THE AUSTRALIAN UNITY WELLBEING INDEX:

AN OVERVIEW

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Introduction

The Australian Unity Wellbeing Index is a 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 Wellbeing 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. It measures quality of life as experienced by the average Australian and it is reported on a quarterly basis.

The Index comprises two numbers. The Personal Wellbeing Index measures subjective wellbeing as the level of satisfaction across seven aspects of personal life – health, personal relationships, safety, standard of living, achievements, community connectedness, and future security. This list of life domains is both theoretically and empirically determined. Theoretically, the Index is intended to represent the first level deconstruction of ‘Satisfaction with life in Australia’. The domains are the economy, the environment, social conditions, governance, business, and national security. Here the domains are less powerful in representing the broader construct, together explaining about 25% of the variance in life in Australia.

Our first survey, of 2,000 adults from all parts of Australia, was conducted in April 2001. Since then seven surveys have been conducted, with the most recent in August 2003. Copies of all Reports, raw data files, and code books are available free of charge from the Australian Centre on Quality of Life website at Deakin University (acqol.deakin.edu.au).

Surveys are conducted by telephone over a four-week period of data collection. Interviewers ask to speak to the person in the house, and a random selection of up to four numbers is used for each survey.

The National Wellbeing Index has been similarly conceived. Six domains represent the first-level deconstruction of ‘Satisfaction with life in Australia’. The domains are the economy, the environment, social conditions, governance, business, and national security. Here the domains are less powerful in representing the broader construct, together explaining about 25% of the variance in life in Australia.

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Editor’s Note: Beginning with this issue, SINET will periodically publish descriptive essays on the structure and content of several major quality-of-life/well-being indices that have been developed and are maintained by various research groups around the world. Leading off this issue is an overview essay on the Australian Unity Wellbeing Index by Robert A. Cummins and associates. The intent of essays like this is to provide the authors an opportunity to present the essentials of their indices and the trends they measure over time and among population segments together with a number of references to other publications of scientific papers and technical reports. It is hoped that this will serve to help us all to be better informed concerning major efforts worldwide to measure one aspect or another of the quality of life and to let us know what the most recent values and trends are in the indices.
(Continued from previous page.)

house who had the most recent birthday and is at least 18 years old. Typically, around 23,000 calls are made, around 13,000 connect with a respondent, and 2,000 agree to complete the interview. This gives an effective response rate of about 15%. A contributing factor to this low rate is that, in order to maintain an even geographic and gender split at all times throughout the survey, each call operator recruits alternate males and females. This is our insurance against disruption due to major events occurring mid-survey. Thus, willing respondents who are not of the required gender have to be refused in order to maintain the overall balance. The approximately 30 questions that form each interview take about 7 minutes to administer.

The final question in each interview enquires whether the respondent would like to participate in an on-going study. If they agree, they are sent a longer 80-item written questionnaire and become part of our Longitudinal Study. The people who return this questionnaire are then followed-up annually. We currently have around 4,000 people involved in this aspect of the study.

The Personal Wellbeing Index

Through some miraculous circumstance of timing, the first survey was conducted in April 2001. This gives us a single baseline measurement by which to gauge the wellbeing of the Australian population prior to September 11. The second survey was conducted some weeks following this attack. Since then two other major international events have occurred with particular relevance for Australians. In October 2002 terrorists bombed a nightclub in Bali killing around 100 Australians, and the war in Iraq saw the commitment of Australian front line troops. The consequences of these events for the personal wellbeing of Australians are described in our Report 8.0 (Cummins, Eckersley, Lo, Okerstrom, Davern & Hunter, 2003b). The effects on subjective wellbeing are summarized in Figure 1 on the next page.

The vertical axis depicts the values of subjective wellbeing on a 0-100 scale. Each vertical bar represents the survey mean score for the Personal Wellbeing Index. As can be seen, subjective wellbeing has risen since April 2001. Even though the attribution of causation is a fraught process, we are becoming reasonably confident that these changes in subjective wellbeing are the result of the named events. Most obviously, the pattern of change, occurring as it does in two waves, conforms to the events. While the values will need to return to pre-September 11 levels for this argument to be really convincing, the values from Survey 8 are in the right direction. We also find that these changes are related in sensible ways to what has happened at the level of domains.

Both domains concerning interpersonal relationships have risen. This is consistent with the well-known effect of external threat to enhance group cohesion. To our knowledge, however, this has not previously been documented at a national level. Safety and Future Security have also made a strong contribution to the rise, especially in the period immediately following the Iraq war. During this same period Morgan Research published data showing a majority Australian view that Australia had joined a powerful ally in defeating a tyrant for the benefit of Iraqi people. There seems little doubt that this widespread perception of having joined the winning team and post-war relief bolstered personal wellbeing and feelings of personal safety.

