evidence that obesity is not, of itself, a health risk (see Gibbs, 2005 for a review).

In short, we question the validity of the conclusions reached by O’Brien and Webbie. Not only is their report methodologically flawed but their conclusions are based on a non-validated, non-normed instrument. Our findings, using the validated and reliable Personal Wellbeing Index, show that people with mild obesity can maintain normal levels of personal wellbeing. This result is also consistent with expectations based on Homeostasis Theory, such that people adapt to slow changes in their body weight.

9.2. Gender x Height, Weight, and BMI

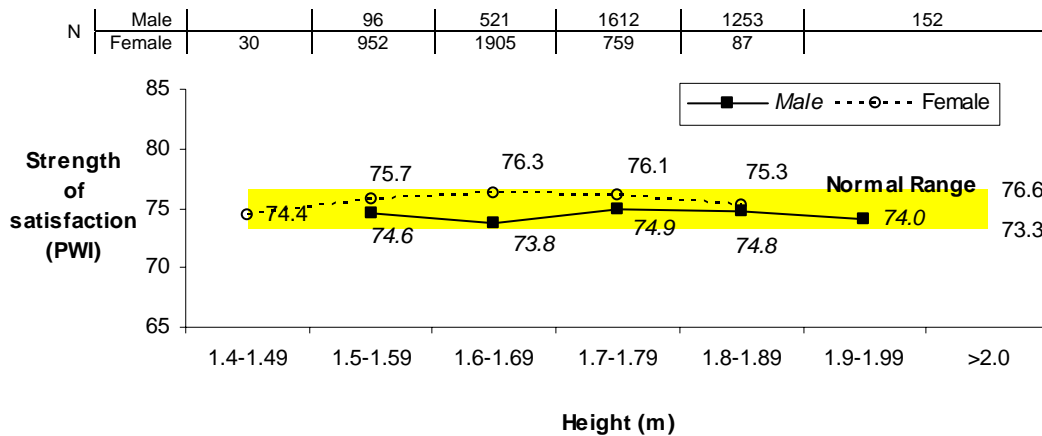


Figure 9.4: Height x Personal Wellbeing Index

Over the range 1.4 to 2.0 meters there appears to be little systematic change in the personal wellbeing of either males or females (Table A9.4).

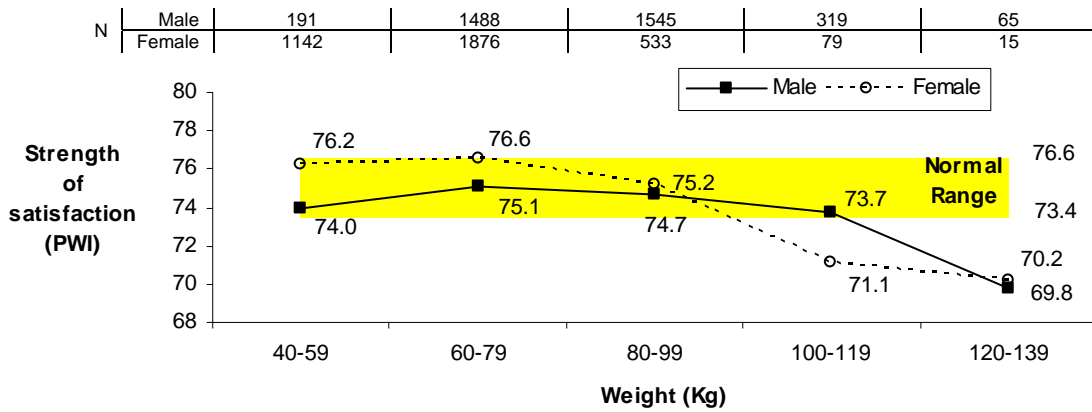


Figure 9.5: Weight x **Personal Wellbeing Index**

The personal wellbeing of males and females remains unchanged over the range 40-99 Kg (Table A9.5). For males, personal wellbeing does not drop below the normative range until 120-159 Kg. For females the fall occurs at 110-119 Kg.

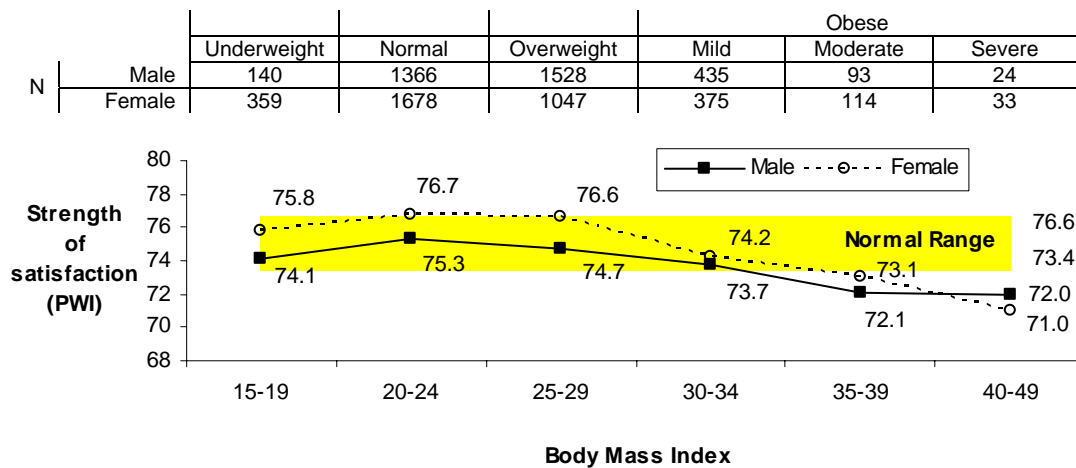


Figure 9.6: Body Mass Index x Gender: **Personal Wellbeing Index**

For both genders, personal wellbeing remains within the normal range between the BMI categories of underweight and mild obesity (Table A9.6). At a BMI signifying moderate obesity, the wellbeing of both groups falls below the normal range.

9.3. Income

These data are taken from Table A9.7. The Figure 2.7 below shows the % of people in each height category who have a household income <\$15,000 or >\$150,000. For example, of all the people with a household income <\$15,000, 19.9% have a height of 150-159 cms.

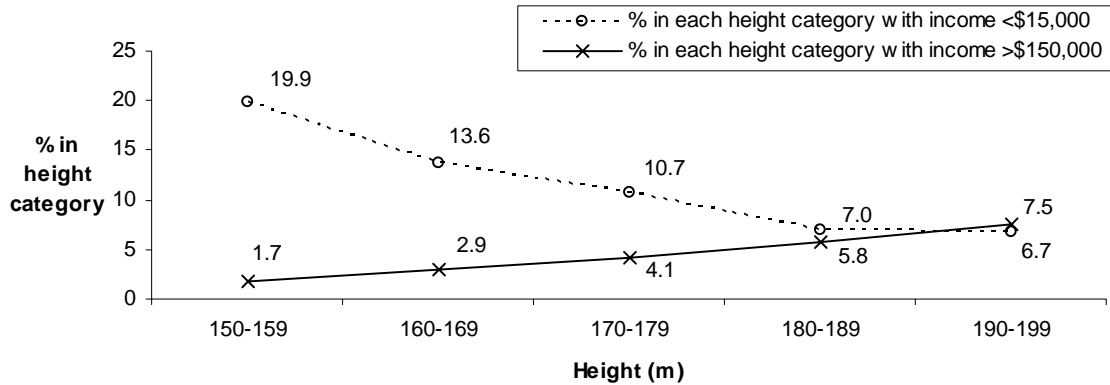


Figure 9.7: Height x Income (% in height category)

This figure shows a preponderance of low household income among people who are short, and the reverse for people who are tall. This may be caused by gender. More women will be found in the 150-159 cm group, and women on average live in lower income households (see final table in the chapter on income). It may also be an age effect since older people tend to be shorter and on lower incomes.

Figure 9.8 shows the interactive effect of household income extremes x height.

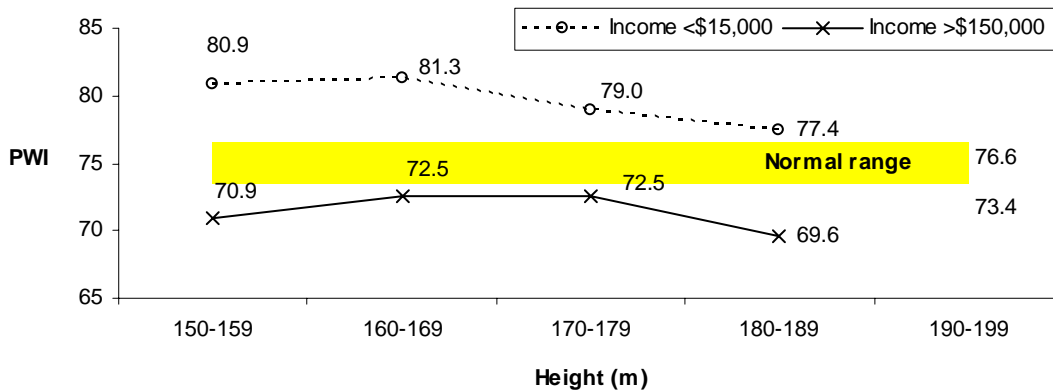


Figure 9.8: Height x Income (Personal Wellbeing Index)

It is event that, within this limited range of Height, subjective wellbeing is far more under the influence of income than height.

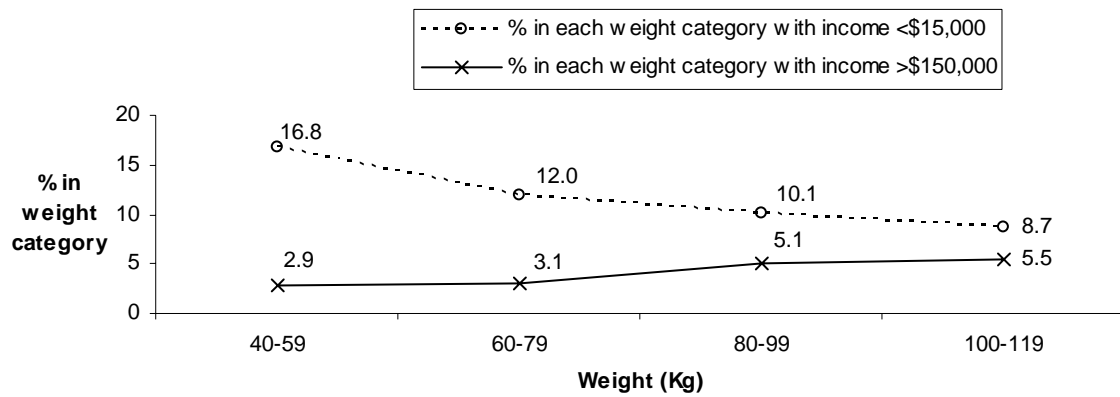


Figure 9.9: Income x Weight (% of income in weight category)

It appears that weight is inversely related to income (Table A9.8). This may be due to the preponderance of elderly women on single pensions in the lightest group.

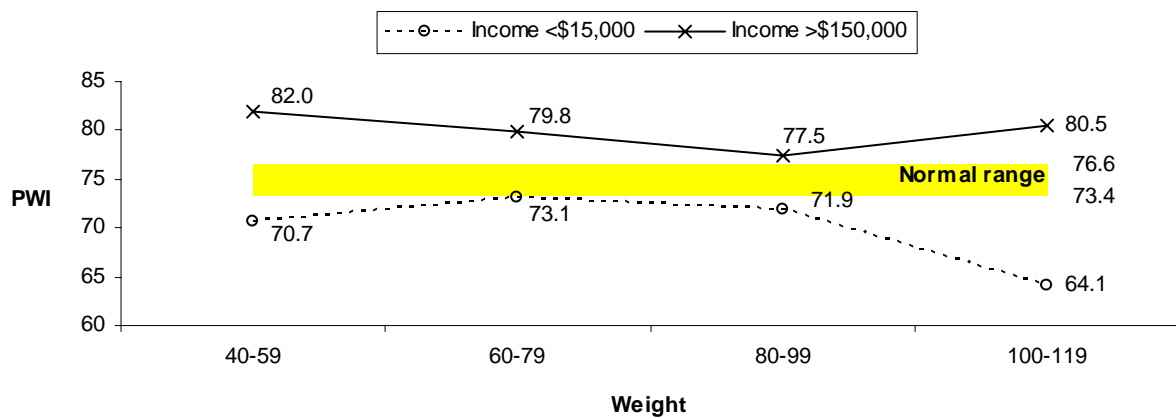


Figure 9.10: Weight x Income (Personal Wellbeing Index)

It is evident that income is a more powerful determinant of personal wellbeing than is body weight. This is most particularly evident in the highest body weight category listed here, where high income protects against damage to Personal Wellbeing. In the category of 100-119 Kg the difference between the two income categories is 16.4 percentage points.

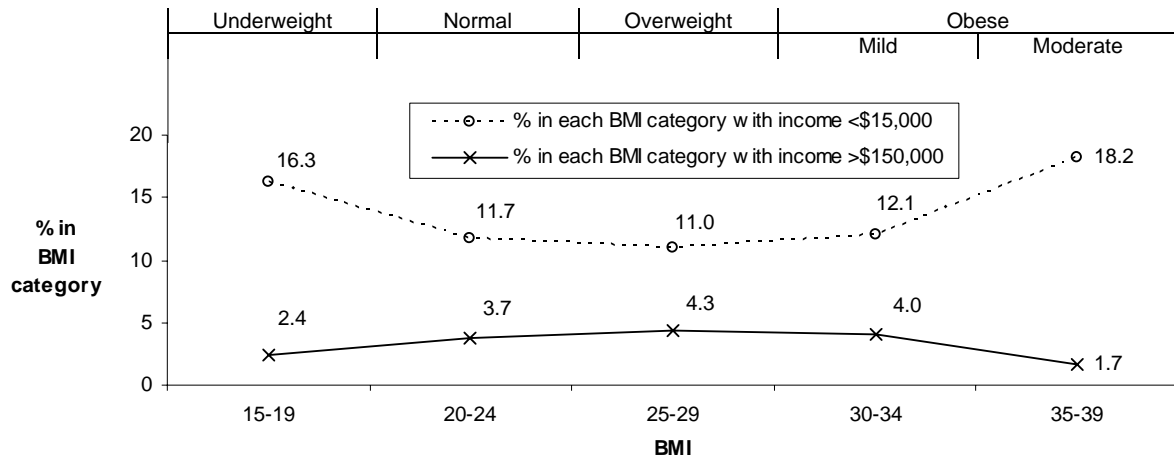


Figure 9.11: Income x Body Mass Index (% of income in BMI category)

The data from Table A9.9 indicate a fairly even distribution of people with high household incomes across the BMI categories. This is not true for people on the lowest income. Here the proportion of people are over-represented in the lowest (15-19) and highest (35-39) categories. The former may be due to elderly females on pensions. However, the higher category may reflect a negative influence of body weight on income generation.

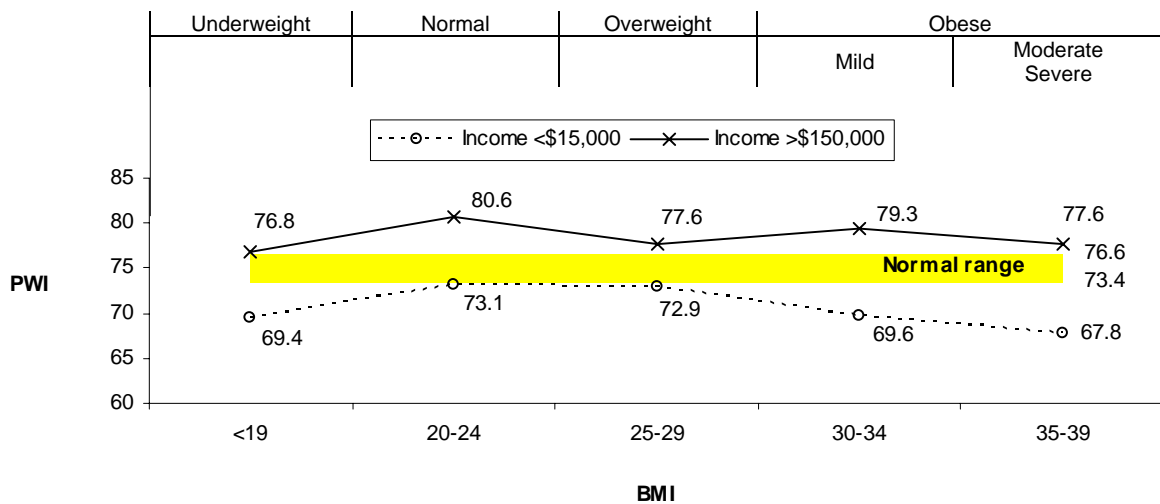


Figure 9.12: Body Mass Index x Income (Personal Wellbeing Index)

Again, income is a far stronger determinant of Personal Wellbeing Index than is BMI. This is particularly evident with BMI's that are lower or higher than normal. This attests to the buffering capacity of wealth.

