

The Swinburne National Technology and Society Monitor

Australian Centre for Emerging Technologies and Society
2007 Monitor



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SWINBURNE UNIVERSITY
OF TECHNOLOGY

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Introduction

Background

We are living during a time of rapid technological change. Emerging technologies – notably information and life science technologies – have profound social, political, psychological and ethical implications. Public perceptions of emerging technologies are potentially volatile.

The Swinburne National Technology and Society Monitor was developed by the Australian Centre for Emerging Technologies and Society (ACETS) at Swinburne University of Technology. It involves a representative nationwide survey of Australians, and provides an annual ‘snapshot’ of public perceptions regarding new technologies in Australia.

The 2007 Monitor is the fifth edition of the Swinburne National Technology and Society Monitor. It provides a general account of public perceptions about new technologies in Australia, including trust in institutions that provide information about new technologies.

The Survey

The 2007 survey included 1000 respondents. Participants in the national survey were asked:

- ◆ How comfortable they were with the current rate of technological change.
- ◆ How comfortable they were in relation to various technologies.
- ◆ The extent to which they agreed or disagreed with statements about the value of science and technology, and their beliefs as to the amount of control science should have over nature.
- ◆ How much they trusted various institutions, organisations and groups for information about new technologies.

Comfort with technologies was measured on an eleven point Likert scale where 0=not at all comfortable and 10=very comfortable. Agreement with statements about science and technology were measured on the same scale where 0=strongly disagree and 10=strongly agree. Trust was measured on a six point Likert scale where 0=don't trust at all and 5=trust a very great deal.

Participants were also asked demographic and personal questions about:

- ◆ Age
- ◆ Gender
- ◆ Education
- ◆ Employment status
- ◆ State of residence
- ◆ Voting behaviour
- ◆ Attendance of religious services
- ◆ Internet use
- ◆ Relationship status

Public Perceptions of Technological Change

Key Findings

1. Australians are comfortable with the rate of technological change in general, but the degree of comfort varies for specific technologies.
2. Australians are much more comfortable with the thought of wind farms than with the thought of nuclear power in Australia.
3. Significant differences in comfort ratings for nuclear power are related to gender and political affiliation. Men are more comfortable with nuclear power than women are, and Liberal voters are more comfortable than Labour voters.
4. While the degree of comfort with genetically modified (GM) plants and animals for food is relatively low, Australians are more comfortable with GM plants for food than with GM animals for food. There has been a slight increase in the proportion of people reporting some degree of comfort with GM animals for food since 2006.
5. Australians trust scientific institutions and the non-commercial media for information about new technologies. They do not trust government institutions, major companies or the churches. They have the least trust in the commercial media.
6. Australians report high levels of trust in their family doctors and report similar levels of trust in medical specialists as in scientific institutions.

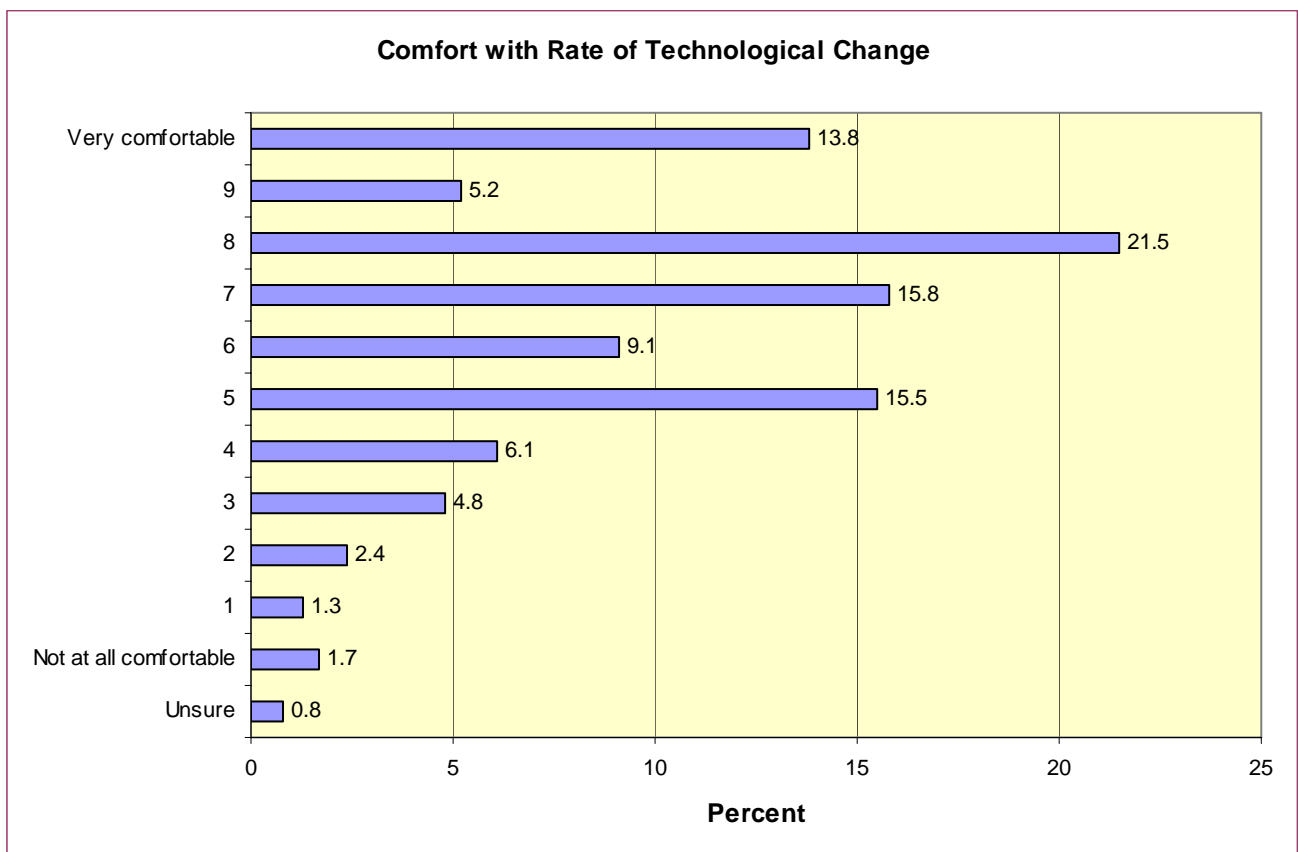
Comfort with the Rate of Technological Change

In general, Australians are comfortable with the rate of technological change in the world today (average rating = 6.6).