Understanding Personal Wellbeing

Respondents rate their degree of satisfaction on a 0-10 scale. All results are then adjusted to have a range of 0-100 and it is now well established (Cummins 1995, 1998, 2003) that, for Western nations, the average value for population samples is about 75%, with a normal range from 70% to 80%. We find that the Personal Wellbeing Index predictably falls within this range. However, satisfaction with aspects of national life is normally lower, falling in the range 55 to 65% in Australia. A recent paper (Cummins et al, 2003a) has described the theoretical and empirical performance of these indexes. Moreover, a cumulative document that records the psychometric performance of the indexes is also available from the website (Cummins et al., 2003c).

The estimated range of 70-80% for subjective wellbeing was originally calculated by grouping survey means reported in the literature. Even though a 10% range seems to indicate quite high predictability, these values had been derived from diverse surveys conducted by different researchers, in a number of countries, and using different methodologies. If all of these factors could be held constant, how stable would the subjective wellbeing of populations appear to be? The answer, derived from our first eight Australian surveys, is shown (Continued on next page.)
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 that has the task of maintaining wellbeing, which averages about 75%, within a fairly tight set-point range for each individual. We call this process Subjective Wellbeing Homeostasis (for a description see Cummins & Nistico, 2002; Cummins, Gullone & Lau, 2002).

The proper functioning of this homeostatic system is essential to life. At normal levels of wellbeing 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 that 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 that are prone to failure.

Homeostatic fragility, in these terms, can be caused by two different influences. The first 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 by acting as buffers.

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, has weaker homeostatic systems as a result of either constitutional or experiential influences. These people are vulnerable to their environment and constitute various population sub-groups. The identification of these sub-groups, through comparison against normative data, is an important feature of our survey analyses.

**The Determination of Index Norms**

One advantage of our data is that we can produce reliable norms for the Australia population. On an individual basis this can be calculated from the average mean (75.02%) and standard deviation (12.33%) across the eight surveys. Two standard deviations on either side of the mean yields a normal range of 99.68–50.36%. In other words, the normative range for individuals lies within the positive half of the 0-100 range.

A second kind of normative distribution can be calculated for groups instead of individuals. Here the survey mean scores are used as data (N=8) and the resultant normal ranges are shown in Figure 2 below.

As can be seen, these group mean score ranges show modest variation with a 14.0% difference between the top of the highest range (Relationships: 81.8%) to the bottom of the lowest range (Future Security: 67.8%). The ranges also differ in magnitude, from the largest (Safety: 5.3%) to the smallest (Achievements: 2.5%).

Of particularly interest in this regard are the values for the Personal Wellbeing Index. The overall mean (74.8) is remarkably close to the predicted mean for Western populations (75.0). However, the range of 73.1 to 76.5 is just 3.4 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 3.4% 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 3.4 percentage points.

**The International Wellbeing Group**

Beginning in November 2001, an international collaborative network has gradually assembled with the aim of developing this Index as a cross-culturally valid measure of population subjective wellbeing. The International Wellbeing Group currently involves 64 researchers from 33 countries. Group members are agreed that, to whatever extent possible, the same form of the Index will be used in all countries. We also envisage that the Index will undergo controlled evolution as theory and empirical data are brought to bear on its performance. To this end there is an active e-forum that discusses the composition of...


Table 52: Leading Health Indicators, measures, and Healthy People 2010 objective numbers