Figure 9.13 below shows the age distribution within each BMI group. For example, 24.0% of people underweight people (BMI <19 : Table A9.12) are aged 18-25y.

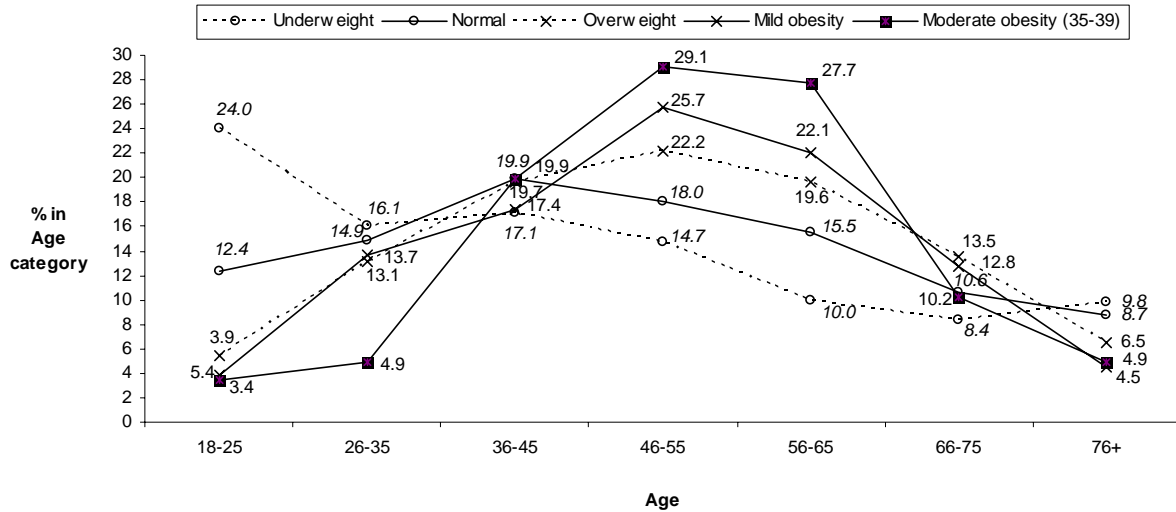


Figure 9.13: Body Mass Index x Age (% BMI category in age group)

This Figure represents the proportion of people in each Body Mass Index category in each age group (Table A9.12). For example, of all the people who are underweight, 24.0% are aged 18-25 years.

Several trends are evident in these data as follows:

1. People who are underweight (BMI <19) are over-represented in the youngest group (18-25y). This is almost certainly due to determined restricted eating reducing body weight below its natural level.
2. Within the overweight group, relatively few people are young (5.4% 18-25y) or old (6.5% 76+y). The majority of this weight group are middle age (46-65y). These changing proportion likely reflect dieting in the youngest group and higher mortality beyond 65 years of age. This same trend is even more evident in the mild (BMI 30-34) and moderate (BMI 35-39) obesity categories.

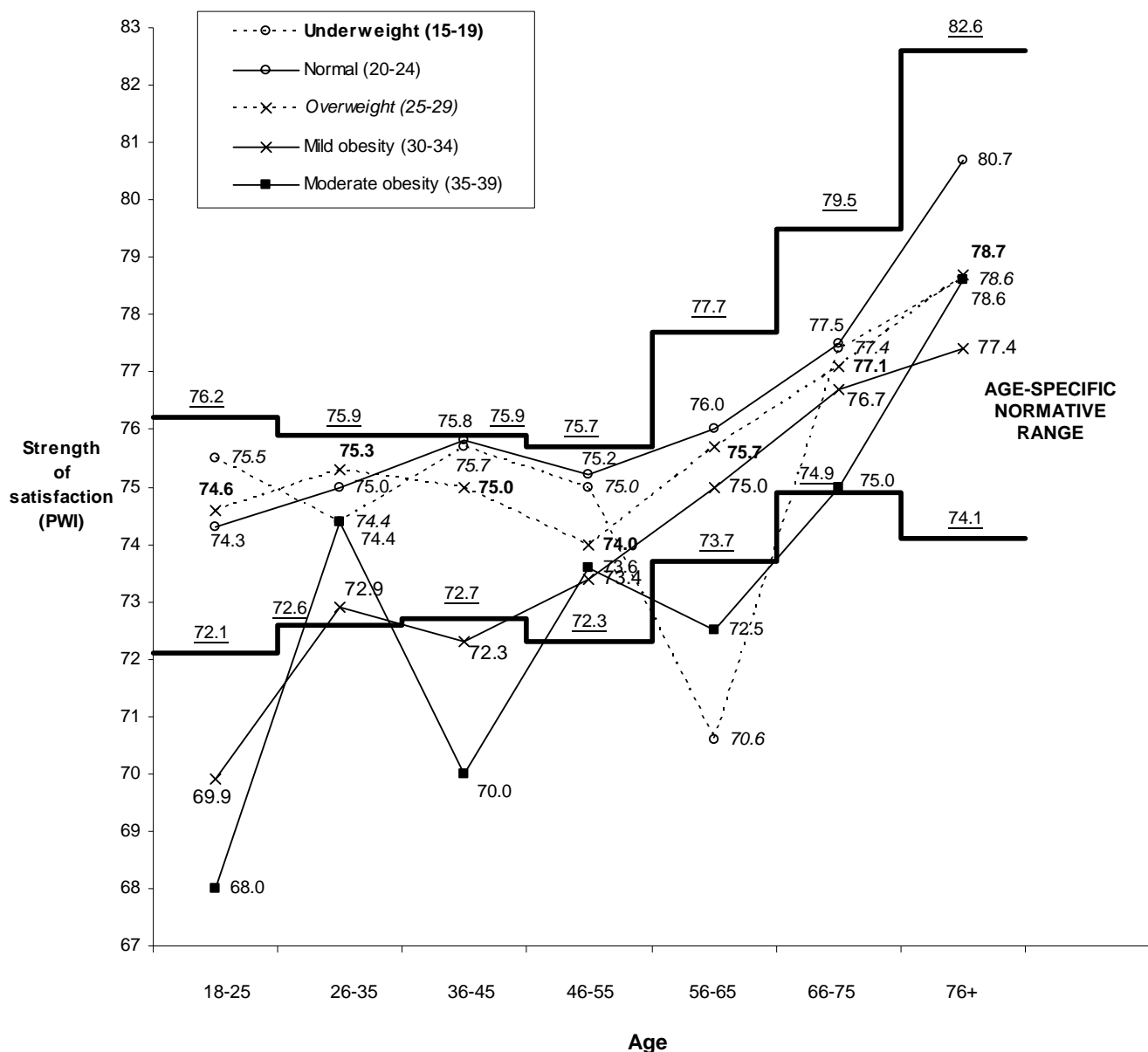


Figure 9.14: Body Mass Index x Age (Personal Wellbeing Index)

The following observations can be made:

1. Personal wellbeing generally lies within the age-specific normative range. Thus, there is no systematic evidence to suggest that usually thin or usually fat people have a level of personal wellbeing that lies outside the normal range for all age groups.
2. For the underweight group, the most unexpected result is at 56-65 years, where the Personal Wellbeing Index suddenly drops below the normative range. This result is based on N=49. It is therefore likely to be reliable. This group is also marked by a sudden increase in variance and a 0.9% fall in the proportion of the age group (5.2% at 46-55y to 4.3% at 56-65y) who have this BMI. This is relevant since, among all other BMI groups, the proportion changes by 0.4% or less from 46-55y to 56-65y.

All this is consistent with higher than normal occurrence of illness in this underweight group at 56-65y, of such severity that their personal wellbeing is compromised. However, for the people who survive this age, wellbeing returns to lie within the normal range at older ages.

3. A similar pattern appears for moderate obesity at 56-65y (N=57) and a similar explanation to the one above may be offered. Thus, people who are either underweight or moderately obese are more likely than normal to experience medical illness at 56-65 years of such severity as to defeat wellbeing homeostasis. However, if they survive to 66 years or over, their Personal Wellbeing Index falls within the normal range.
4. Both mild and moderate obesity appear to impair wellbeing at 18-25 years. This may be linked to the psycho-social stigma of obesity at this age.

9.4. Relationship Status

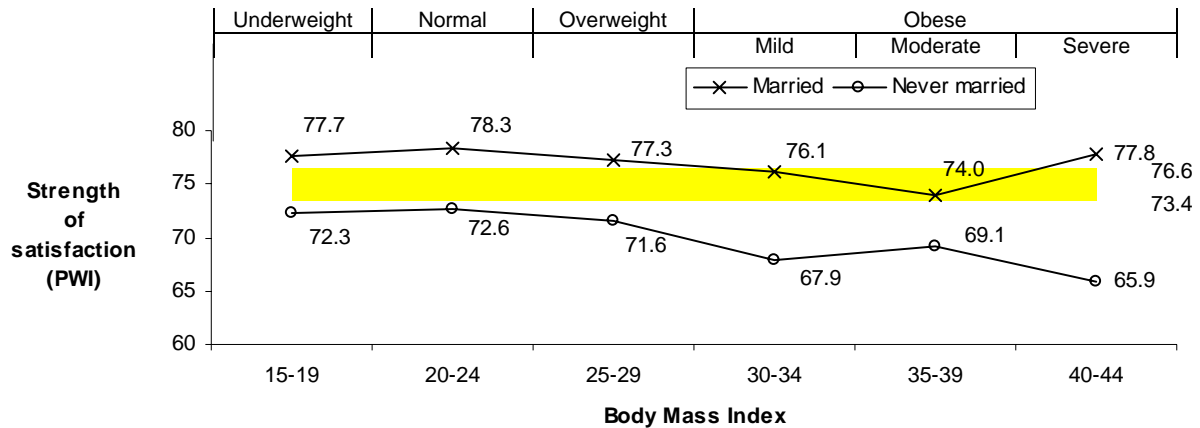


Figure 9.15: Relationship Status (Married vs. Never Married) x BMI (PWI)

The Personal Wellbeing Index of people who are married changes little with BMI (Table A9.15) and at no BMI does it drop below the normal range. This is not true for people who have never married. Those who are underweight or normal have a Personal Wellbeing Index that lies only just below the normal range. However, for people in the higher BMI categories personal wellbeing shows a marked deterioration. People who have never married show much greater sensitivity, with a 5.6 point drop over the BMI range to mild obesity. This is another example of the buffering effects of relationships on personal wellbeing.

9.5. Physical Pain

Following the item that asked the respondent to list and describe their medical conditions, they were asked ‘How much physical pain do you experience each day?’ Rated from 0-10. These data have been converted to a 0-100 range.

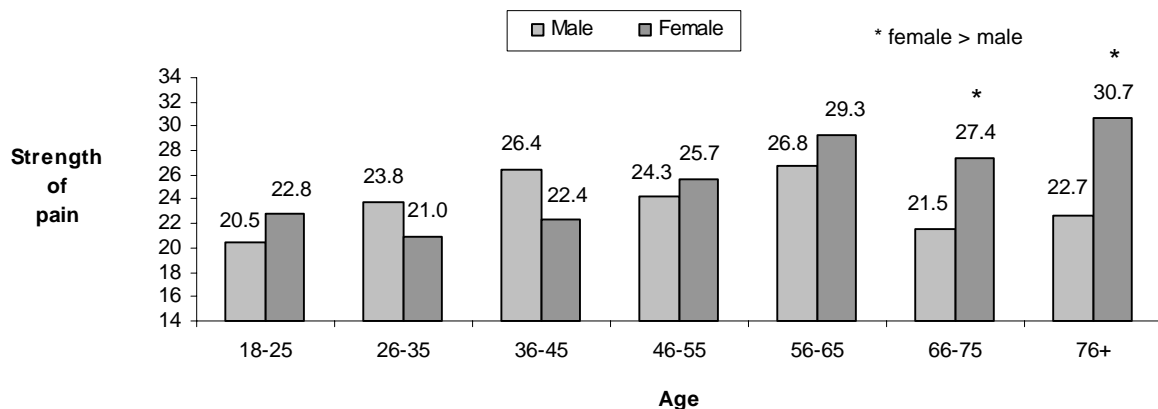


Figure 9.16: Physical Pain x Gender

These data are drawn from Table A9.17 which combines the results of three surveys. The minimum cell size is N=133. Overall, females report more severe pain than males ($p = .05$), the strength of pain increases with age ($p = .007$), but there is also a strong interaction between gender and age ($p = .00$). In fact, the strength of reported pain does not change with age for males but shows a marked increase for females ($p = .000$) with a sharp and significant increase after 56 years. This rise roughly coincides with menopause.

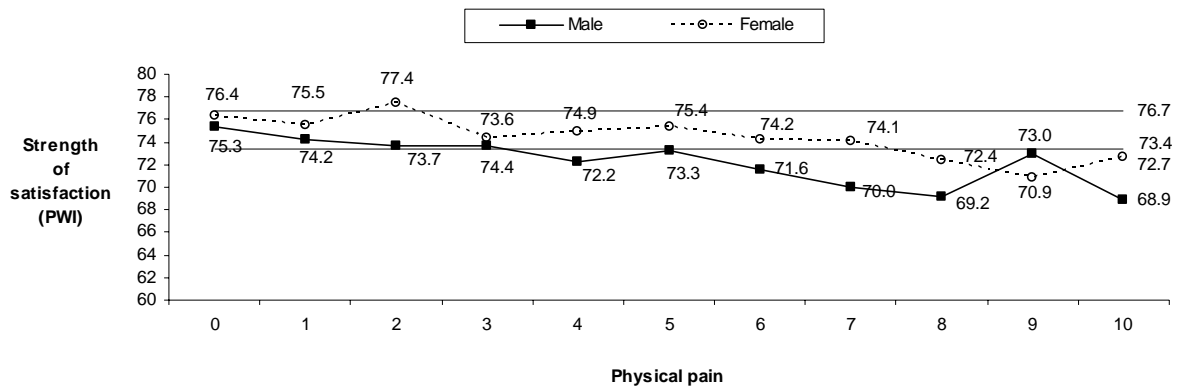


Figure 9.17: Physical Pain x Gender x Personal Wellbeing Index

Both males and females show decreasing Personal Wellbeing Index with increasing strength of pain. However, the genders respond differently in that the pain strength necessary to reliably reduce Personal Wellbeing Index below its normal range is 40 for males and 80 for females. Thus, the subjective wellbeing of males is more sensitive to pain than it is for females.

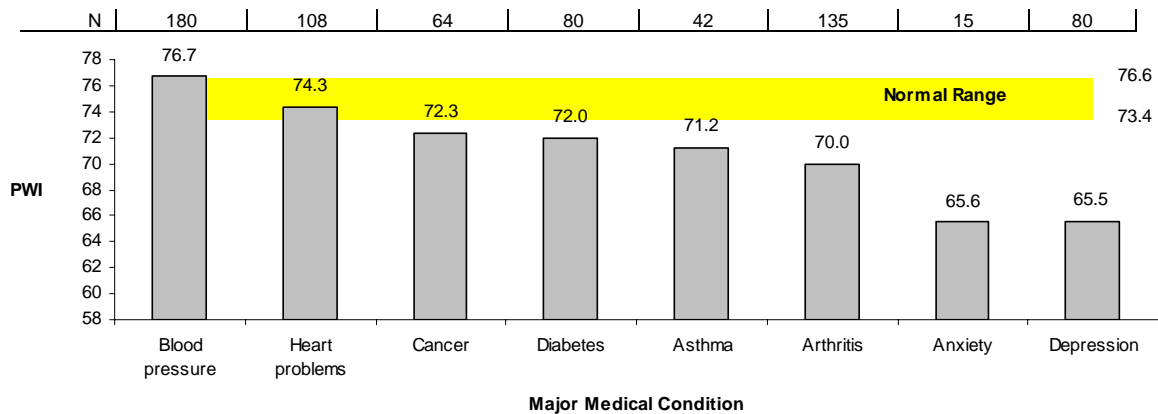


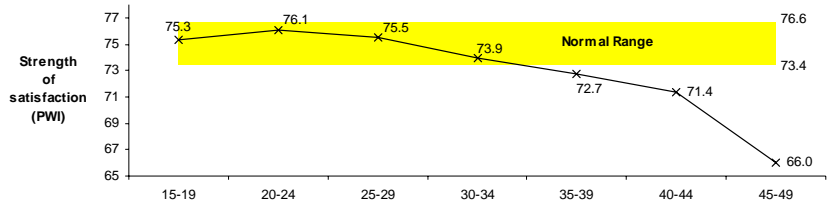
Figure 9.18: Major Medical Condition x Personal Wellbeing Index

It is evident that medical conditions which involve heart or blood pressure problems have no discernable impact on subjective wellbeing (Table A9.23). However, conditions that likely involve stress or pain reduce SWB below the normal range. As expected, major problems of anxiety or depression take SWB to very low levels.