Sixty five percent of the sample gave ratings above the mid-point of 5 on the 0 to 10 rating scale, while sixteen percent gave a rating below the mid-point of 5.

Eighteen percent of the sample reported they were neither comfortable nor uncomfortable (rating at mid-point of 5), and one percent reported being unsure of their comfort level with the rate of technological change.

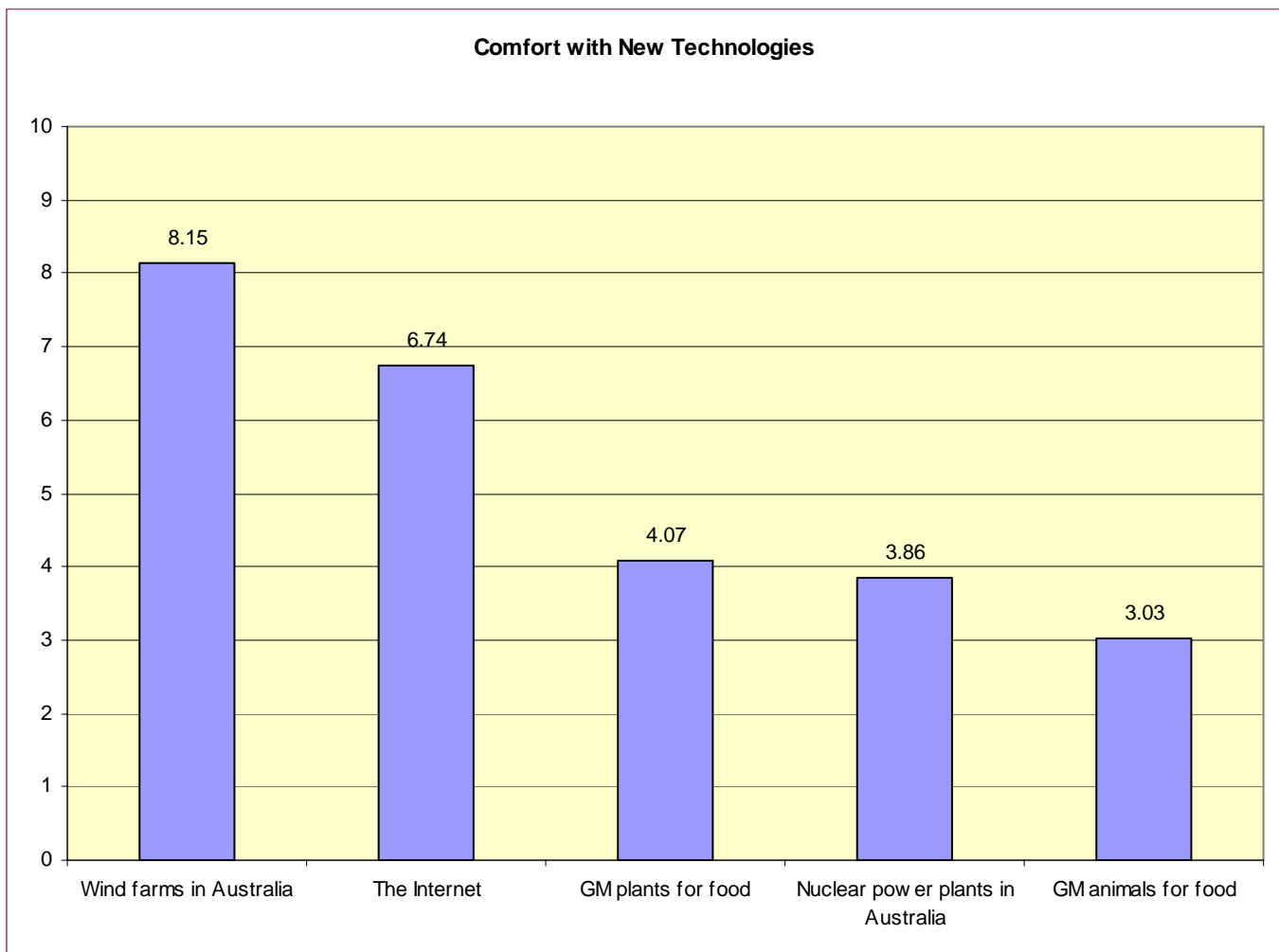
Men were significantly more comfortable with the rate of technological change than women, and younger people were significantly more comfortable than older people.



Comfort with New Technologies

Australians are very comfortable with wind farms in Australia. They are also comfortable with the Internet.

Australians are uncomfortable with nuclear power plants in Australia and genetically modified foods. They are less comfortable with genetically modified animals for food than with genetically modified plants for food.



