

The Swinburne National Technology and Society Monitor

Department of Statistics, Data Science and Epidemiology
Faculty of Health, Arts & Design
Swinburne University of Technology

2017 Monitor

Authors: Gordana Bruce and Christine Critchley



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Contents

Executive Summary	1
INTRODUCTION	2
Background	2
The Survey	2
Measures	3
COMFORT WITH THE RATE OF TECHNOLOGICAL CHANGE	4
COMFORT WITH DIFFERENT TECHNOLOGIES.....	5
Comfort with GM Plants and Animals for Food.....	6
Comfort with Stem Cell Research	7
Comfort with Different Methods of Reducing Depression and Anxiety	8
ATTITUDES TOWARDS SCIENCE AND TECHNOLOGY	9
TRUST IN ORGANISATIONS.....	10
CONCERN ABOUT SOCIAL ISSUES	12
Categories of Social Concern	13
Subcategories of Social Concerns	14
LANDLINE VS MOBILE CALLS.....	15
THE NATIONAL SURVEY SAMPLE	16
SWINBURNE UNIVERSITY CATI FACILITY.....	18
ACKNOWLEDGEMENTS	19

Executive Summary

The Swinburne National Technology and Society Monitor provides an annual 'snapshot' of public perceptions of technological change. The Monitor is based on a national survey of 1000 Australian adults aged 18 to 96. The main findings of the 2017 Monitor are:

1. In general, Australians are comfortable with the rate of technological change in the world today.
2. The degree of comfort with genetically modified (GM) plants and animals for food remains relatively low.
3. Australians are more comfortable with stem cell research using tissues from adults than with using left-over IVF embryos.
4. When asked about different methods of reducing depression and anxiety, Australians reported more comfort with the use of psychological therapies than with the use of drugs.
5. Australians trust scientific institutions and the non-commercial media for information about new technologies. They have less trust in major companies and state and federal governments, with the least trust in the commercial media.
6. When asked what social issues were the most important for Australia today, issues related to quality of life were the most cited social concerns, followed by population and public health issues.

Introduction

Background

Information and life science technologies have profound social, political, psychological and ethical implications. Public perceptions of such technologies are potentially volatile.

The Swinburne National Technology and Society Monitor was developed in 2003 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 2017 Monitor is the thirteenth 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. In addition, it involves an assessment of current social concerns.

The Survey

The 2017 survey included 1004 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.
- ◆ What they thought were important social issues for Australia at present.

Measures

Perceptions of New Technologies

Comfort with technologies was measured on an eleven-point Likert scale where 0=not at all comfortable and 10=very comfortable.

Statements about science and technology were measured on an eleven-point agreement 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.

Perceptions of Social Concerns

Perceptions of important social issues were gained through an open-ended question inviting respondents to nominate what they thought were the most important issues or problems for Australia at present.