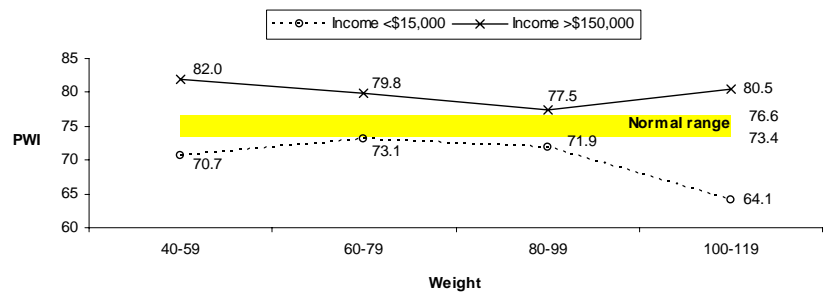
Dot Points Summary for Health

1. The personal wellbeing of people with mild levels of obesity generally lies within the normal range. Moderate obesity causes wellbeing to fall below the normal range.

Underweight	Normal	Overweight	Obese			
6.9% N=499	42.0% N=3044	35.6% N=2575	11.2% N=810	2.9% N=207	0.8% N=57	0.3% N=22
			Mild	Moderate	Severe	Very severe

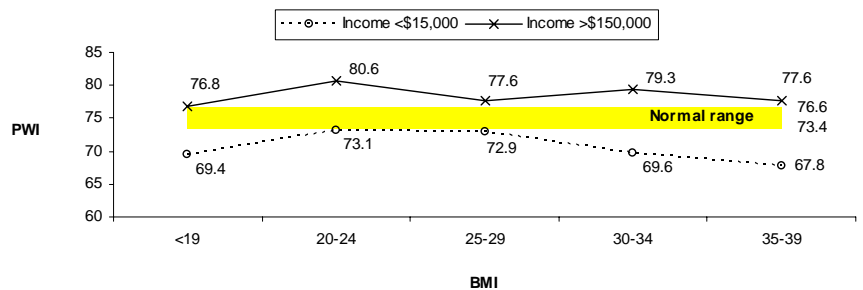


2. Income is a stronger influence on personal wellbeing than body weight.

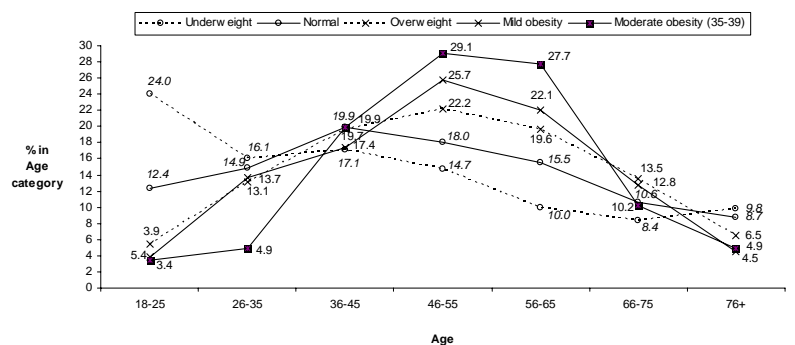


3. High income can buffer the negative effects of high body weight on personal wellbeing.

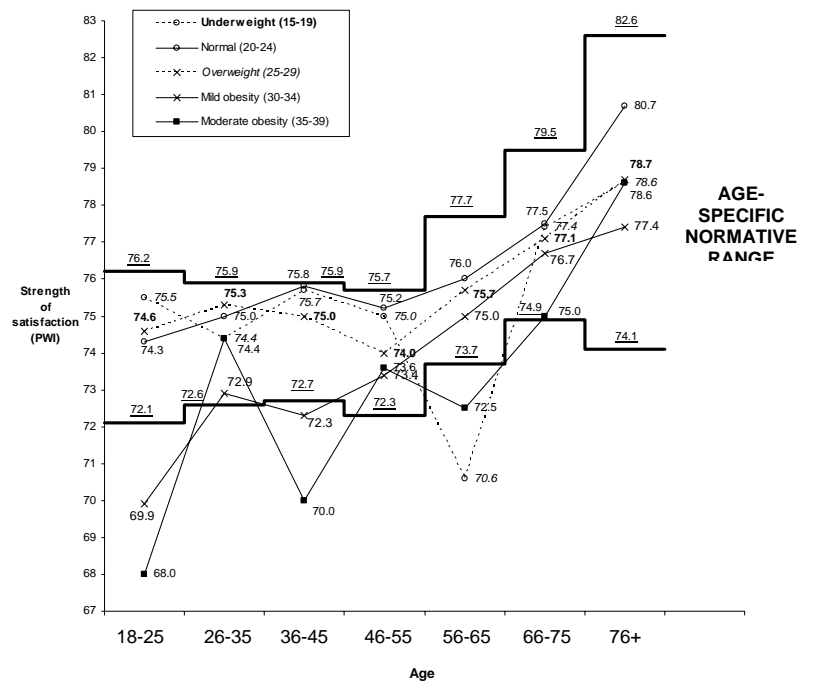
Underweight	Normal	Overweight	Obese	
			Mild	Moderate Severe



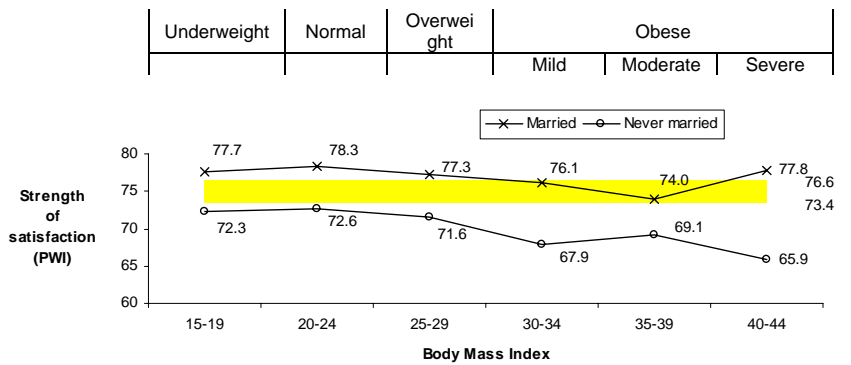
4. Up to age 56-65, the proportion of each age group that is overweight increases, while the proportion who are underweight or normal weight decreases. This trend reverses after 66-75y years probably due to differential mortality.



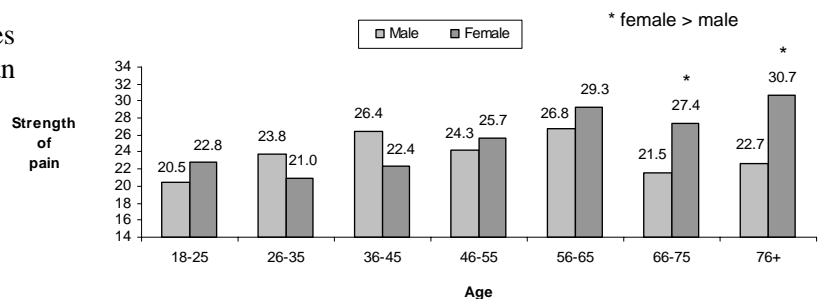
5. Body weight has no reliable effect on personal wellbeing beyond 66 years of age. At 18-25 years, overweight is associated with lower wellbeing (psycho-social stigma) and at 56-65y underweight is associated with lower wellbeing (medical illness).



6. Marriage buffers the negative effects of obesity on personal wellbeing. Mild obesity is associated with a non-significant drop of 2.2 points from people with normal weight. For people who have never married the 4.7 point drop is highly significant.



7. After the age of 66 years, females report more intense physical pain than do males.



10. Life Events

10.1. Occurrence of Personal 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 A10.1). The proportion, of people reporting a personal life event has peaked twice (

Figure 10.1). The proportion at S6 (pre-Iraq war) (54.6%) is almost the same as that immediately following September 11 (55.0%). This allows a hypothesis that these two major events have increased people’s sensitivity to the events in their lives. One test for this is to use the percentage values from all the surveys as data to create a mean (49.8) and standard deviation (3.9) (Table A10.1a).

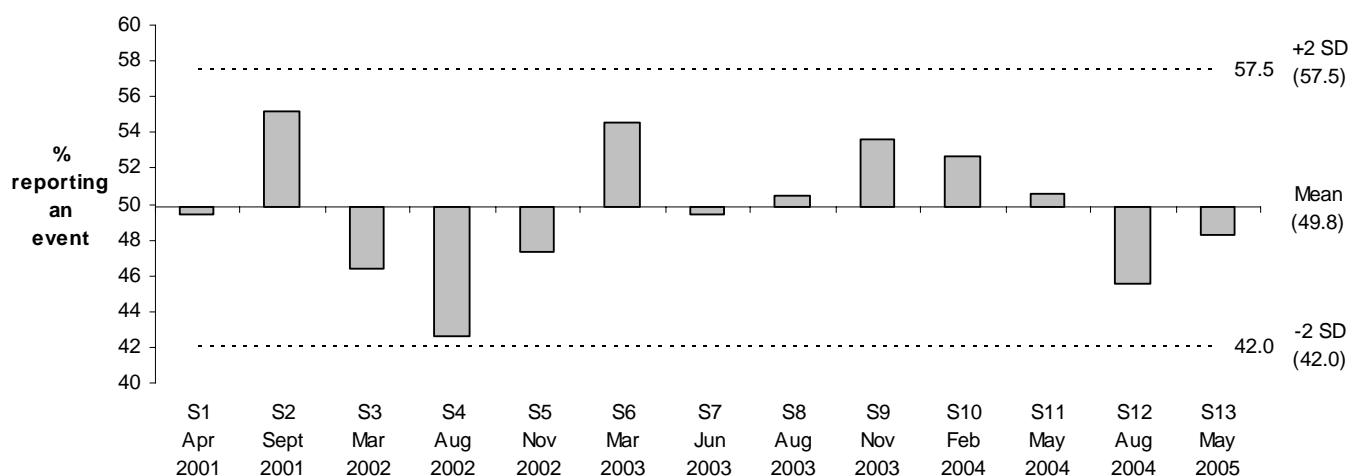


Figure 10.1: **Percentage of Respondents** Reporting the Experience of a Personal Life Event

There is a 12.6% range between the surveys in the percentage of people reporting a personal life event. Three percentages stand out (Figure 10.1). The low proportion of 42.6% at Survey 4 is significantly different from the normative mean, even when this value is included in the mean score calculation (Table A10.1a). It is as though this value is a reaction to the elevated (but non-significant) elevation in the reporting of such events immediately following September 11. But there is no way to confirm this hypothesis from the available data. Moreover, there is no equivalent counter-reaction following the rise at Survey 6 (Pre-Iraq war).

The two highest values correspond to the period immediately following September 11 (S2) and immediately preceding the Iraq war (S6). Thus, it may be that increased anxiety associated these three events also increased people’s sensitivity to events in their own lives.

The breakdown into happy and sad events is presented below:

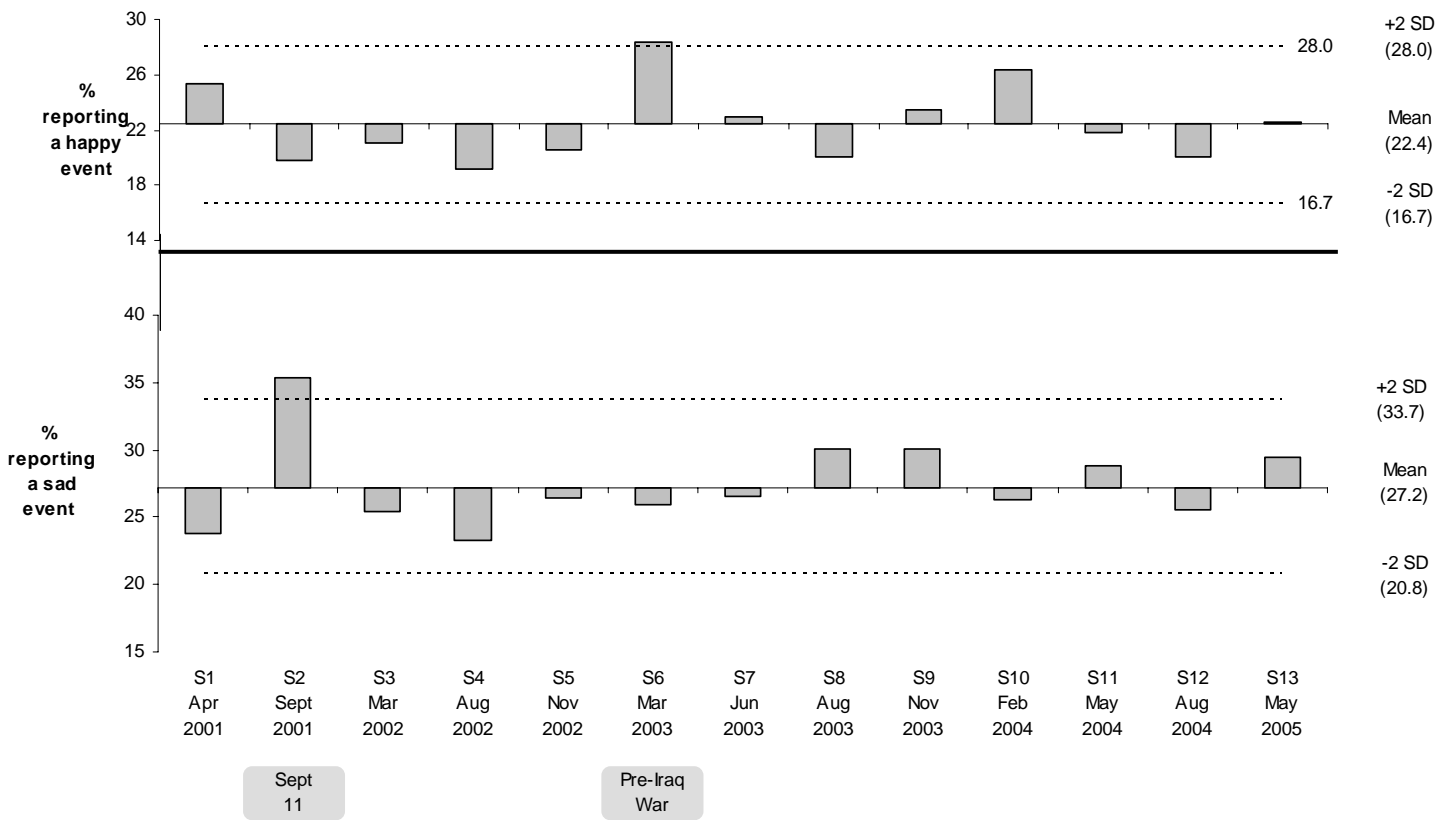


Figure 10.2: **The Percentage of People** Reporting a Happy or a Sad Event in Their Life

The construction of Figure 10.2 follows the same procedure as

Figure 10.1. The mean happy event percentages from each survey, and the mean sad event percentages from each survey (Table A10.2), produce a mean, SD and 2 x SD range (Table A10.2a).

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 in Table A10.2 is -0.248 , which is non-significant.

The most unusual occasion of people reporting a happy event coincided with the period immediately prior to the Iraq war (S6). 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. The outstanding percentage of people reporting a sad event in their lives occurred immediately following September 11 (S2). Both of these values lie significantly beyond the range of their respective survey means.

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.

Summary interpretation

Immediately following September 11, more people than normal reported the occurrence of a sad event in their personal lives. The incidence of such people returned to normal within six months after the event.

The percentage of people reporting a happy event in their personal lives did not change significantly after September 11 or after the Olympic games, but achieved a significant rise in the period immediately prior to the Iraq war (S6). At this time, the incidence of people reporting a sad event in their lives showed no change from normal.