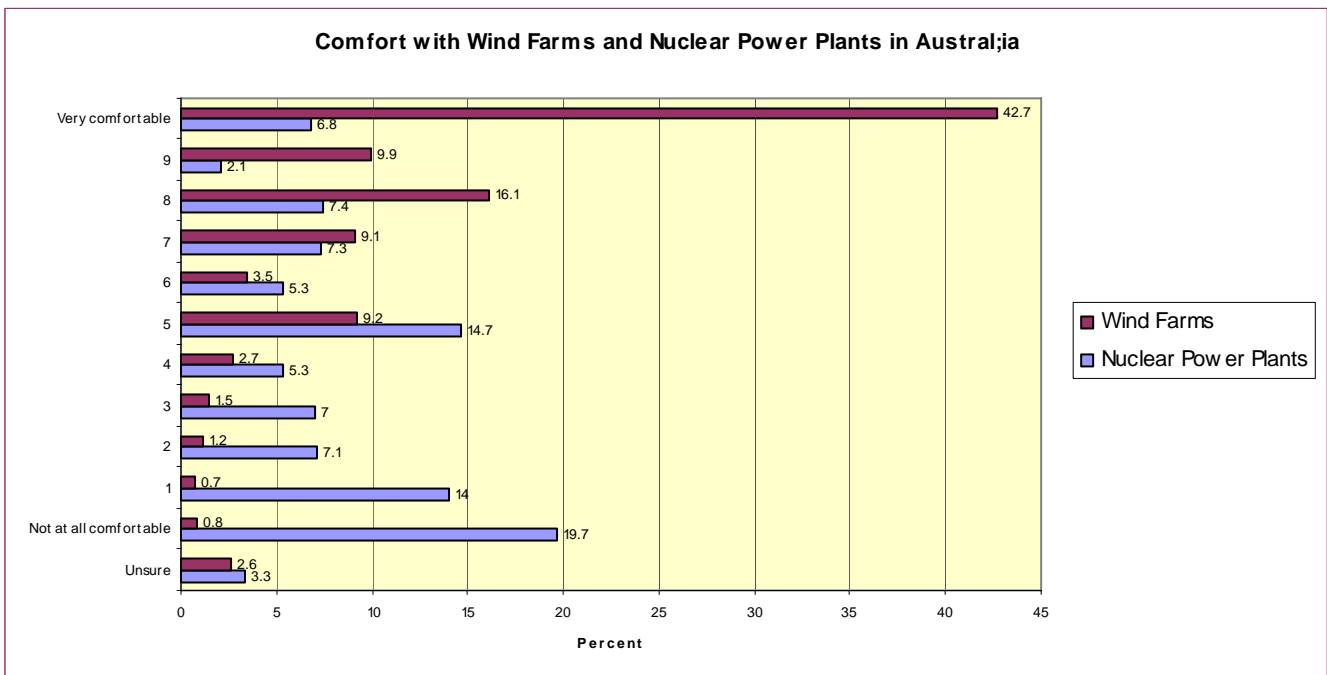
Comfort with Wind Farms and Nuclear Power Plants in Australia

In 2006 we examined, for the first time, Australians' levels of comfort with the thought of nuclear power plants in their own country. In 2007 we also examined the level of comfort with wind farms. Our data suggests continued discomfort with nuclear power in Australia, but high levels of comfort with wind farms.

On average, the level of comfort with wind farms in Australia was very high (average rating = 8.2) while the level of comfort with nuclear power plants was quite low (average rating = 4.0). Eighty one percent of respondents reported some level of comfort with wind farms, with 42% reporting they were very comfortable. By contrast, 30% of Australians reported some degree of comfort with nuclear power plants with only 7% reporting they were very comfortable.

Fifty three percent of the sample reported some degree of discomfort with nuclear power plants, with 20% giving comfort ratings of 0, indicating they were not at all comfortable. By comparison only 7% of the sample reported any discomfort with wind farms. A further 12% were unsure about wind farms and 18% were unsure about nuclear power plants in Australia.

On average, men were much more comfortable with nuclear power than women, but there were no differences for comfort with wind farms.

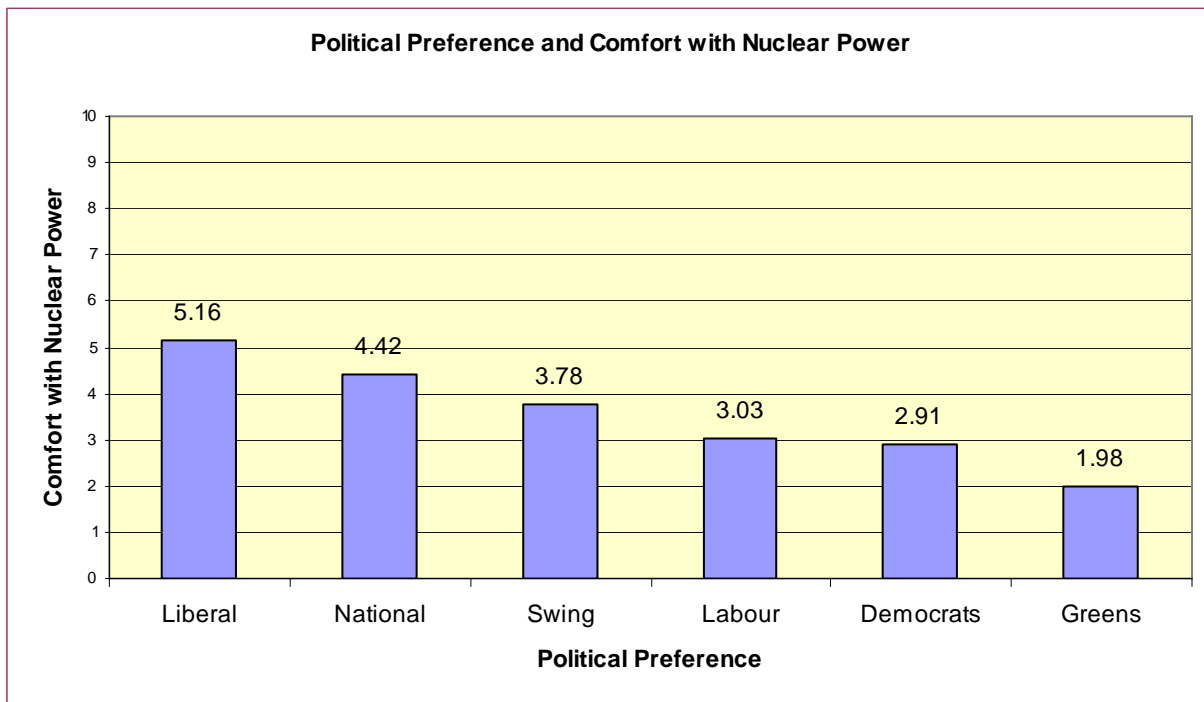


Comfort with Nuclear Power Plants

The average comfort rating of 4.0 for nuclear power plants in Australia fell on the discomfort side of the 0 to 10 rating scale midpoint of 5. A closer examination of the data indicated that reported comfort with nuclear power was related to a number of other variables.

Men were significantly more comfortable with nuclear power ($M = 4.84$, $SD = 3.38$) than women ($M = 3.21$, $SD = 2.91$) ($p < .0001$).