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<tbody>
<tr>
<td>1. Adolescents in grades 9-12: percent who engaged in 20 minutes or more of vigorous activity 3 or more days per week (obj 22-07)</td>
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<td>2. Adults aged 18 years and over: age-adjusted percent who engaged in moderate activity (at least 30 minutes, 5 days per week) or vigorous activity (at least 20 minutes, 3 days per week) (obj 22-02)</td>
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<td>3. Overweight or obese children and adolescents, age 6-19 years: percent who are at or above the sex- and age-specific 95th percentile of Body Mass Index (BMI) based on CDC Growth Charts: United States (obj 19-03c)</td>
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<td>4. Obese adults aged 20 years and over: age-adjusted percent with BMI of 30 kg/m2 or more (obj 19-02)</td>
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<td>5. Adolescents in grades 9-12: percent who smoke cigarettes one or more days in the past 30 days (obj 27-02b)</td>
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<td>6. Adults age 18 years and over: percent who smoked more than 100 cigarettes in their lifetime and now report smoking on some days or everyday (obj 27-01a)</td>
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<td>7. Adolescents age 12-17 years: percent who reported no use of alcohol or illicit drugs in the past 30 days (obj 26-10c)</td>
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<td>80</td>
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<td>8. Adults age 18 years and over: percent who reported illicit drug use in the past 30 days (obj 26-10c)</td>
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<td>9. Adults age 18 years and over: percent who reported binge drinking in the past 30 days (obj 27-01a)</td>
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<td>10. Adolescents in grades 9-12: percent who are not sexually active or sexually active and used condoms (obj 25-11)</td>
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<td>83</td>
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<td>11. Sexually active unmarried women age 18-44 years: percent who reported condom use by partners (obj 13-06a)</td>
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<td>12. Adults age 18 years and over: percent with recognized depression who received treatment (obj 13-06a)</td>
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<td>23</td>
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<tr>
<td>13. Age-adjusted death rate for motor vehicle traffic-related injuries per 100,000 standard population (obj 15-15a)</td>
<td>18.0</td>
<td>16.1</td>
<td>16.0</td>
<td>15.8</td>
<td>15.6</td>
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<td>9.2</td>
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<tr>
<td>14. Age-adjusted death rate for homicide per 100,000 standard population (obj 15-32)</td>
<td>9.4</td>
<td>8.4</td>
<td>7.6</td>
<td>7.2</td>
<td>6.5</td>
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<td>15. Percent of population exposed to ozone above EPA standard (obj 08-01a)</td>
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<td>43</td>
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<tr>
<td>16. Persons age 4 years and over: age-adjusted percent of nonsmokers exposed to environmental tobacco smoke (obj 08-01)</td>
<td>65</td>
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<td>45</td>
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<td>17. Children age 19-35 months: percent who received all DtaP, polio, Hib, and HepB vaccines.</td>
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<td>18. Adults age 65 years and over: age-adjusted percent who received influenza vaccine in the past 12 months (obj 14-29a)</td>
<td>---</td>
<td>59</td>
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<td>63</td>
<td>64</td>
<td>66</td>
<td>65</td>
<td>90</td>
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<tr>
<td>19. Adults age 65 years and over: age-adjusted percent who ever received pneumococcal vaccine (obj 14-29b)</td>
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<td>35</td>
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<td>43</td>
<td>46</td>
<td>50</td>
<td>53</td>
<td>90</td>
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<td>20. Persons under age 65 years: age-adjusted percent with health insurance.</td>
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<td>84</td>
<td>83</td>
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<td>83</td>
<td>84</td>
<td>83</td>
<td>100</td>
</tr>
<tr>
<td>21. Persons of all ages: age-adjusted percent with a specific source of ongoing primary care</td>
<td>---</td>
<td>87</td>
<td>88</td>
<td>86</td>
<td>87</td>
<td>86</td>
<td>87</td>
<td>96</td>
</tr>
<tr>
<td>22. Pregnant women: percent who received prenatal care in the first trimester</td>
<td>76</td>
<td>81</td>
<td>82</td>
<td>83</td>
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<td>83</td>
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A Chartbook on Trends in the Health of Americans:

Health, United States, 20002

Annually, the Center for Health Statistics of the CDC produces a review of the health status of the population of the United States. Health indicators update movement toward the twenty-two goals that are set for the year 2010. Five objectives of the healthy people plan are not regularly reported, but the remaining 17 goals, shown in table 52 on previous page, reveal slow, slow progress.

Health, United States, 2002 With Chartbook on Trends in the Health of Americans, DHHS Publication 1242, issued August 2002, is available from The Government Printing Office, Washington, DC. It also is available on CD-ROM from the GPO. The Chartbook and updated tables may be accessed on the web page of the agency: www.cdc.gov/nchs/hus.htm. You also may join their listserv.

The Chartbook includes graphs showing trends in a number of health-related indicators, such as the differences among age groups in leading causes of death, including the young (ages 1-24), middle-aged adults (ages 45-64), and the elderly (ages 65+). Progress against heart disease and stroke across the decades is evident, and perhaps against cancer in recent years. The downturn in youthful violent deaths (homicide, suicide) in the 1990s also is documented.

Ethnic Population Growth

The 2000 U.S. Census found 12 percent of the population Hispanic and about 4 percent Asian or Pacific Islander. In addition to the growing ethnic diversity, the population is aging. The 12 percent over 65 years in 2000 is expected to grow to about 20 percent by mid-century. These changes will shape future efforts to improve the health of the Nation.

The poverty rate in 2000 dropped to 11.3 percent overall, but more than one-quarter of black and Hispanic children lived below the Federal poverty line.
While fertility declined during 1990-97, it has increased among women 20-44 years of age while birthrates for teens declined. The birth rate for unmarried women increased two percent in 2000 to 45.2 births per 1,000 unmarried women ages 15-44. However, this is four percent below the high in 1994.