10.1.1. 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 (Table A10.3 : Figure 10.3). Using the gender percentages from each survey as data, the overall gender difference is significant ($t=4.509$, $p=.002$) (Table A10.3a).

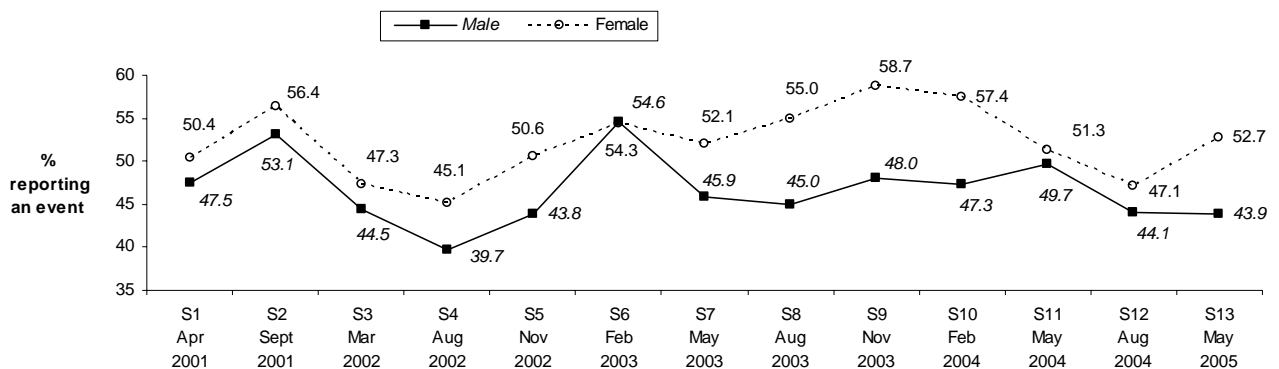


Figure 10.3: Event x Gender (event % of a total of gender in each survey)

- The maximum gender difference of about 10% was sustained over the nine-month period following the Iraq war (S8-S10). Taking as a reference the maximum gender difference of 10.7% at Survey 9, this was caused by a more substantial rise in the proportion of females experiencing a personal event (6.1% above average for females) than for males (0.8% above average for males).
- 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).
- The extent of variation within both genders is about the same (Male : 14.9%; Female : 13.6%). Moreover, both genders experienced their lowest incidence of life events at Survey 4 (12 months following September 11). However, the timing of their highest incidence of life events differed. For males this occurred at Survey 6 (Pre-Iraq war) whereas for females it occurred at Survey 9 (six months following the Iraq war).

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 A10.3). Females, however, are more likely to report a sad event in their lives ($t(10) = 3.52$; $p=.006$).

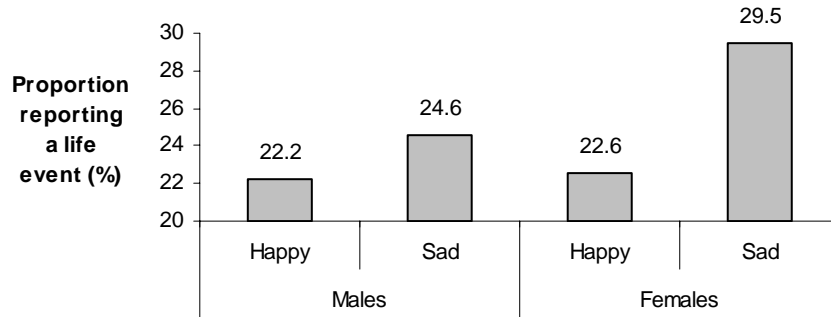


Figure 10.4: Gender Differences: **Proportion Reporting Happy or Sad Events**

In order to further investigate these gender differences across surveys, Figure 10.5 has been prepared from data in Table A10.3.

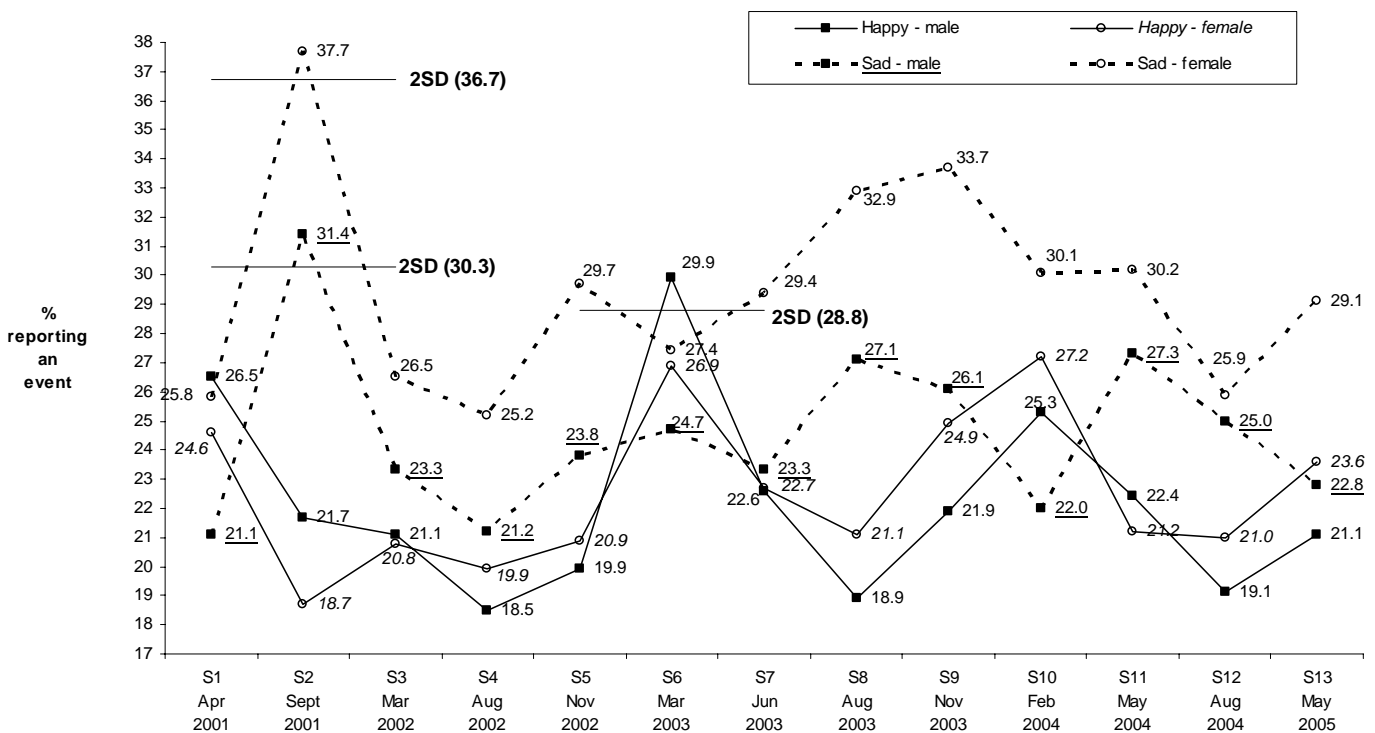


Figure 10.5: Event x Gender x Survey (% of a total of gender in each survey)

It is apparent that there is considerable normal variation in the percentages shown in Figure 10.5. This may reflect the relative small numbers in some cells (minimum N=175). However, the mean value for each of the four groups is shown in Table A10.3a, and the normal range (mean +/- 2 standard deviations) has been calculated for each group. From the figure it can be seen that these within-group normative ranges have been significantly breached on three occasions and all these have occurred at the top of their respective ranges. They are as follows:

1. Immediately following September 11, 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.

This can be diagrammatically represented as follows:

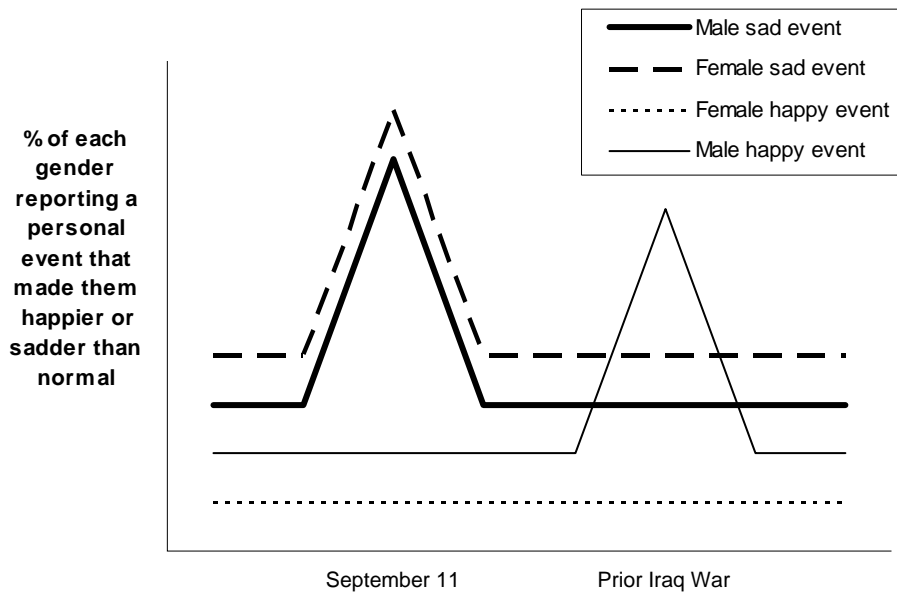


Figure 10.6: Diagrammatic Representation of Changes in the Incidence of Personal Events & Gender

10.2. Relationship Between Life Events and the Personal Wellbeing Index

Table A10.4 and A10.5 show the relationship between event strength and the Personal Wellbeing Index for each income group. It can be seen from the combined data that consistently, through each income group, the strength of happy, but not sad events, correlates positively with the Personal Wellbeing Index with coefficients ranging from .15 to .32 ($p < .01$). 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 10.8).
- (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 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 Index because such perceptions have been negated.
- (d) There is a trend of increasingly strong association (Table A10.5) between positive events and Personal Wellbeing Index with income as shown below:



Figure 10.7: Relationship Between Strength of Positive Event and Personal Wellbeing Index Between Income Groups

This is interesting since no systematic change in happy event intensity is present between the income groups (Table A10.11).

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

Table 10.1: 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
Standard	5
Health	2
Achievement	6
Relationships	6
Safety	1
Community	5
Future Security	6
Total	31

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. It seems that 'Satisfaction with Safety' has a generally weak association with subjective wellbeing in the Australian population.

10.3. Life Event Frequency x Age

Table A10.6 lists, and then summarises, the effects of age on life events. These data are summarised in Figure 10.8. 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 these two event types 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.

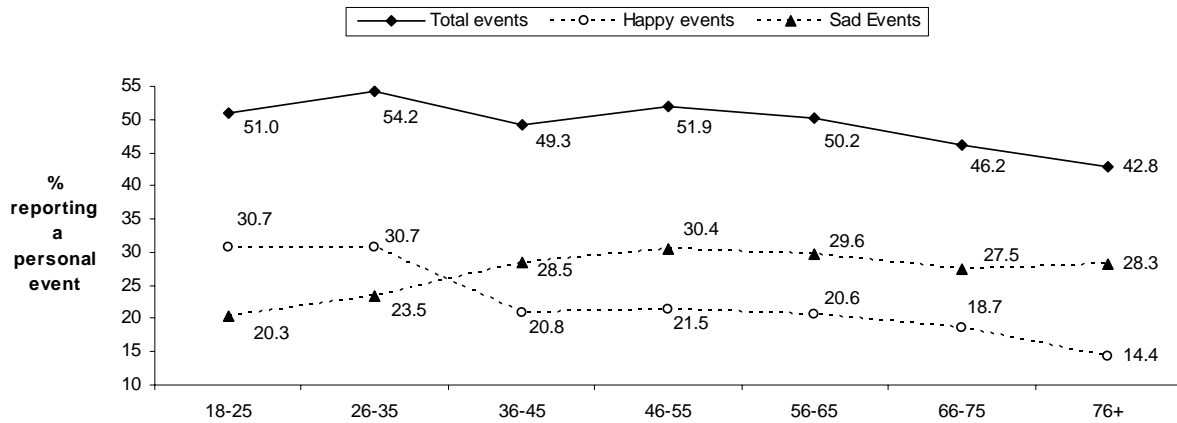


Figure 10.8: Age: **Life Event Frequency** (combined surveys)

These data patterns are highly consistent between surveys (Table A10.5). 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.

10.3.1. Income and Life Event Frequency



Figure 10.9: Income: **Life Event Frequency** (combined surveys)

The data for Figure 10.9 are drawn from Table A10.6. 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 \$60,000-\$90,000.

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.

10.4. Perceived Intensity of Life Events

People who have experienced a life event are asked, “how strong would you rate this influence?” The strength across the surveys is as follows (Table A10.8):

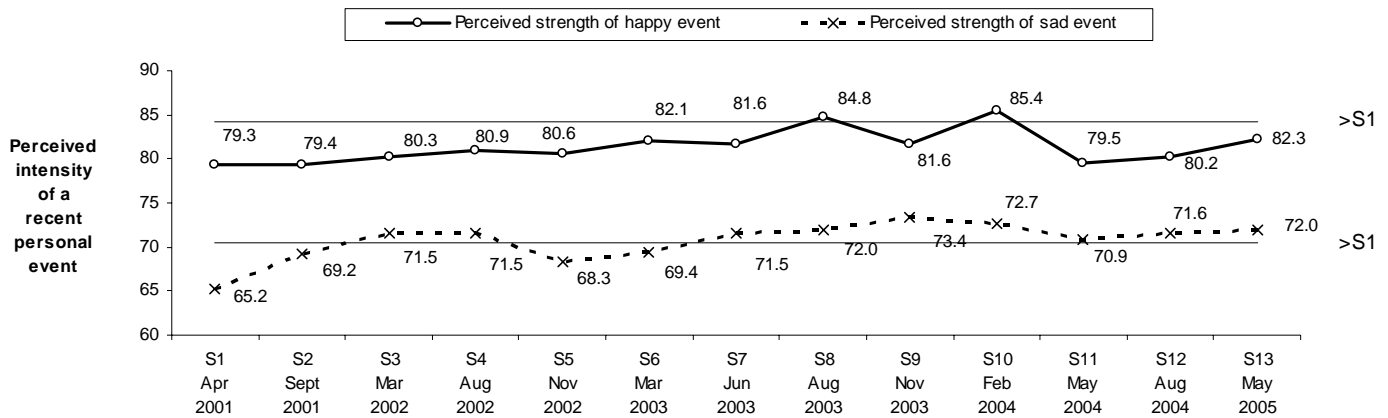


Figure 10.10: Intensity of Recent Personal Events

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). However, it has now returned to be no different from the intensity at Survey 1. These trends apply to both genders (Tables A10.9, A10.10).

The intensity of sad events also shows an upward trend which peaked at Survey 9 (six months following the Iraq war). The current level remains marginally higher, but this only applies to females (Table A10.10). The intensity of sad events for males has returned to be no different from Survey 1 (Table A10.9).

The correlation between the perceived intensity of happy and sad events with the Personal Wellbeing Index is significant and positive for both (Happy = .66, $p < .05$; sad = .82, $p < .01$; $df = 8$). This shows a systematic link between personal wellbeing and the perceived intensity of life events, with higher SWB causing people to record higher intensities. [It does not make sense that increased sensitivity would increase SWB because the relationship extends equally to both happy and sad events, and the correlation between SWB and Happy-Sad intensity is not significant : $r = -.33$]

10.4.1. Household Income and Life Event Intensity

No income group differences in intensity have been found (Table A10.11) either for happy events or sad events.

10.4.2. Gender and Life Event Intensity

The gender difference for the intensity of both happy and sad events is significant (Female > Male) (Table A10.12). This is a consistent finding across surveys.

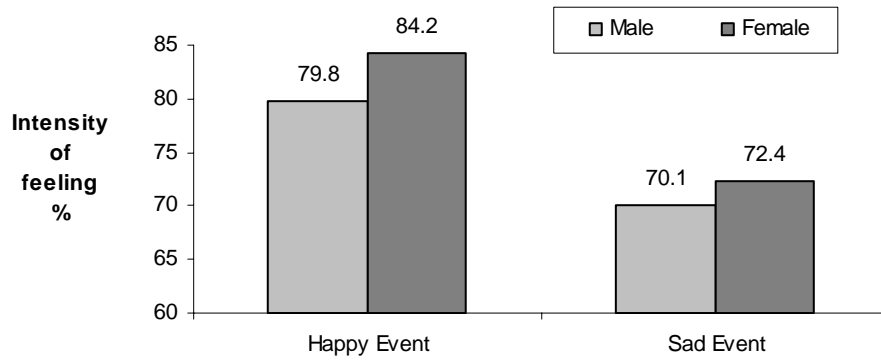


Figure 10.11: **Intensity of Happiness/Sadness to a Personal Life Event**

This familiar pattern of increased emotional responsiveness in females occurs for both happy and sad events (Table A10.12). 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 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.