There were no differences in comfort rating for nuclear power based on age, education or frequency of attendance at religious services. However, political preferences accounted for statistically significant ($p < .0001$) mean differences in comfort ratings with nuclear power. Liberal voters ($n = 286$) were the most comfortable followed by National voters ($n = 24$). Swing voters ($n = 180$), Labour voters ($n = 304$) and Democrats voters ($n = 11$) were moderately uncomfortable, while Greens voters ($n = 48$) reported the lowest levels of comfort with nuclear power.



There was no correlation between comfort with nuclear power in Australia and comfort with wind farms in Australia. However, there were significant positive relationships ($p < .0001$) between comfort with nuclear power and comfort with other controversial technologies. Greater comfort with nuclear power was associated with higher degrees of comfort with genetically modified plants for food ($r = .37$) and genetically modified animals for food ($r = .36$). In addition, greater comfort with nuclear power was significantly ($p < .0001$) positively associated with the belief that science and technology are continuously improving our way of life ($r = .16$), but negatively associated with trust in the environmental movement ($r = -.23$).

Comfort with GM Plants and Animals for Food

On average, Australians were more comfortable with genetically modified plants for food (average rating = 4.1) than with genetically modified animals for food (average rating = 3.0), but the degree of comfort for both is relatively low.

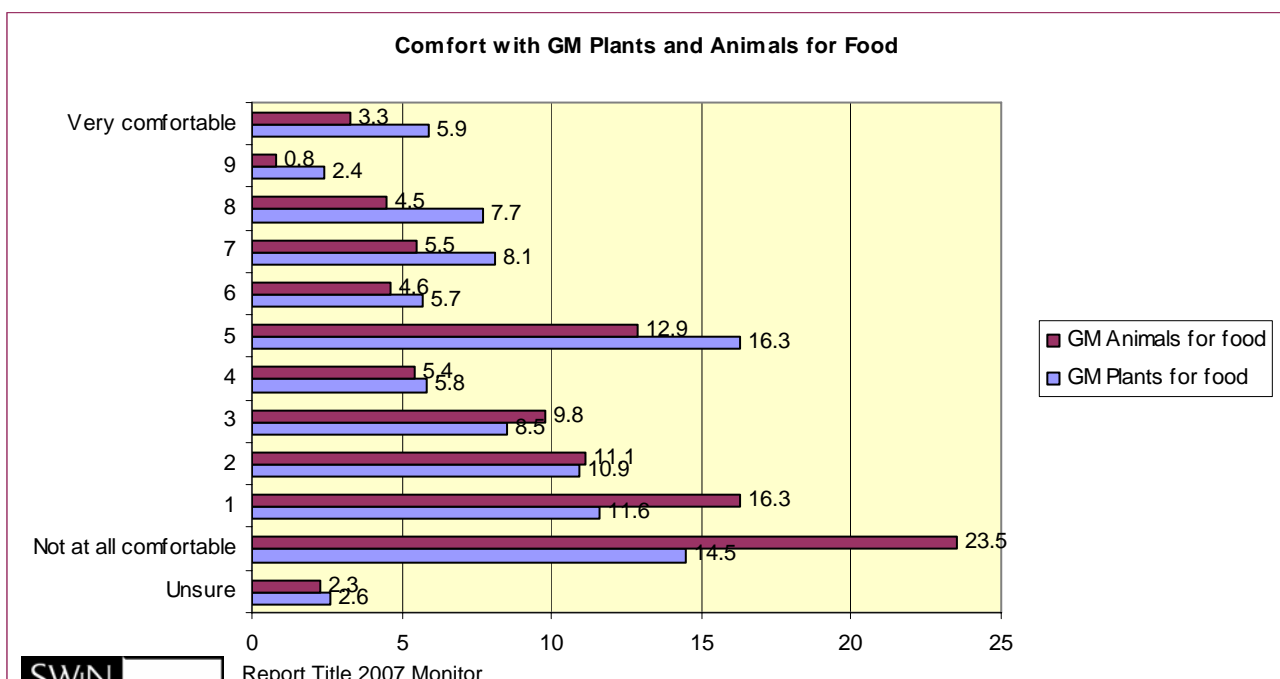
Thirty percent of the sample reported some comfort with genetically modified plants for food (rating above the mid point of 5 on the scale), while 19% reported some level of comfort with genetically modified animals for food.

The majority of the sample was uncomfortable (rating below the mid point of 5 on the scale) with genetically modified plants (51%) and animals (66%) for food. Of these respondents, most reported they were not at all comfortable with GM plants (14.5%) or animals (23.5%) for food.

A further 19% reported being unsure of their comfort with genetically modified plants for food, while 16% reported being unsure of their comfort with genetically modified animals for food.

Men were significantly more comfortable with GM plants and animals for food than women.