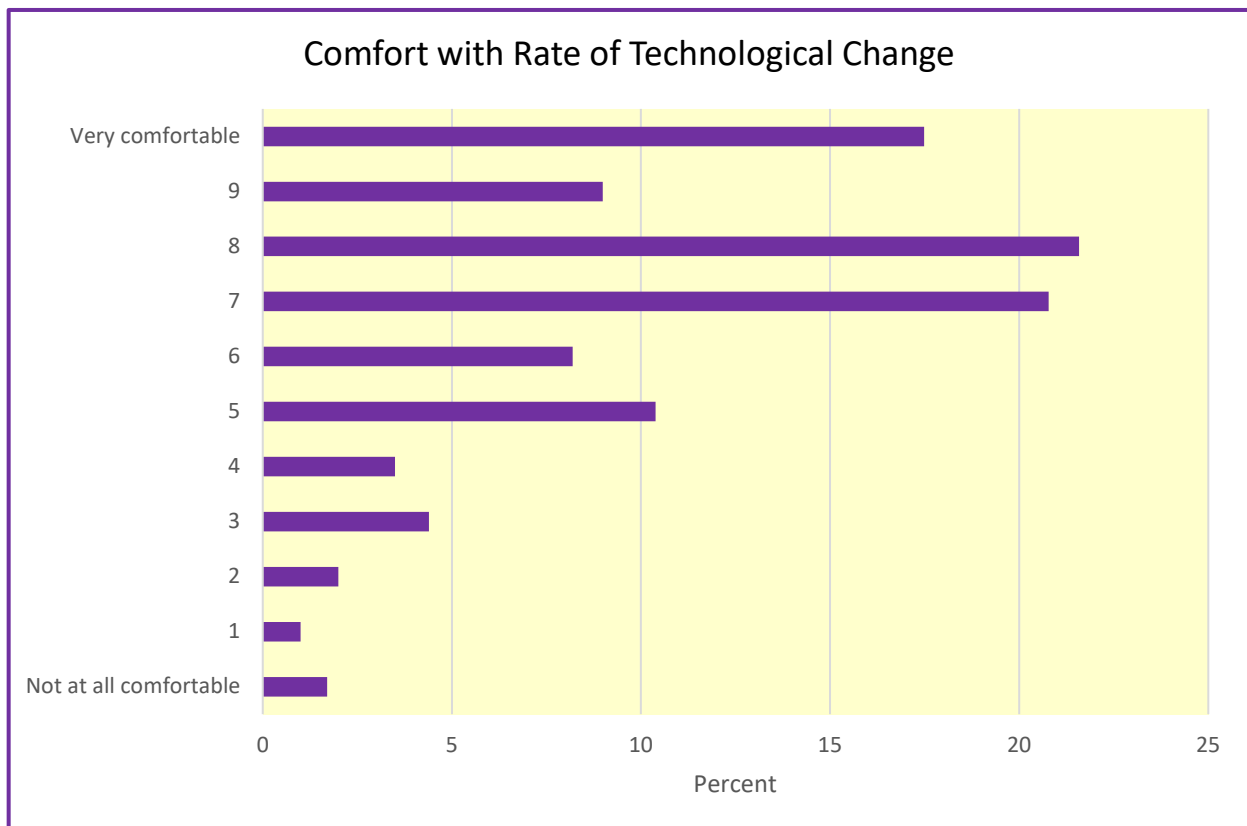
Comfort with the Rate of Technological Change

In general, Australians are comfortable with the rate of technological change in the world today (average rating = 7.1).

Seventy-seven percent of the sample gave ratings above the mid-point of 5 on the 0 - 10 rating scale, while 13 percent gave a rating below the mid-point of 5.

Ten percent of the sample reported they were neither comfortable nor uncomfortable (rating at mid-point of 5), and less than 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 were ($p < .001$), and younger people were significantly more comfortable than older people were ($p < .001$).