10.4.3. *Age and Life Event Intensity*

In order to examine closely the relationship between age and the experience of life event intensity, Table A10.13 shows the combined data from Surveys 1-9.

For both happy and sad event intensity there is no age effect and no Age x Survey interaction.

10.5. Tsunami Experience

Table A10.14 indicates that 78.5% of the sample considered that they had contributed to the Tsunami Relief effort in some way. This is an extraordinary example of good-will on the part of the Australian population.

This Table also shows that people who fail to make such contributions have lower levels of wellbeing. Thus, people who feel good about themselves are more likely to act in positive ways to distressed people who they do not personally know.

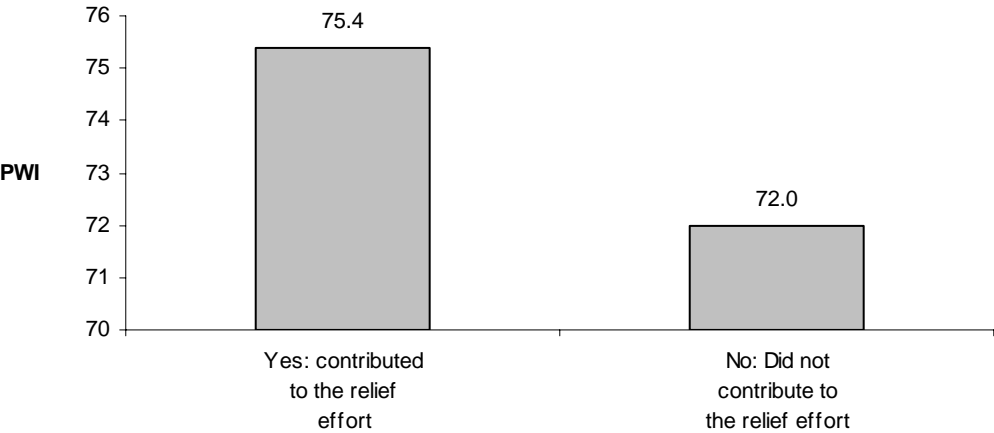
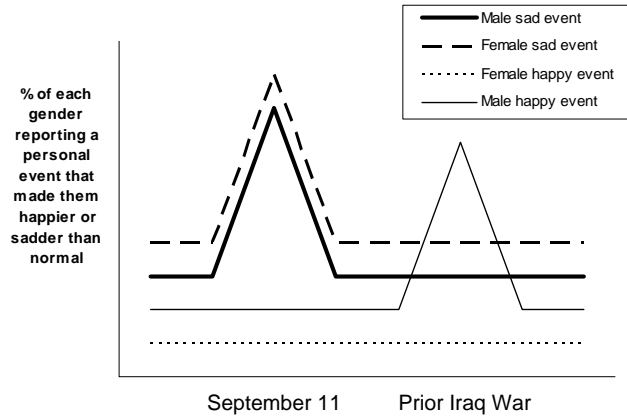


Figure 10.12: Tsunami Contribution vs. Personal Wellbeing

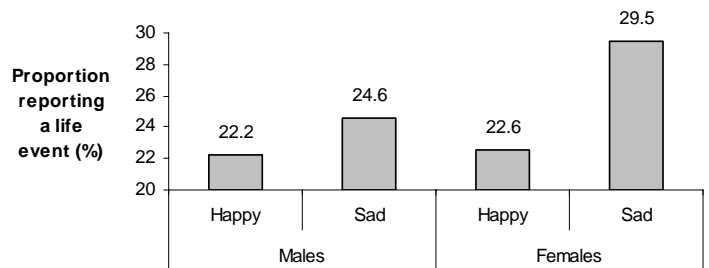
Dot Point Summary for Life Events

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.

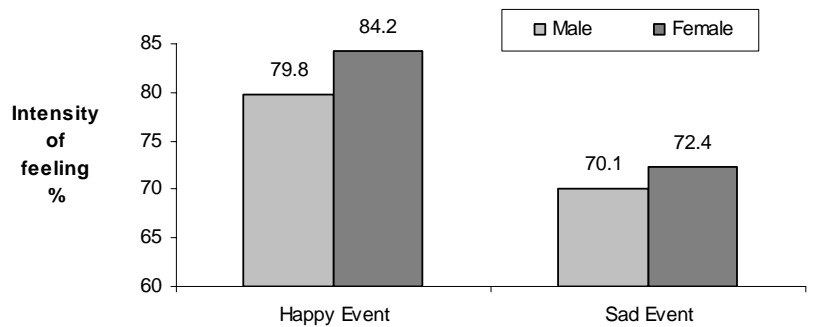
2. Both males and females were more likely to report a personal sad event in the period immediately following September 11. More males than normal, but not females, reported a personal happy event immediately prior to the Iraq war.



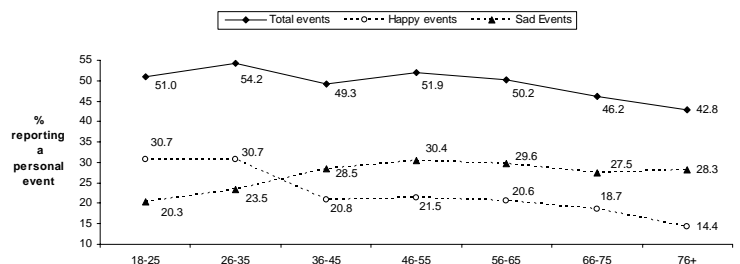
3. Females are more likely to recall the experience of a sad than a happy event in their lives.



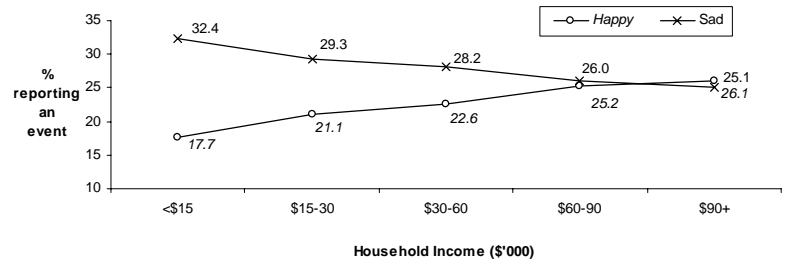
4. Females experience both happy events and sad events more intensely than males. This represents a pattern of enhanced emotional responsiveness for females.



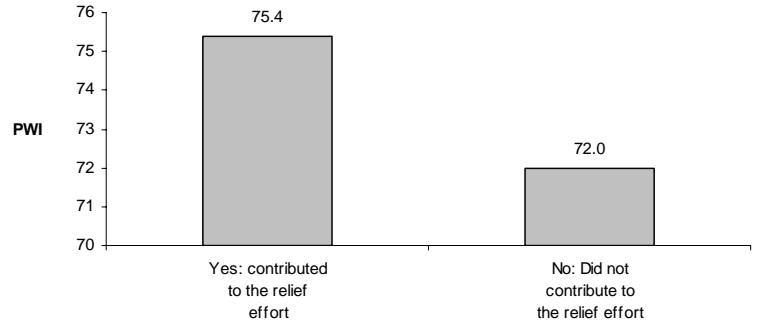
5. Young adults are more likely to report the experience of happy than sad events in their lives. This changes at 36-45 years. At this age and older, people are more likely to report the occurrence of a sad event.



6. People on low incomes are more likely to report the experience of a sad than a happy event in their lives. This reflects the buffering influence of money.



7. People with high personal wellbeing were more likely to contribute to the Tsunami relief effort.



11. Caregiving

11.1. The items

Item: 'Is there a person in your household who needs to be physically cared for due to their age or disability.'

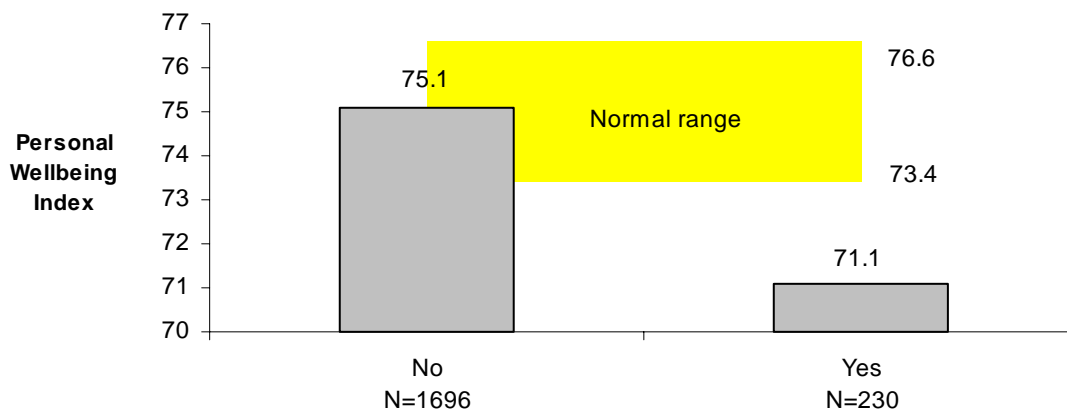


Figure 11.1: Caregiver Wellbeing (Personal Wellbeing Index)

In agreement with a substantial literature base, the provision of home-care damages the wellbeing of caregivers on average (Table A11.1).

Item: 'Who is the person being cared for?'

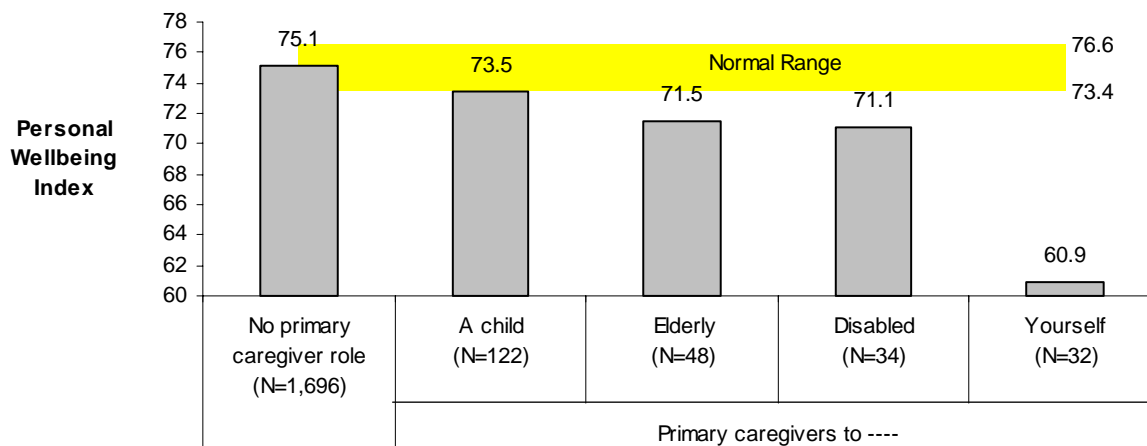


Figure 11.2: Type of Person Being Cared For (Personal Wellbeing Index)

The provision of care to children marginally affects wellbeing, taking the primary caregivers to the bottom of the normal range (Table A11.2). However, the provision of care to family members who are elderly or disabled reduces personal wellbeing quite substantially, to values that lie more than two standard deviations below the normative range. The people (N=32) who themselves require physical care have extremely low personal wellbeing and many will be depressed.

Item: 'Are you the person who provides most of the care?'

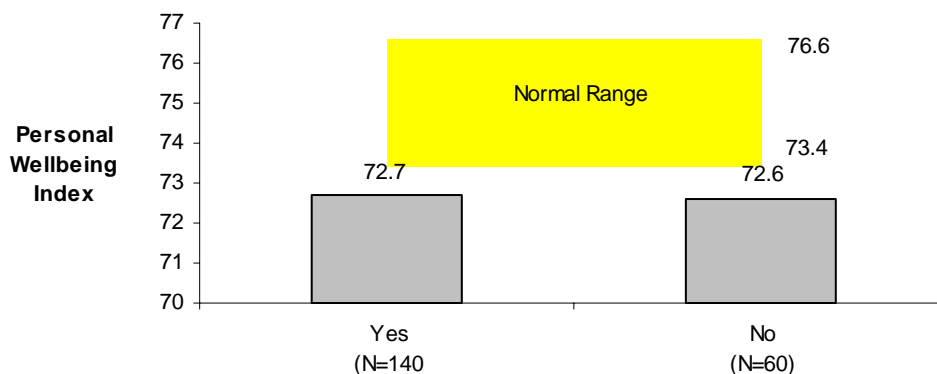


Figure 11.3: Who Provides the Care (Personal Wellbeing Index)

It is interesting that the decreased levels of personal wellbeing are experienced equally by both the person who provides most of the care and other adults in the same household (Table A11.3).

11.2. Age of the Person Requiring Care

Only two of the cells in Table A11.4 have a sufficient N to be regarded as moderately reliable. These indicate that caring for a person 76+ years old, but not a child 0-5 years, is detrimental to caregiver wellbeing.

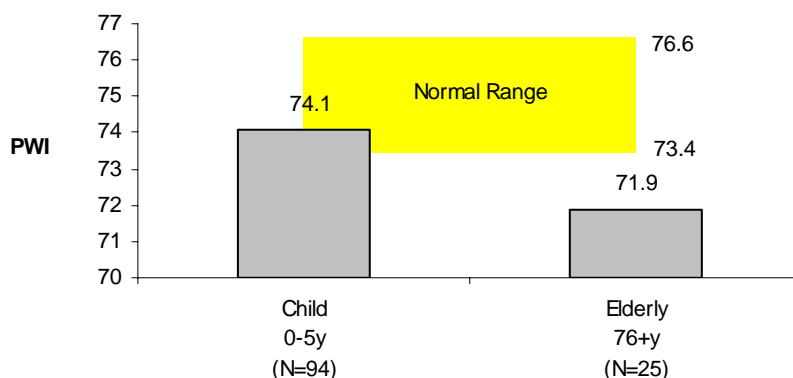


Figure 11.4: Age of Person Being Cared for and Respondent Personal Wellbeing Index

11.3. Type of Person Needing Care x Respondent Personal Wellbeing Index Domains

In accordance with Figure 11.2, people nominating themselves as the recipient of care have low levels of wellbeing and all Personal Wellbeing Index domains (Table A11.5) lie below the domain-specific normative range (Table A2.5). The other two groups are less affected as shown below:

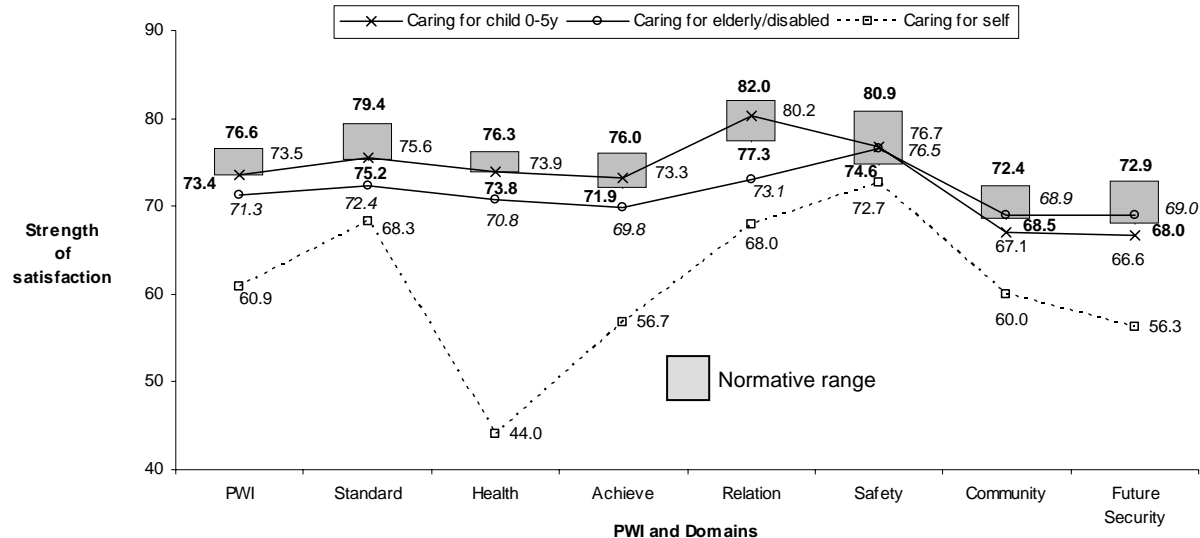


Figure 11.5: Type of Person Needing Care x Personal Wellbeing Index Domains

Figure 11.5 shows the normative range for each domain (shaded) and the relative mean scores for each of the three groups. These results indicate the following:

- (a) The most severely affected people (N=30) are those people who regard themselves as in need of care due to their age or disability, and who are their own primary caregivers. Their Personal Wellbeing Index (60.9 points) is extremely low and all domains are below the normative range. Their most negatively affected domain is Health. These people are desperately in need of assistance.