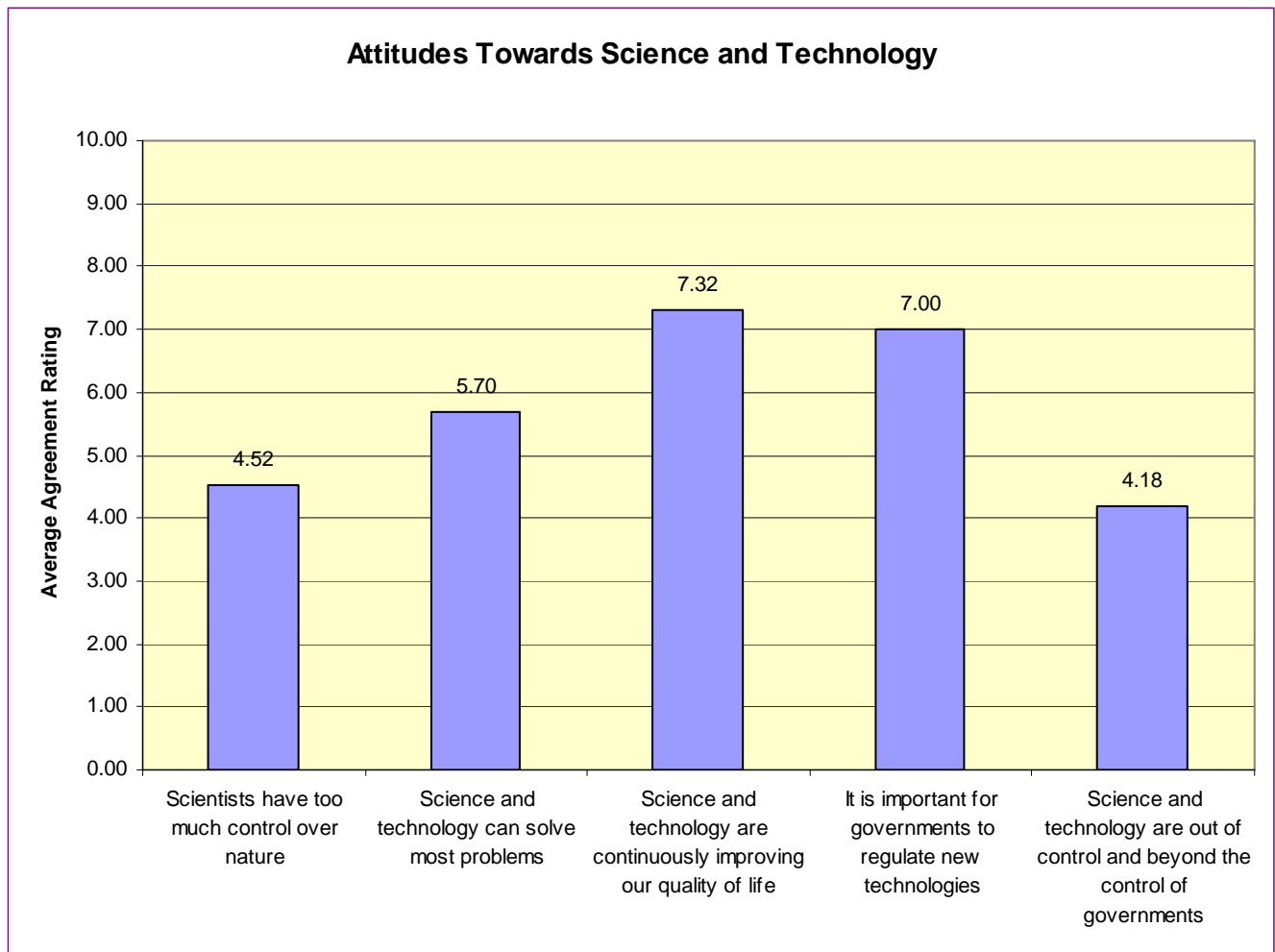
These results suggest a slight change in public perceptions regarding GM foods since 2006. While the overall comfort ratings for GM foods and the proportion of respondents reporting some level of comfort with GM plants for food remain similar to 2006 results, there was a 4% increase in the number of people reporting some level of comfort with GM animals for food since 2006



Attitudes Towards Science and Technology

Australians generally agree that science and technology are improving our quality of life, and think it is important for governments to regulate new technologies.

There is somewhat less agreement about the level of control scientists have over nature, the degree to which science and technology can solve problems faced by human beings and the level of control that governments have over science and technology.

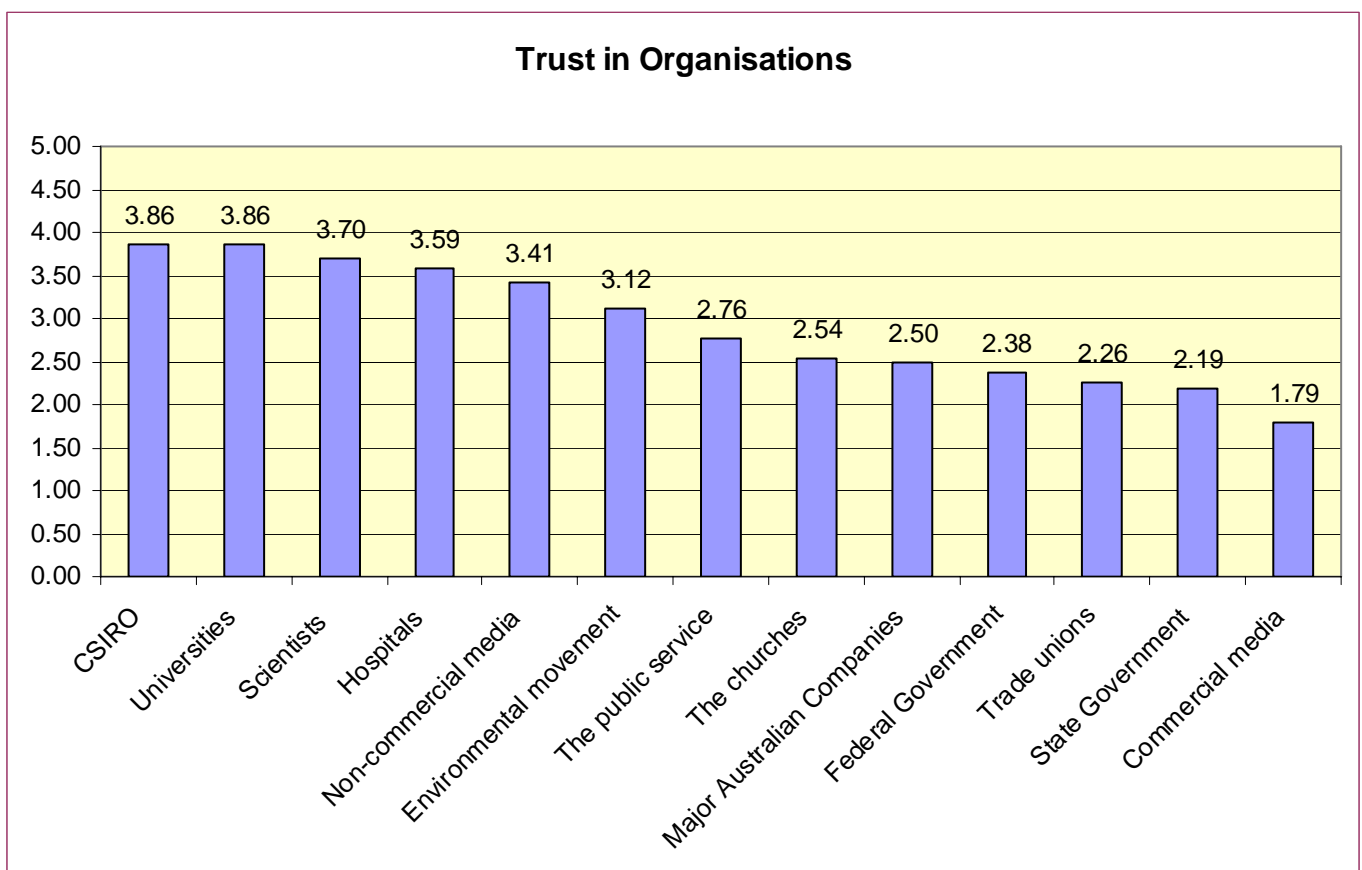


Trust in Organisations

The overall pattern of results for Australians' trust in people and organisations, in relation to information about science and technology, is very similar to the pattern of results found in previous years.