The Chartbook keeps tabs on risk factors and behaviors that affect health. This includes the rate of cigarette smoking, obesity, regular physical activities, heavy and chronic use of alcohol and illicit drugs, and unhealthy environmental conditions. Movement of these factors is monitored in the volume.

Cigarette Smoking

Cigarette smoking has declined to 26 percent of men and 21 percent of women of adult ages. While smoking among high school students has been declining since 1997, in 2001 29 percent of high school students reported smoking during the past month. Smoking rates of pregnant women has declined from 20 percent to 12 percent in 2000.

(Continued on next page.)
Overweight children have increased. Thirteen percent of children 6 to 11 years and 14 percent of adolescents 12-19 years are overweight.

Two-fifths of adults do not engage in physical activity in their leisure hours. Inactivity increases with age. Women are less active than men.

While alcohol consumption is more prevalent among young people, 18-24 years, 43 percent of men and 18 percent of women reported drinking five or more alcoholic drinks in a day at least once in the past year, during 2000.

Illicit drug use among the 12-17 years-of-age crowd remained unchanged over the 1999 to 2000 period and stood at 10 percent.

In 2000, approximately 42 percent of the population lived in areas where the ozone level was higher than the standard established for good health.

Activity Limitation

Conditions that limit activity increase with age. Among noninstitutional adults, 1 in 10 persons report fair or poor health, compared with 1 in 5 persons 55 to 64 years of age, and 1 in 4 persons 65 to 74 years, and 1 in 3 persons 75 years of age and older. As we age we become less active.

Rates of cancer, all sites, declined during the 1990s for males but not for females. The decline was about two percent for males, both non-Hispanic white and Hispanic, and almost two percent for black males. There was no change in cancer incidence, overall, for females.

Life expectancy continues to edge up incrementally. A person born in 2000 may expect to live 76.9 years. During the 20th century, life expectancy has increased by 26 years. Infant mortality in 2000 declined to a record low of 6.9 births per 1,000 live births. Between 1950 and 1999 the infant mortality rate declined by about 75 percent.

Even with these gains in mortality, racial and ethnic mortality rates remain higher than the rest of the population. The gap in life expectancy between the races and the sexes has been narrowing.

Work Safety Improvements

The 20th Century saw major improvements in workplace safety. However, occupational injuries with lost workdays rate 2.8 per 100 full-time equivalents in the private sector. Highest rates are in transportation, communication, public utilities and construction.

In addition to occupational health, the Chartbook addresses preventive health care, which includes vaccinations, prenatal care, and mammograms for women, insurance for health care, outpatient care, inpatient care and resources, national health expenditures, policy funded health programs, state health expenditures, and HMOs.

While the volume is called a Chartbook, there are only 36 pages of charts backed by approximately 290 pages of tables. Data abound.

Comment

The morbidity and mortality indicators available to U. S. researchers are among the best. With the regular reports of data from the National Health Survey, the vital statistics, and the special surveys of youth, U. S. researchers have much to exploit nationally. More intensive data on health conditions at the local level, say, the county, would enable better understanding of the ecology of health conditions and corrective action at the grassroots. The Behavioral Risk Factor Surveillance System is producing indicators of debilitating practices that reveal opportunities to improve the nation’s health.

A summary mortality measure consists of the years lost to age 75 through death, by cause. In 1980, some 10,448 years per 100,000 population were lost before age 75. By 1999 the figure had declined to 7716 years. This is a 26 percent improvement in 19 years. More summary measures such as this are needed for monitoring the health of the population.

A health-related quality of life measure would add to the collection of summary measures. As proposed by the Office of Disease Prevention and Health Promotion, the summary measure would consist of numerical weights applied to life expectancy. Health adjusted life expectancy would use weights that represent average health at given ages. A quality-adjusted life expectancy would represent people’s preferences for different health states. A disability-adjusted life years would use weights derived from experts for the value of additional years of life. Some measure of years of healthy life would trace progress of the Healthy People program.

While the Chartbook refers generally to factors that induce improvements in health, the reader is left to wonder exactly what efforts are responsible for a specific improvement. Statements such as “advances in medicine, healthier lifestyles” etc. are insufficient. Needed is a more deliberate documenting of the efforts that are expended to improve health of the American people. Such causative information would usefully guide future expenditures to improve the Nation’s health and well-being.

~ Abbott L. Ferriss, Emory University
Subscription Information

As a service to the world-wide social indicators community, SINET is issued quarterly (February, May, August, November). Subscribers and network participants are invited to report news of their social indicator activity, research, policy development, etc., to the Editor for publication. Deadlines are the 20th of the month prior to each issue.

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