This group may be further characterised as follows: They are represented in all age groups above 26 years (Table A11.6) and 63.3% are aged 56 or older. They are about evenly split between males and females (Table A11.7) and, perhaps surprisingly, 66.6% live with a partner (Table A11.8) with only 23.3% living alone. Indeed 60.0% are married (Table A11.9). In terms of work status (Table 11.10) 68.2% are full-time retired, but it is interesting to note that about one quarter of respondents (26.6%) failed to answer this demographic question.

Statistical testing (Table A11.5) confirms that the Personal Wellbeing Index of this group is significantly lower than people who are providing care to others (either children 0-5y or elderly/disabled). Interestingly, however, these differences are not significant for the domains of Relationships, Safety, or Community. However, Figure 11.5 indicates that these domains would be significantly lower if the sample size was larger. Table A11.5a indicates that these differences remain even after household income is used as a co-variate.

In summary, this research has revealed a group of very needy people who have a widely varying demographic profile in all respects except for the fact that they regard themselves as their own primary caregiver. These people have a very high risk of depression and will almost certainly be high consumers of other support services.

- (b) People caring for someone who is elderly or disabled have below-normal Personal Wellbeing Index. While this applies to only four of the domains (Standard of Living, Health, Achieving and Relationships) these tend to be the most relevant domains in terms of maintaining personal wellbeing.

This carer group are not characterized by any particular age group (Table A11.6) or gender (Table A11.7). One third (33.3%) are caregiving a parent and living with that person alone (Table A11.8). Both these people and those living with their partner have normal-range Personal Wellbeing Index (73.7 and 76.1 points respectively). However, other living

environments are associated with below-normal wellbeing, which is particularly evident when children are also present in the household.

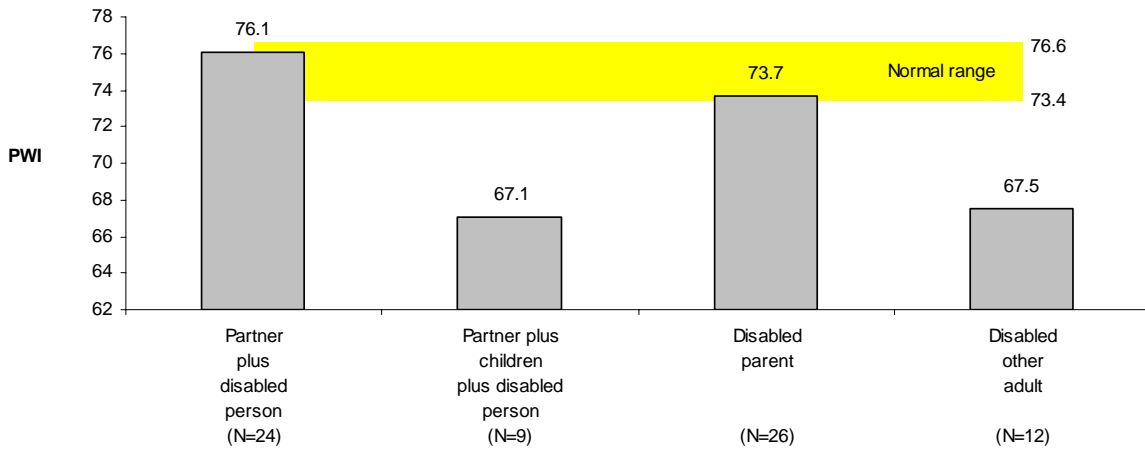


Figure 11.6: Who Lives in Carer’s Household x Personal Wellbeing Index

Even though these cell numbers are rather small, the pattern is understandable in relation to the balance of resources and challenges. While couples can generally cope with the care of another person without damage to their own wellbeing, the additional presence of a child tips the balance and they are at higher risk of losing their wellbeing. Almost certainly, however, this would be income-dependent, with low income households being most affected.

It is also interesting that when the person requiring care is an adult-non-parent, the wellbeing of the caregiver also falls. The interpretation of this requires more information than can be extracted due to the small cell-size.

In terms of relationship status, people who have never married, as a general demographic group, tend to have below normal range wellbeing (71.9 points, Figure 7.1). this is even lower for these people who are also caring for an elderly or disabled person.

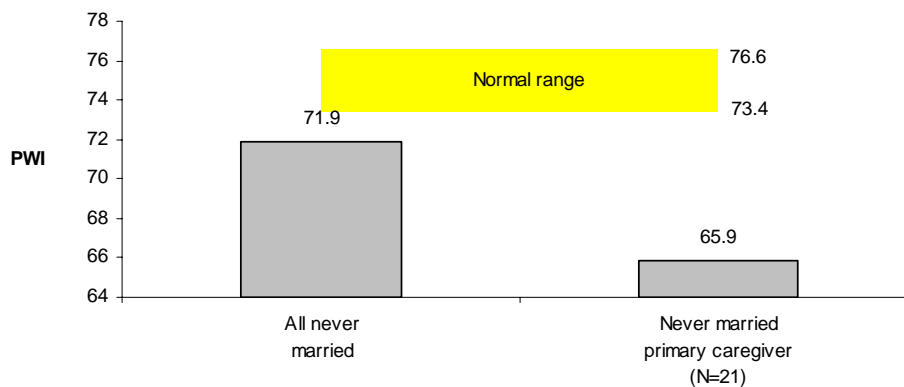


Figure 11.7: Never Married as Caregivers of Elderly/Disabled People x Personal Wellbeing Index

The group above designated as ‘All never married’ comprise the total of people who have never married (N=1,200 : Chapter 7) combined across surveys. Extrapolating from the data in Survey 13, some 5.8% of these people are primary caregivers (21/361) so they are reducing the group average. Indeed, the total number of caregivers who have never married (36/361 : Table A11.9) is 10.0% of the total for this group in Survey 13.

In terms of resources, this group, even minus the caregivers, are around the bottom of the normal range and, so, likely less resilient than normal. So it is not surprising, in these terms, that the addition of caregiving responsibilities defeats wellbeing homeostasis for a high proportion of these people.

The results for work status (Table A11.10) are shown below:

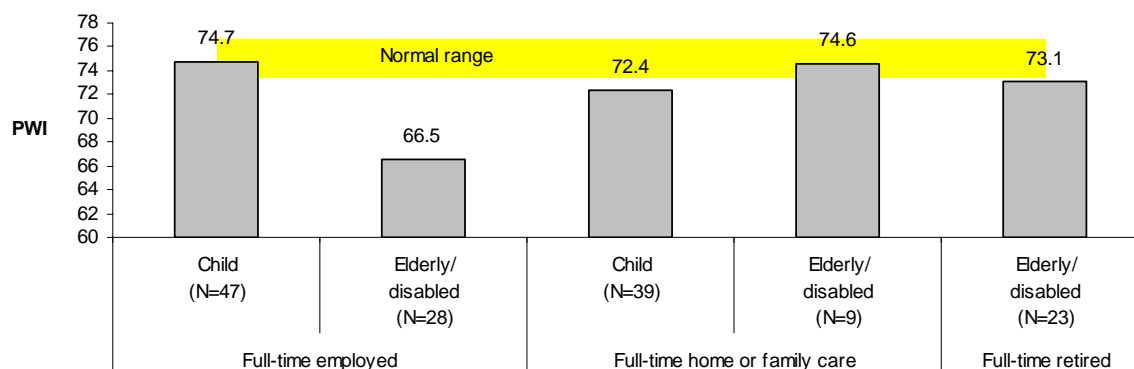


Figure 11.8: Work Status x Person Receiving Care

The outstanding group in Figure 11.8 are those people who are full-time employed and caregiving an elderly or disabled person. Their wellbeing is extremely low. It is generally evident (Figure 11.5) that the care of an elderly or disabled person is more demanding of personal resources than caring for a child (Figure 11.5). In the above Figure it is evident that the demands of full-time employment combined with caring for an elderly or disabled person is too burdensome for most people in this situation, and their wellbeing maintenance fails.

In summary, whether people can be primary caregivers to others who are elderly or disabled, and retain their own wellbeing, is a matter of the available resources. The circumstances under which primary carers are likely to have damaged wellbeing is when they have additional responsibilities such as children at home or a full-time job, or if they are without a partner (never married). Such caregivers require additional assistance if they are going to avoid depression.

- (c) The caregivers least affected in terms of their wellbeing are those caring for a child aged 0-5 years (N=123 : Table A11.5). These people have an average Personal Wellbeing Index exactly at the bottom of the normal range (73.5 points). Only two of their domains (Community and Future Security) lie slightly below the normative range.

11.4. Type of Person Needing Care x Respondent Age

These data are presented in Table A11.6. These comparisons are generally unreliable due to insufficient values in the cells.

11.5. Carer Group x Gender of Caregiver

Table A11.7 shows no significant influence of gender on the Personal Wellbeing Index of the caregiver.

11.6. Carer Group x Household Structure of Caregiver

Table A11.8 has few cells that can be considered reliable. Those with a cell N > 20 show the relatively low Personal Wellbeing Index of sole parents (elaborated in Chapter 7) and no difference between the caregivers of elderly/disabled people who provide the care in their own home with their partner or living in their parents' home.

11.7. Carer Group x Relationship Status of Caregiver

These data are presented in Table A11.9. Most interesting here is the buffering effect of marriage, such that caregivers of elderly/disabled people who are married have wellbeing that lies well within the normal range. However, their wellbeing is still reduced below where it would be in the absence of caregiving responsibilities.

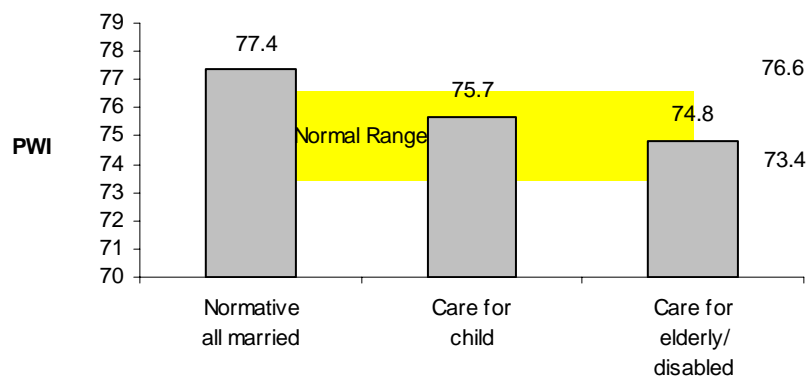
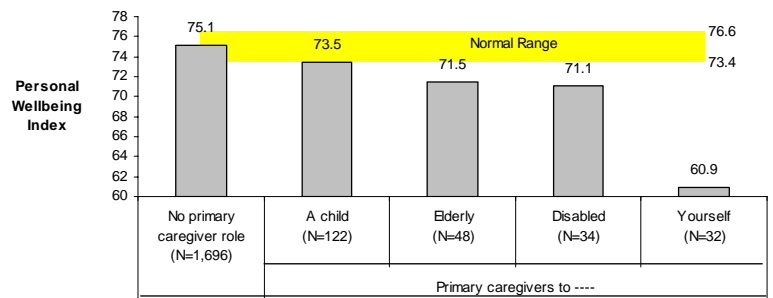


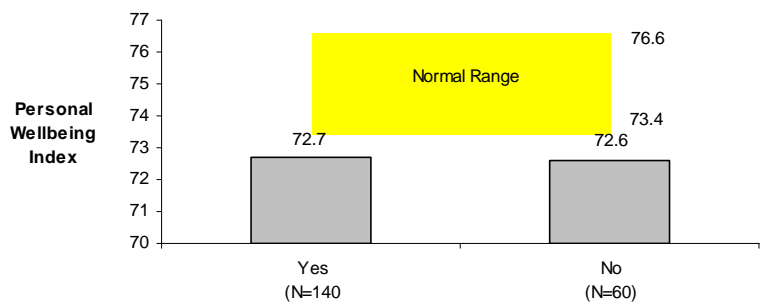
Figure 11.9: Carer Group x Married (Personal Wellbeing Index)

Dot Point Summary for Caregiving

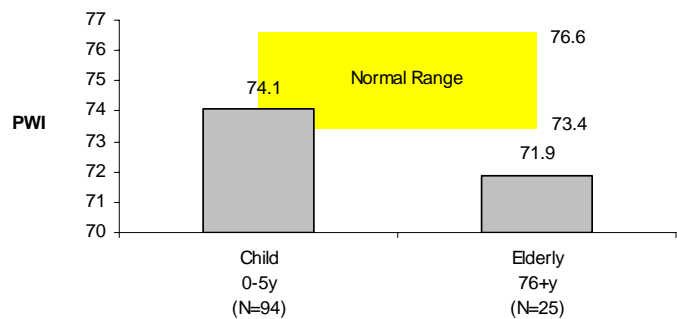
1. The task of caregiving depletes personal resources and tends to reduce personal wellbeing: This is most evident in people who are in need or care and are their own primary caregivers. These people have extremely low wellbeing and require assistance.



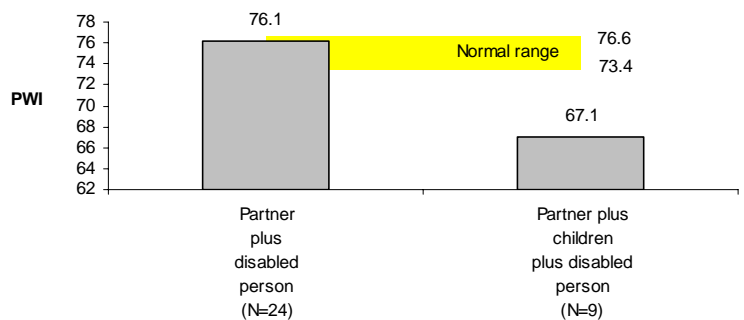
2. Living in the same household as a person who requires care reduces wellbeing irrespective of whether the person is the primary caregiver or not.



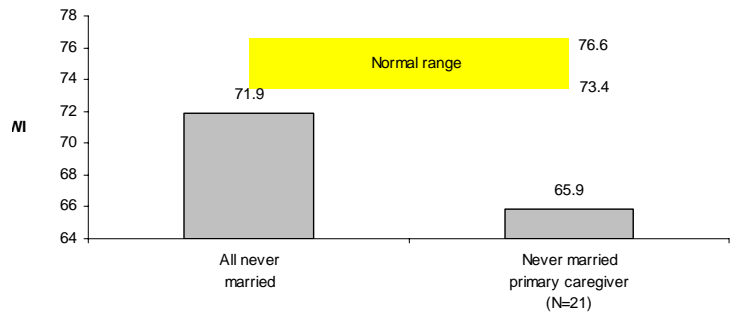
3. The burden of care is greater if the person requiring care is elderly rather than a young child.



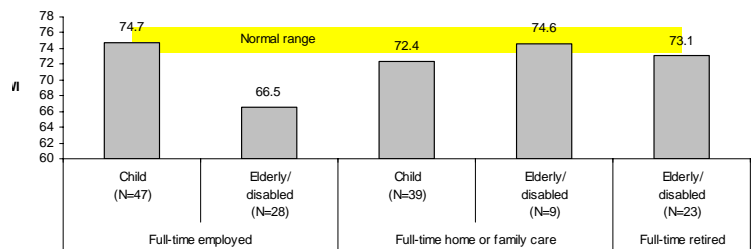
4. The dual care of children and an elderly or disabled person is likely to damage caregiver wellbeing.