Australians continue to have the most trust in scientific institutions (such as CSIRO, universities and hospitals). Australians have a degree of trust in the environmental movement, the public service, churches and major companies, but they do not trust governments or trade unions. In 2007 both Federal and State Governments were ranked lower in trust ratings than they were in 2006.

Consistent with 2006 results, the level of trust in non-commercial media is similar to levels of trust in scientific organisations, while trust in the commercial media is the lowest of all the organisations.



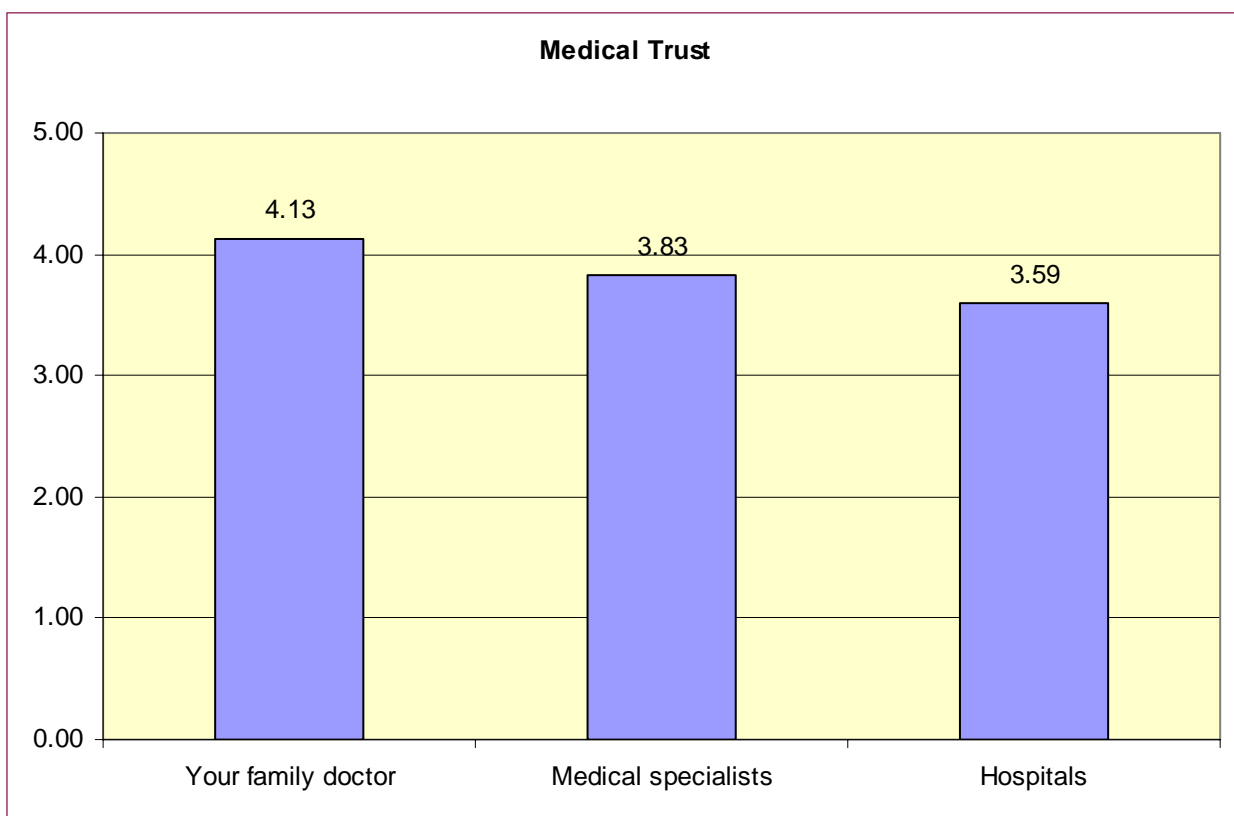
Medical Trust

In addition to the standard SNTSM question about trust in hospitals, the 2007 respondents were asked how much they trust their family doctors and medical specialists. Each medical trust target was rated on a 0 to 5 scale (0 = no trust at all, 5 = a great deal of trust).

Overall, Australian adults reported high levels of trust in their family doctors, moderately high trust in specialists and moderate trust in hospitals. Trust scores had a potential range of 0 to 5 and all mean scores were well above the scale mid-point of 2.5.

A within-subjects comparison of the three trust scores showed that respondents reported significantly higher trust in family doctors than in medical specialists or hospitals, with trust in specialists rated higher than trust in hospitals (all within-subjects contrasts $p < .001$).

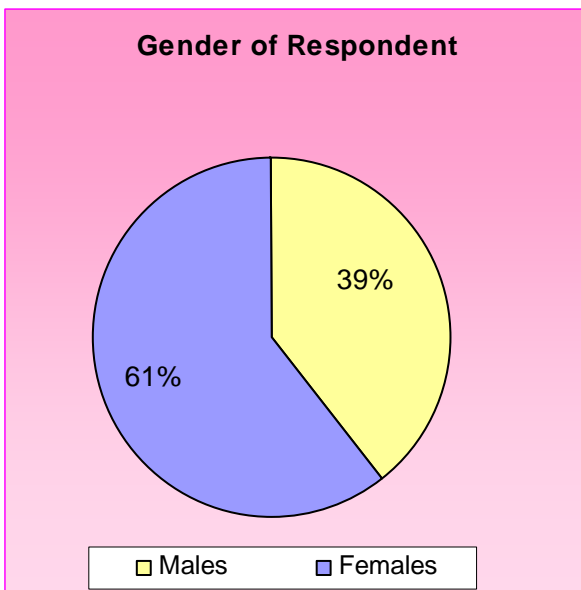
This sample reported similar levels of trust in medical specialists (3.83) as they reported for trust in universities (3.86) and the CSIRO (3.86). Trust ratings for the medical profession and scientific institutions were much higher than trust ratings for commercial media (1.79), trade unions (2.26) and the federal government (2.38).