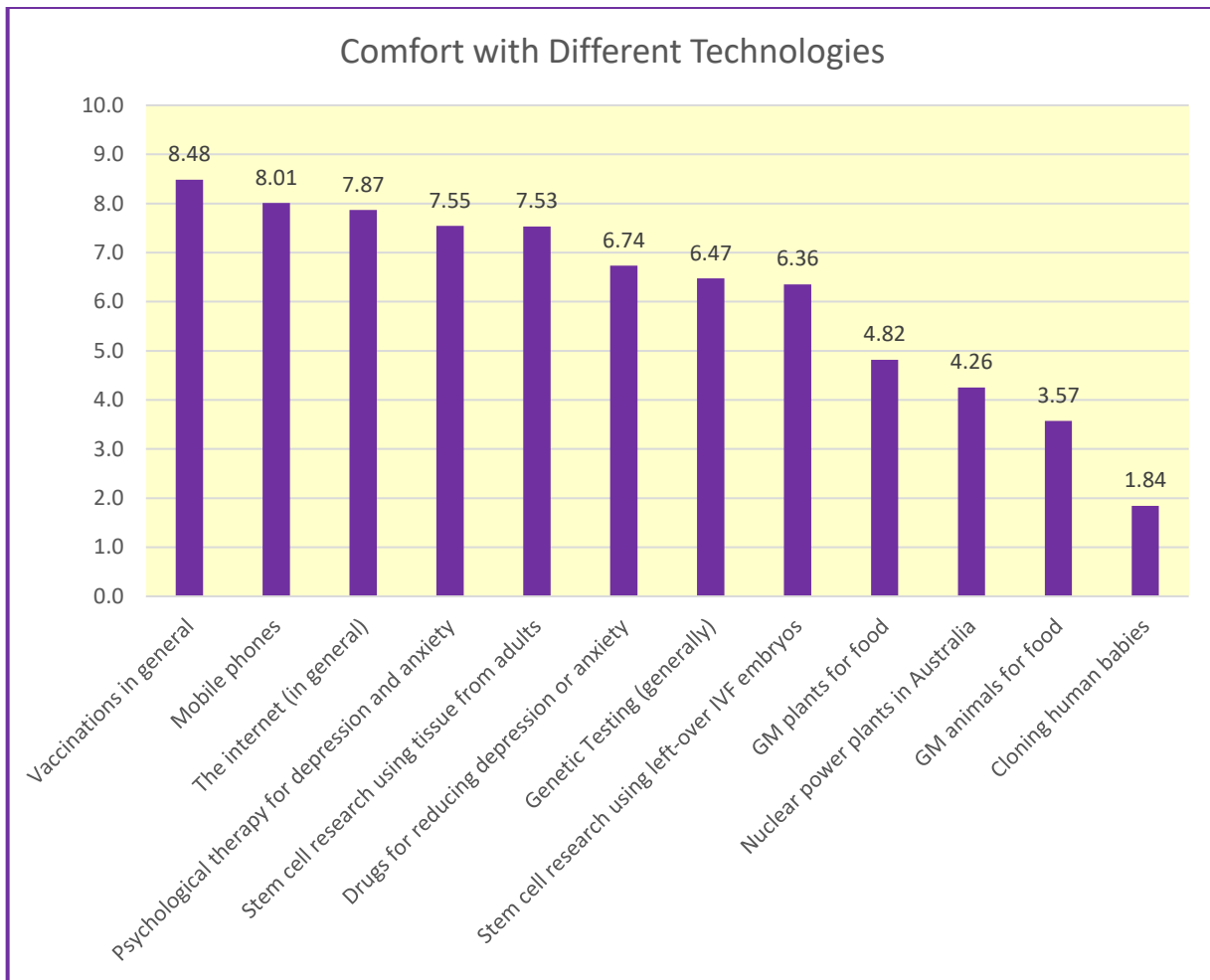


Comfort with Different Technologies

Australians are comfortable with vaccinations, mobile phones, the internet, psychological therapy for depression and anxiety, and stem cell research using tissue from adults. They are somewhat less comfortable with drugs for reducing depression and anxiety, genetic testing, and stem cell research using left-over IVF embryos.

Australians are not comfortable with nuclear power plants, genetically modified (GM) foods, or cloning human babies. They are significantly less comfortable with genetically modified animals for food than with genetically modified plants for food.

There were gender differences in reported levels of comfort for GM foods (plants and animals), nuclear power plants, stem cell research using left-over IVF embryos, and the use of drugs or psychological therapies for reducing depression and anxiety.