5. Caring for an elderly or disabled person without the assistance of a partner is likely to damage wellbeing.



6. Caring for an elderly or disabled person while also carrying a full-time job is likely to damage wellbeing.



12. Insights into Homeostasis

12.1. Health Satisfaction

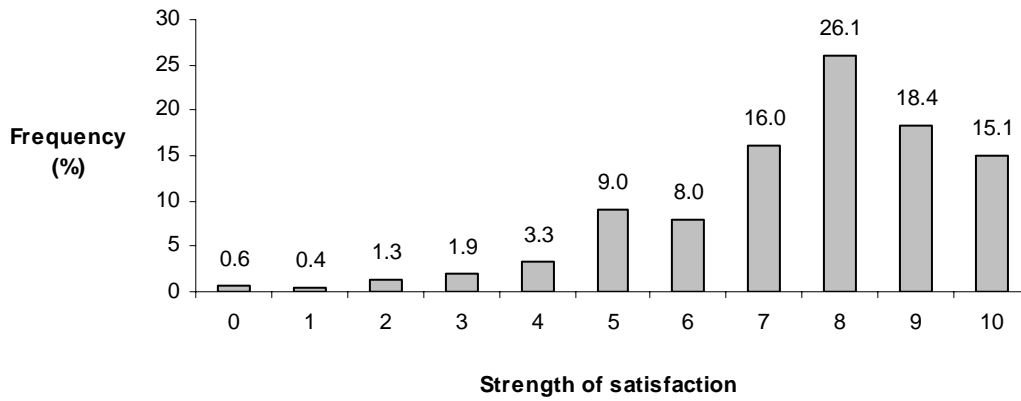


Figure 12.1: Satisfaction with Health (Frequency: combined sample)

Table A11.1 and Figure 12.1 indicate that 4.2% score less than 40/100. The base of the normative range for health is 35.3 points (Table A2.12). Thus, 4.2% of the sample score below the normative range for health.

In order to determine the relationship between the Personal Wellbeing Index domain of health ('How satisfied are you with your health?') and the total Personal Wellbeing Index score is presented below (Table A11.1).

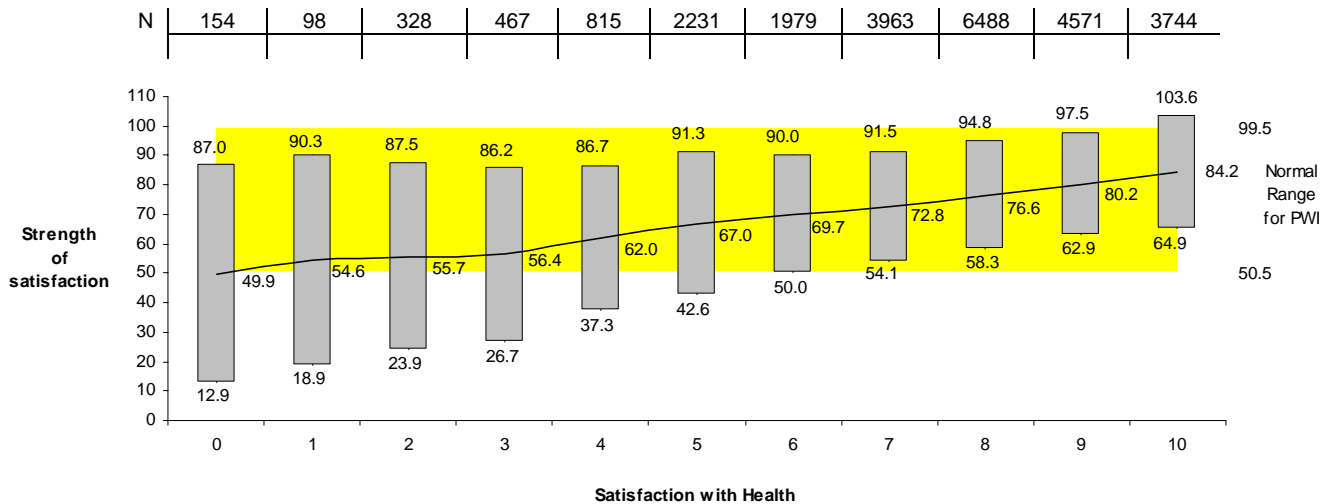


Figure 12.2: Satisfaction with Health x Personal Wellbeing Index

- (a) In the figure above the shaded portion indicates the normative range for the Personal Wellbeing Index based on individual scores (Table A2.5). The horizontal line represents the Personal Wellbeing Index mean at each level of health satisfaction (the abscissa) and the 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. However, there is also evidence of homeostatic defence of the Personal Wellbeing Index at the lowest levels of health satisfaction. Over the four lowest ratings of health satisfaction (0-3) the Personal Wellbeing Index approximates the bottom of the normal

range and increments 6.2 percentage points. Over the four intervals from 3-6 the Personal Wellbeing Index increments by 13.5 points, and over the four intervals from 6-9 it increments by 10.3 points. This is evidence of a homeostatic plateau at the bottom of the normal range for health satisfaction.

- (b) Even at the lowest ratings of health satisfaction, over half of the health satisfaction rating group has normal range Personal Wellbeing Index. This attests to the power of homeostatic compensation.
- (c) At a health satisfaction rating of six or more, all of the sample (defined by $\pm 2SD$) lies within the normal range for subjective wellbeing. This is an indication that, on a group basis, only health satisfaction ratings of five or less have clinical significance on a group basis.
- (d) It is evident that the change on Personal Wellbeing Index levels across the ratings of health satisfaction are mainly driven by changes at the bottom of the $\pm 2SD$ range. Over the entire range of health satisfaction, the top of the range varies by 16.6 points, while the bottom of the range varies by 52.0 points, a three-fold difference.
- (e) It is hypothesized that the change in the top of the range represents the combination of two forces as:
 - (i) The natural relationship between the SWB set-point and health satisfaction. That people who register lower health satisfaction are more likely to have a low SWB set-point.
 - (ii) The power of low health satisfaction to drag SWB down.
- (f) It seems logical to assume that the people who score at zero on health satisfaction, yet register 87.0 ($+2SD$) on the Personal Wellbeing Index, can be described as highly resilient. Through the use of either external buffering resources (e.g. wealth, relationships, powerful internal buffers (control, self-esteem, optimism), and a naturally high SWB set-point, their personal wellbeing has been reduced by only a small amount.
- (g) How much their SWB has been reduced is uncertain since the maximum set-point is not known. However, some rough estimation can be made. It is evident from Figure 12.2 that the progressive decrease in the top of the $\pm 2SD$ range shows two phases as:
 - 10,9,8,7: A progressive decrease to around 90 points.
 - 7 and below: Maintenance at about 90 points.

One interpretation of this is that the initial decrease in SWB over the health satisfaction range 10-7 represents the natural relationship between SWB set-point and health satisfaction based on individual differences. People with a high set-point naturally rate all domains as high, and so 15.1% of the sample rate health satisfaction as 10/10 (Table A9.1). People with a set-point of 70, on the other hand, will likely rate health as 7/10 in the absence of medical symptoms.

It is also notable from Figure 12.1 that the frequency distribution over the health satisfaction range has the appearance of a normal distribution, centred at 7-8/10, where negative forces have plundered the lower half of the distribution, causing the negative skew.

From all of this, it might be hypothesized that, health satisfaction ratings of five or less indicate satisfaction pathology rather than set-point variation. At this level, poor health satisfaction causes homeostatic failure in the least resilient people, but no change in the SWB of highly resilient people. Thus, the distribution of the 5/10 health satisfaction group extends downward, forcing the variance to suddenly increase. This effect is shown below:

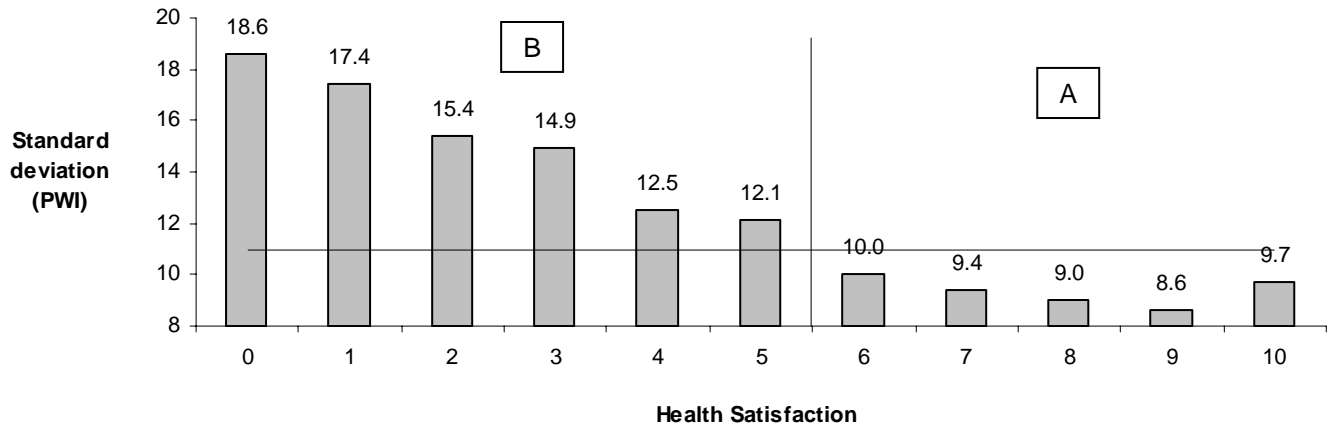


Figure 12.3: Health Satisfaction x Personal Wellbeing Index Standard Deviations

The half 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.

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

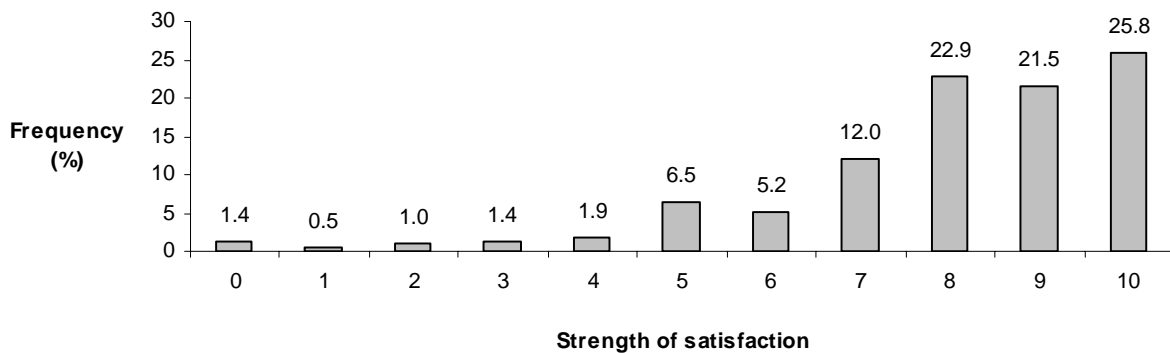


Figure 12.4: Satisfaction with Relationships (Frequency: combined sample)

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%) rated their satisfaction as 10/10.

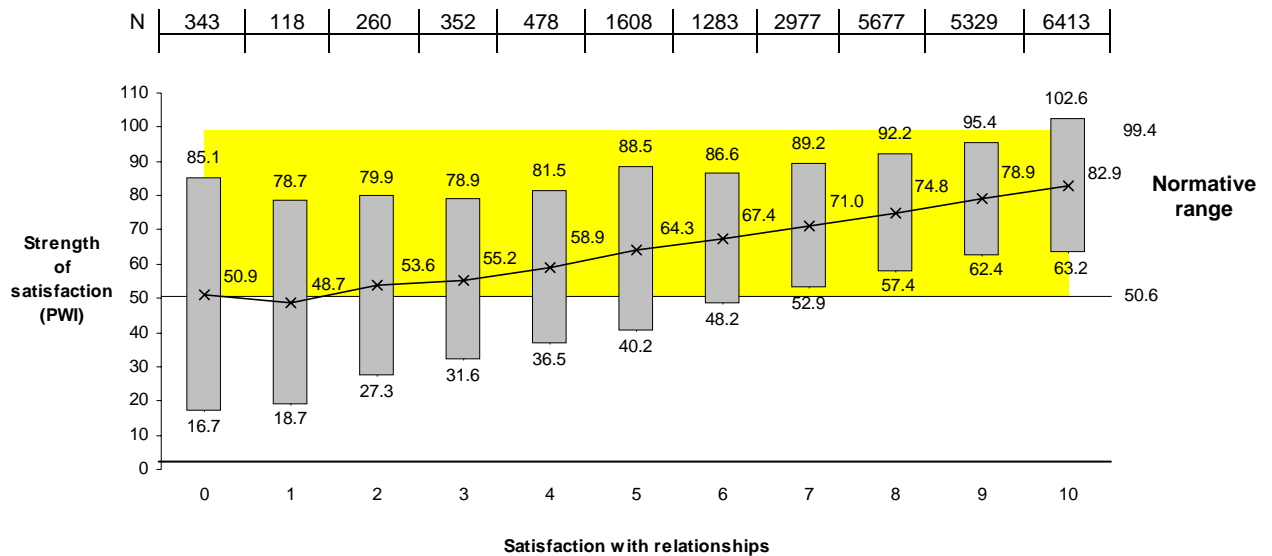


Figure 12.5: Satisfaction with Relationships x Personal Wellbeing Index

- (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 5.8 percentage points. Over the four intervals 3-6 the Personal Wellbeing Index increments by 12.2 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. 15.1%), the proportion of each domain who rate their level of satisfaction between 5-10 is almost identical (Health: 92.6%, Relationships: 93.9%). 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 23.9 points, while the bottom of the range has varied by 46.5 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

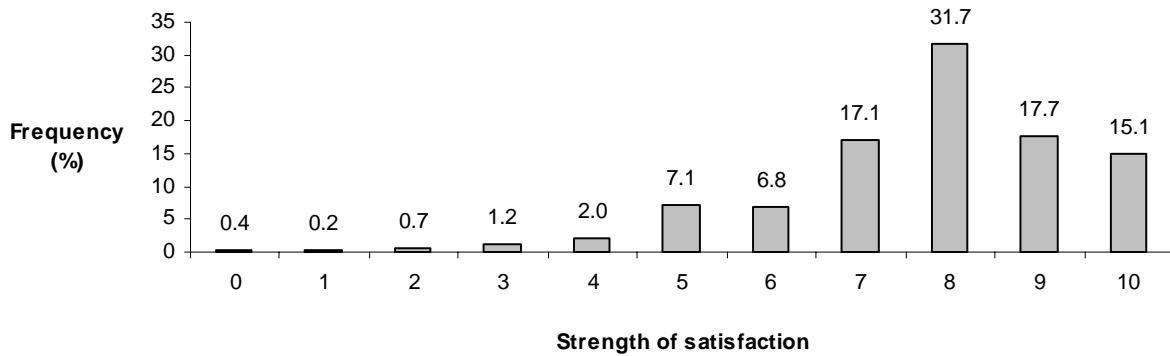


Figure 12.6: Satisfaction with Standard of Living (Frequency: combined sample)

This pattern is similar to Health in having a median at 8/10.