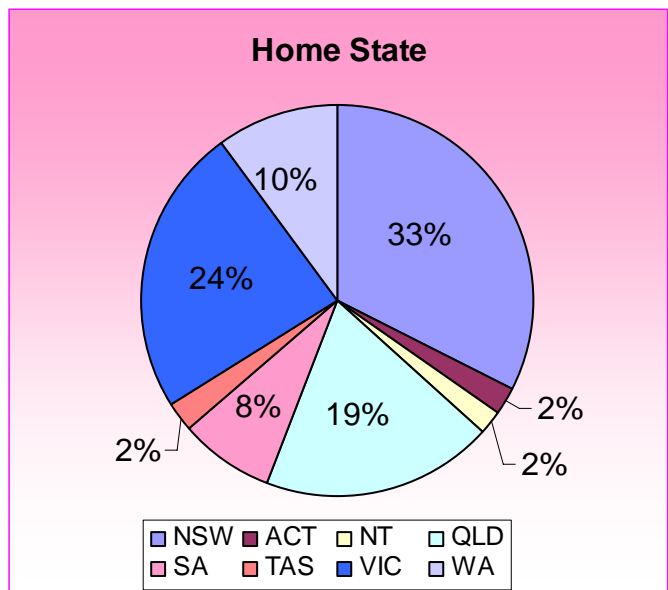
The National Survey Sample

1000 respondents took part in the 2007 national survey. The target population was the Australian general public aged 18 years and over. The survey was conducted 5 – 17 July 2007 using Computer Assisted Telephone Interviewing (CATI) technology.

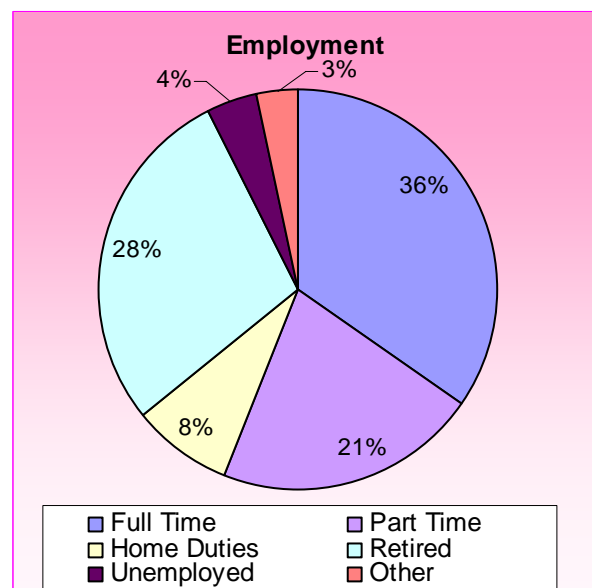
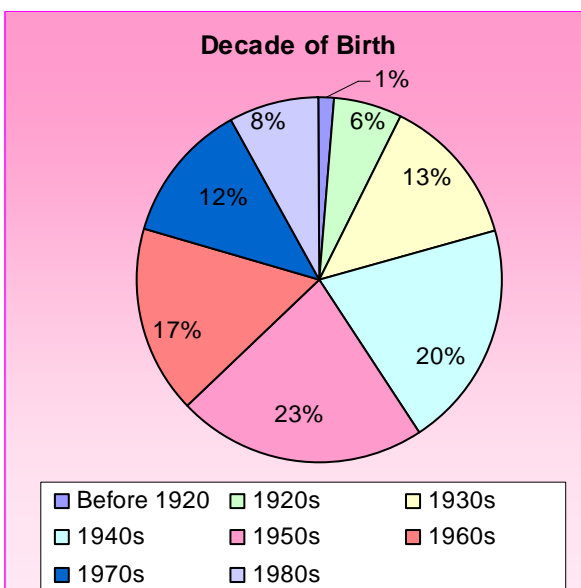
The following charts provide a graphical representation of the percentage of respondents in each demographic category.

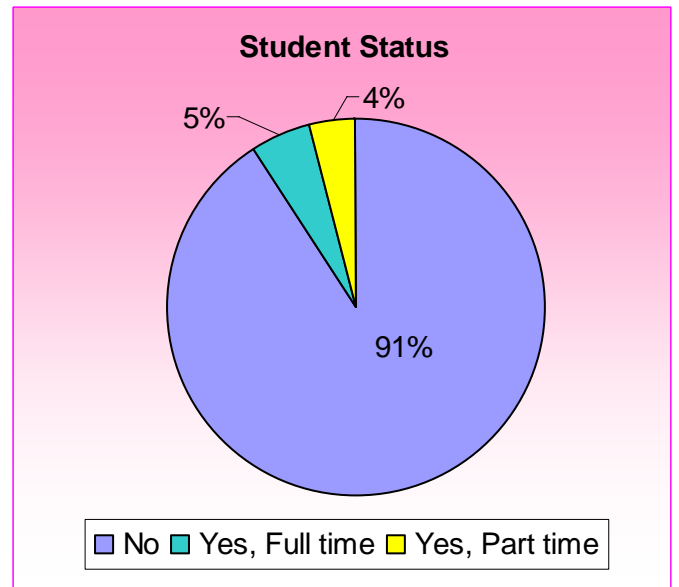
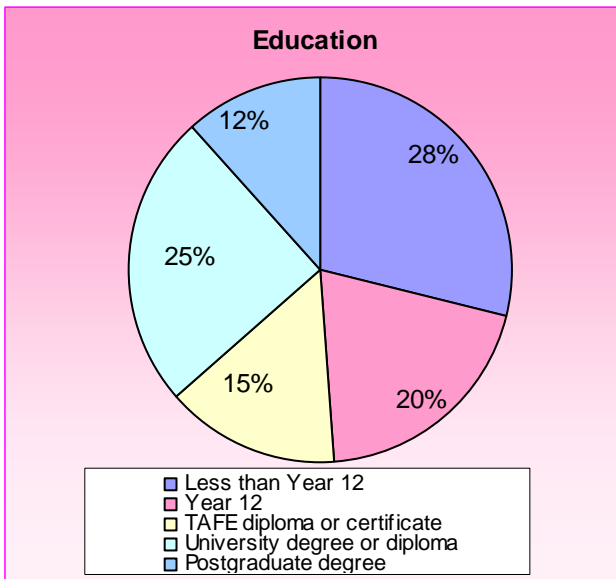


Sixty one percent of the sample was female and the average age of the respondents was 52 years.



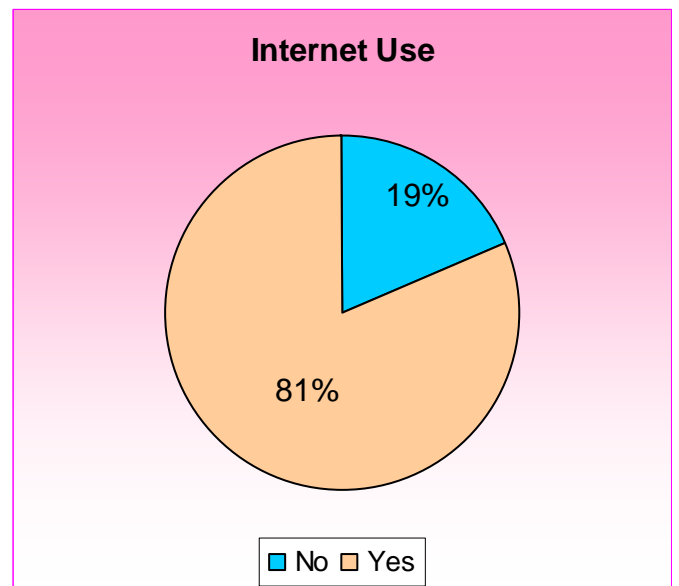
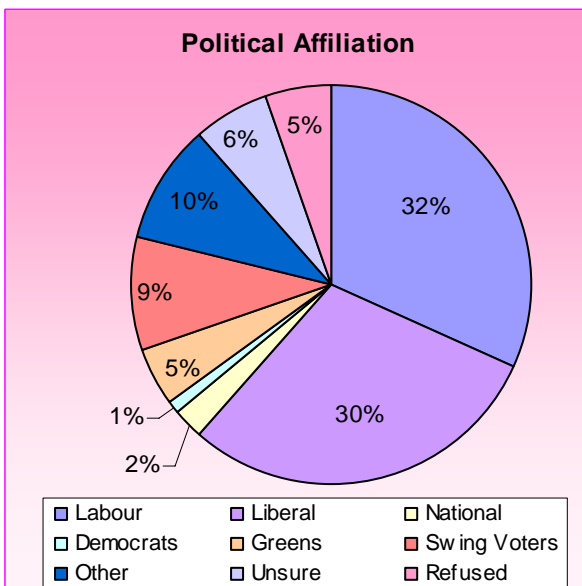
All states were represented in the sample and the majority of the respondents were employed (57%).

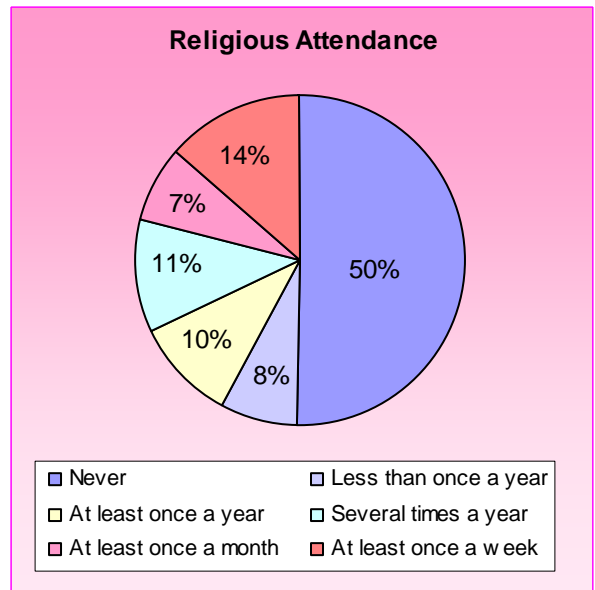
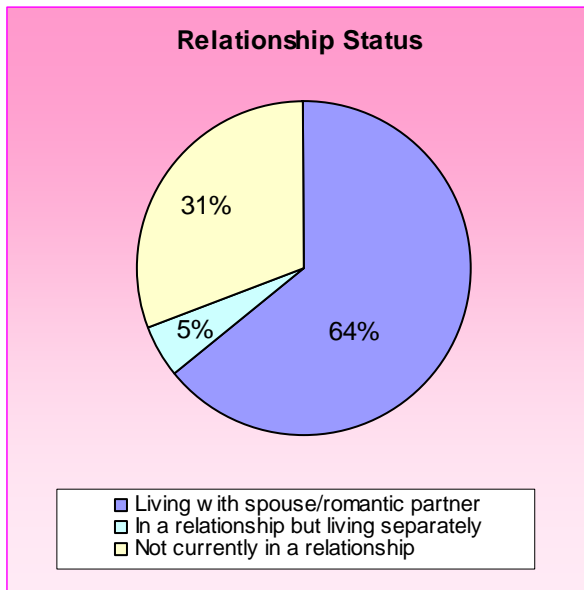




Approximately half of the sample (51%) had completed tertiary education. Political affiliation was split mainly between Labour (32%) and Liberal (30%) parties.

Very few respondents (9%) were students. Most respondents (81%) had used the Internet at some stage, and of these, 87% had used the Internet in the week preceding the survey.





The majority of the sample was living with a partner (64%). Fifty percent of the sample never attended church. Of those who did attend church, 14 % did so at least once a week.

The Monitor Team

The Australian Centre for Emerging Technologies and Society (ACETS) is a Tier 2 Research Centre at Swinburne University of Technology. It consists of more than twenty academics and research staff, including psychologists, sociologists, media and policy specialists.

The following members of ACETS (in alphabetical order) contributed to the production of the 2007 Monitor:

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