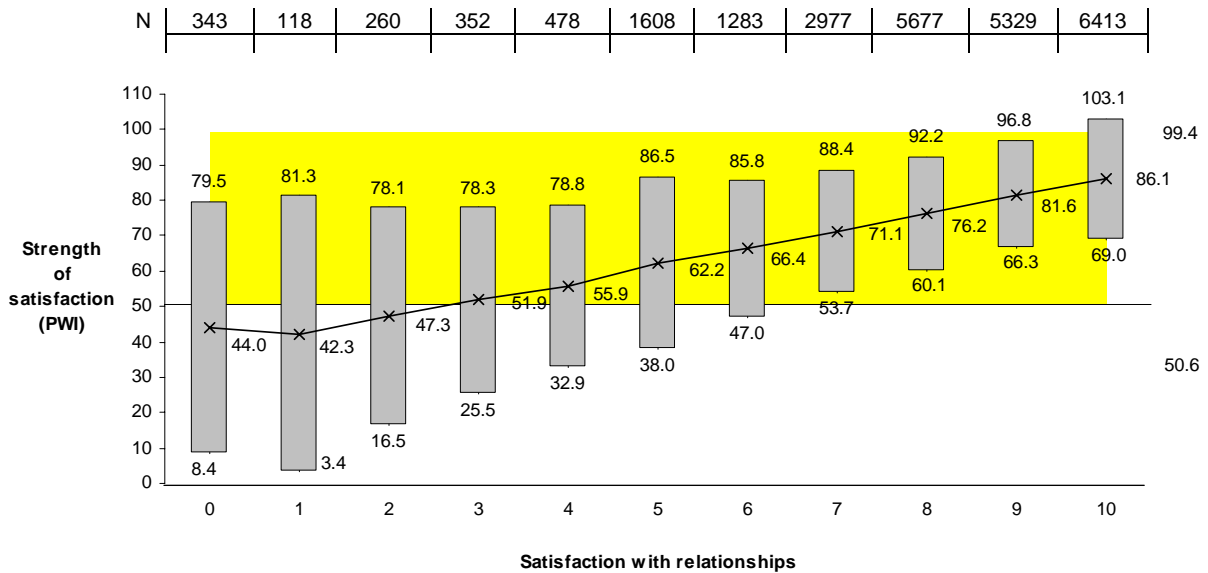


Figure 12.7: Satisfaction with Standard of Living x Personal Wellbeing Index

12.4. Combined Data

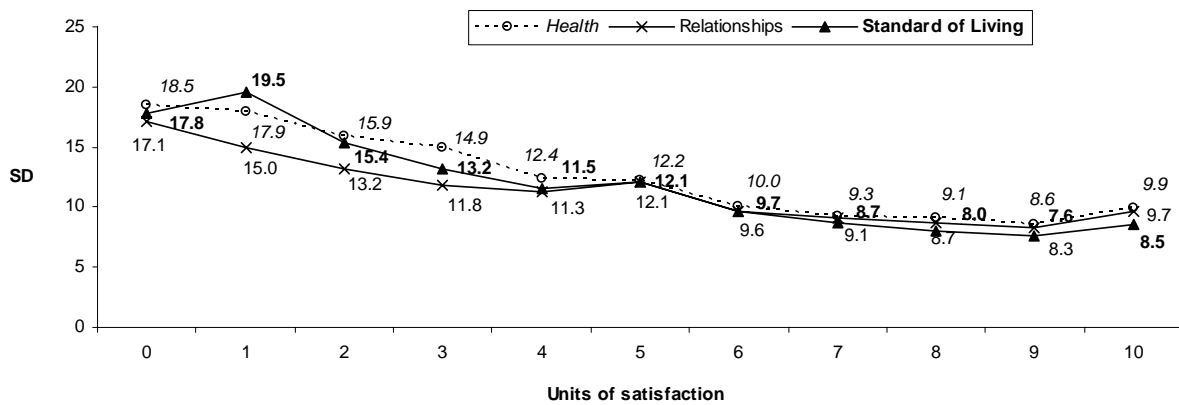


Figure 12.8: Standard Deviation (Domains)

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 12.5 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.

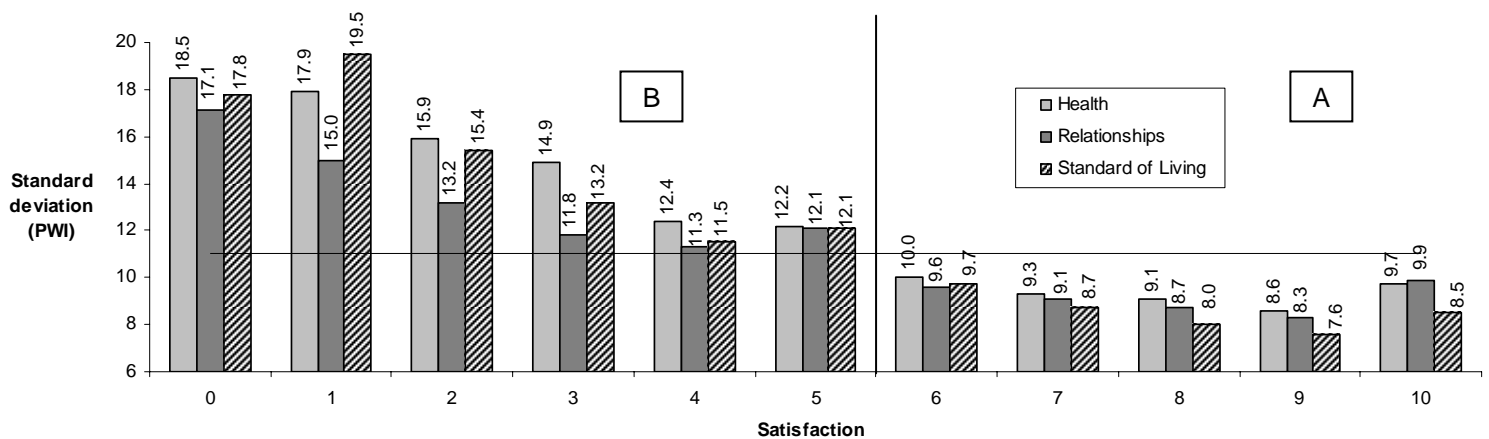


Figure 12.9: Health and Relationship Satisfaction x Personal Wellbeing Index Standard Deviations

12.5. Standard of Living Satisfaction

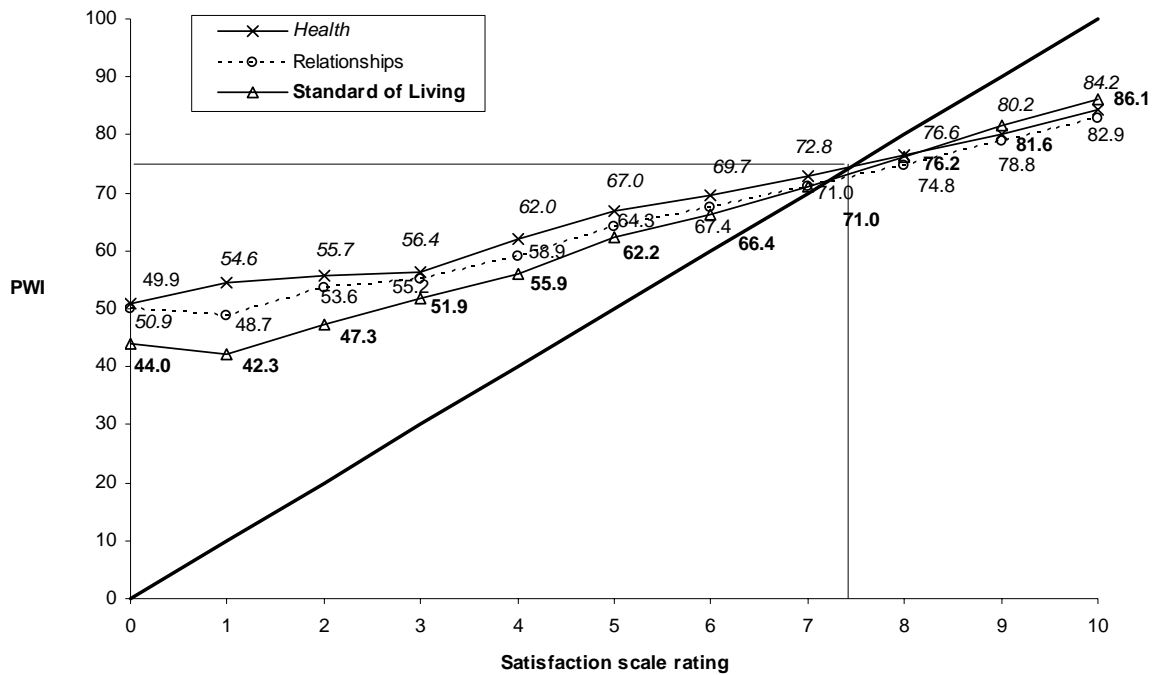


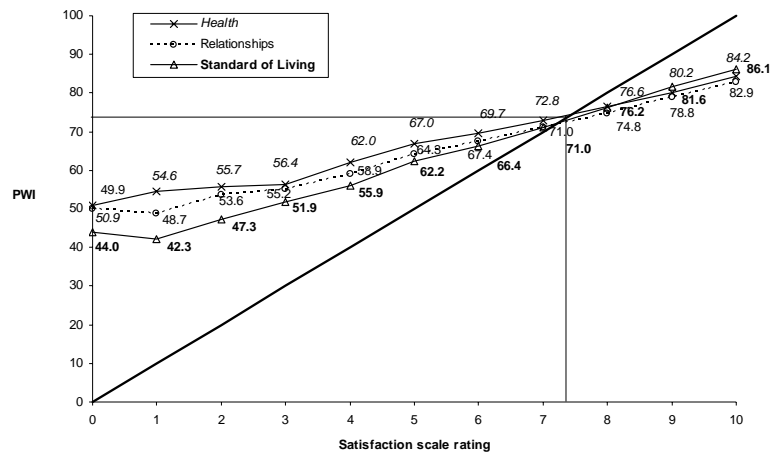
Figure 12.10: Percentage point domain rating vs. Personal Wellbeing Index

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 73. 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 the Personal Wellbeing Index. This is consistent with the action of a homeostatic system.
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).

Dot Point Summary for Insights into Homeostasis

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 73. 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.



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Appendix A1

A1.1 References to the Text

- Andrews, F.M., & Withey, S.B. (1976). *Social indicators of well-being: American's perceptions of life quality*. Plenum Press, New York.
- Cook, V. & Cummins, R.A (2004). *The diagnosis of depression through subjective wellbeing* (submitted for publication).
- Cummins, R.A. (2000). Personal income and subjective well-being: A review. *Journal of Happiness Studies, 1*, 133-158.
- Cummins, R.A., Gullone, E. & Lau, A. L. D. (2002a). A model of subjective well being homeostasis: The role of personality . In: E. Gullone & R.A. Cummins (Eds.). *The universality of subjective wellbeing indicators: Social Indicators Research Series*, (pp. 7-46), Dordrecht: Kluwer.
- Cummins, R.A., Eckersley, R., Pallant, J. & Davern, M. (2002b). The International Wellbeing Group and the Australia Unity Wellbeing Index. *Social Indicators Network News*, 69, 8.
- Cummins, R.A., Eckersley, R. Pallant, J. Van Vugt, J, & Misajon, R. (2003a). The development of a national index of subjective wellbeing: The Australian Unity Wellbeing Index. *Social Indicators Research, 64*, 159-190
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., Hunter, B., & Davern, M. (2003b). Australian Unity Wellbeing Index: Cumulative Psychometric Record. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. http://acqol.deakin.edu.au/index_wellbeing/index.htm
- Cummins, R.A., Davern, M., Hunter, B., Eckersley, R. & Lo, S.K. (2004). Subjective Wellbeing in Australia following September 11: *The Effects of Age* (in preparation).
- Gibbs, W.W. (2005). Obesity: An overblown epidemic. *Scientific American*, *292*(6), 48-55.
- O'Brien, K. & Webbie, K. (2004). *Health, wellbeing and body weight: characteristics of overweight and obesity in Australia, 2001*. Bulletin No. 13, AIHW Cat. No. AUS 43. Canberra: AIHW.
- Pallant, J. (2001). *SPSS Survival Manual*. Crows Nest: Allen and Unwin.
- Renner, R. (2003). Nietzsche's toxicology: whatever doesn't kill you might make you stronger. *Scientific American*, *289*(3), 15-17.

A1.2 Previous Reports on the Australian Unity Wellbeing Index

These publications are available from http://acqol.deakin.edu.au/index_wellbeing/index.htm.

- Cummins, R.A., Eckersley, R., Pallant, J., van Vugt, J., Shelly, J., Pusey, M., & Misajon, R. (2001). *Australian Unity Wellbeing Index: Survey 1, Report 1.0*, Melbourne: School of Psychology, Deakin University. ISBN 0 7300 2593 4.
- Cummins, R.A., Eckersley, R., Pallant, J., Misajon, R. & Davern, M. (2001). *Australian Unity Wellbeing Index: Survey 2, Report 2.1*, Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2590 X.
- Cummins, R.A., Eckersley, R., Pallant, J., Davern, M. & Misajon, R. (2001). *Australian Unity Wellbeing Index: Survey 2, Report 2.2 – Special Report on Income & Geographic Location*. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2592 6.
- Cummins, R.A., Eckersley, R., Pallant, J., & Davern, M. (2002). *Australian Unity Wellbeing Index: Survey 3, Report 3.1 - Wellbeing in Australia and the aftermath of September 11*. Melbourne: Australian Centre of Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2591 8.
- Cummins, R.A., Eckersley, R., Pallant, J., Okerstrom, E., & Davern, M. (2002). *Australian Unity Wellbeing Index: Survey 3, Report 3.2 - The impact of personal relationships and household structure on the wellbeing of Australians*. Melbourne: Australian Centre of Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2596 9.

- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., & Davern, M. (2002). *Australian Unity Wellbeing Index: Report 4.0 – The Wellbeing of Australians 1. Work and Leisure, 2. The Impact of September 11 One Year Later*. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2595 0.
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., Hunter, B., & Davern, M. (2003). *Australian Unity Wellbeing Index: Report 5.0 – The Wellbeing of Australians – 1. Personal Finances 2. The Impact of the Bali Bombing*. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2594 2.
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., Davern, M. & Hunter, B. (2003). *Australian Unity Wellbeing Index: Report 6.0 – The Wellbeing of Australians – Impact of the Impending Iraq War*. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2583 7.
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., Davern, M. & Hunter, B. (2003). *Australian Unity Wellbeing Index: Report 7.0 – The Wellbeing of Australians – The Effects of Work*". Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2599 3
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., Davern, M. & Hunter, B. (2003). *Australian Unity Wellbeing Index: Report 8.0 – The Wellbeing of Australians – Feeling Connected to Australia*". Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2605 1
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E., Hunter, B. & Davern M. (2004). *Australian Unity Wellbeing Index: Report 9.0 – The Wellbeing of Australians – Owning a Pet*". Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2609 4
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E, Woerner, J. & Davern M. (2004). *Australian Unity Wellbeing Index: Report 10.0 – The Wellbeing of Australians – Health and Body Weight*". Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 073 002 6167
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, E, Davern M. & Woerner, J. (2004). *Australian Unity Wellbeing Index: Report 11.0 – The Wellbeing of Australians – Personal Financial Debt*". Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2619 1
- Cummins, R.A., Eckersley, R., Lo, S.K., Okerstrom, R., Hunter, B. & Woerner, J. (2004). Australian Unity Wellbeing Index: Report 12.0 – “The Wellbeing of Australians – Job Security”. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 0 7300 2624 8
- Cummins, R.A., Davern, M., Okerstrom, E., Lo, S.K., & Eckersley, R. (2005). *Australian Unity Wellbeing Index: Report 12.1 – “Special Report on City and Country Living”*. Melbourne: Australian Centre on Quality of Life, School of Psychology, Deakin University. ISBN 1 74156 004 7

A1.3 Item Data Screening: (Survey 13 (April 2005))

Variable	Don't Know: 20	Don't Understand: 30	Declined: -50
Life as a Whole	5	2	
s1. Standard of Living	2		
s2. Health	2	1	
s3. Achievements in life	19	1	
s4. Personal relationships	20		
s5. How safe you feel	10	4	
s6. Community connectedness	11	1	
s7. Future security	53		
Life in Australia	7	1	
a1. Economic situation	57	1	
a2. State of the environment	32		
a3. Social conditions	30	4	
a4. How Australia is governed	24	1	
a5. Business	115	7	
a6. National security	85	2	
Medical/psychological condition			8
Duration of condition			6
Pain experienced daily	7		6
Height/Weight			59
Earn money			3
Weekly work hours			18
Worried lose job	1		6
Worried get another job	4		8
Worried balance work/family	3		9
le1			2
le2	11		
attack1			
attack2	45		20
Age			23
Household structure			11
Relationship status			14
Part-time work status			5
Looking for work			2
Income			502

A1.4 Data Screening Case Log: S13

ID #	Reason For Deletion	Participation in Longitudinal Study
59	100 on PWI and NWI	N
136	100 on PWI and NWI	Y
261	100 on PWI and NWI	Y
1106	100 on PWI and NWI	N
1750	100 on PWI and NWI	Y
941	100 on PWI	Y
575	100 on PWI	Y
209	100 on PWI	Y
930	100 on PWI	Y
979	100 on PWI	Y
1327	100 on PWI	N
2007	100 on PWI	Y
1036	100 on PWI	Y
775	100 on PWI	Y
1458	100 on PWI	N
1016	100 on PWI	Y
1528	100 on PWI	N
1828	100 on PWI	N
678	100 on PWI	Y
1532	100 on PWI	Y
1674	100 on PWI	N
726	100 on PWI	Y
852	100 on PWI	N
197	100 on PWI	Y
486	100 on PWI	Y
1411	100 on PWI	N
1868	100 on PWI	Y
15	100 on NWI	Y
2023	0 on PWI	Y
474	0 on NWI	Y

30 cases removed leaving a total *n* of 1970 for S13