Comfort with GM Plants and Animals for Food

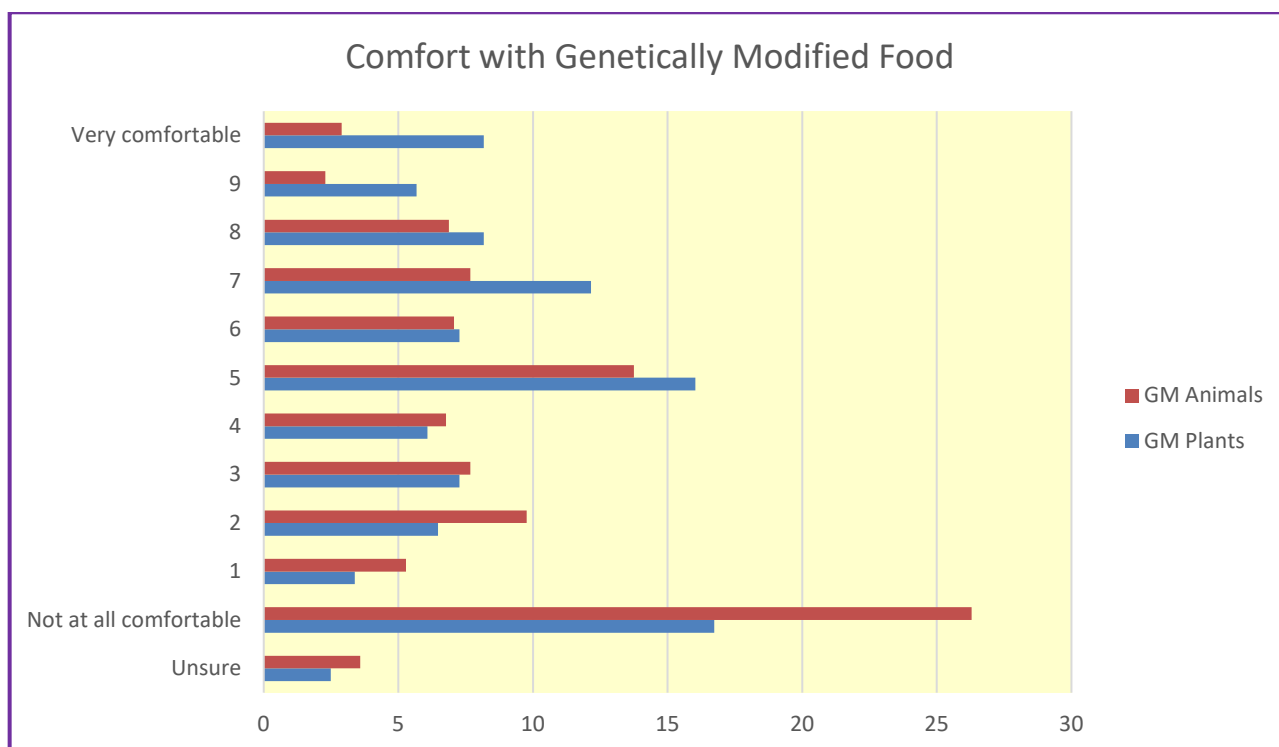
On average, Australians were more comfortable with genetically modified plants for food (average rating = 4.8) than with genetically modified animals for food (average rating = 3.6), but the degree of comfort for both was relatively low.

Forty-one percent of the sample reported some comfort with genetically modified plants for food (rating above the midpoint of 5 on the scale), while 27% reported some level of comfort with genetically modified animals for food.

Forty percent of respondents were not comfortable (rating below the midpoint of 5 on the scale) with genetically modified plants for food, while the majority of respondents (56%) were not comfortable with genetically modified animals for food. Respondents who reported discomfort most often reported they were not at all comfortable with GM food (plants = 17%; animals = 27%).

Similar numbers of respondents reported they were neither comfortable nor uncomfortable (rating at the mid-point of 5) for GM plants (16%) and animals (14%). Only a few respondents were unsure of their degree of comfort (plants = 3%; animals = 4%).

Men were significantly more comfortable with GM plants and animals for food than women were ($p < .001$ for both plants and animals).



Comfort with Stem Cell Research

In 2017 we asked respondents how comfortable they were with stem cell research using either left-over IVF embryos or tissue from adults.

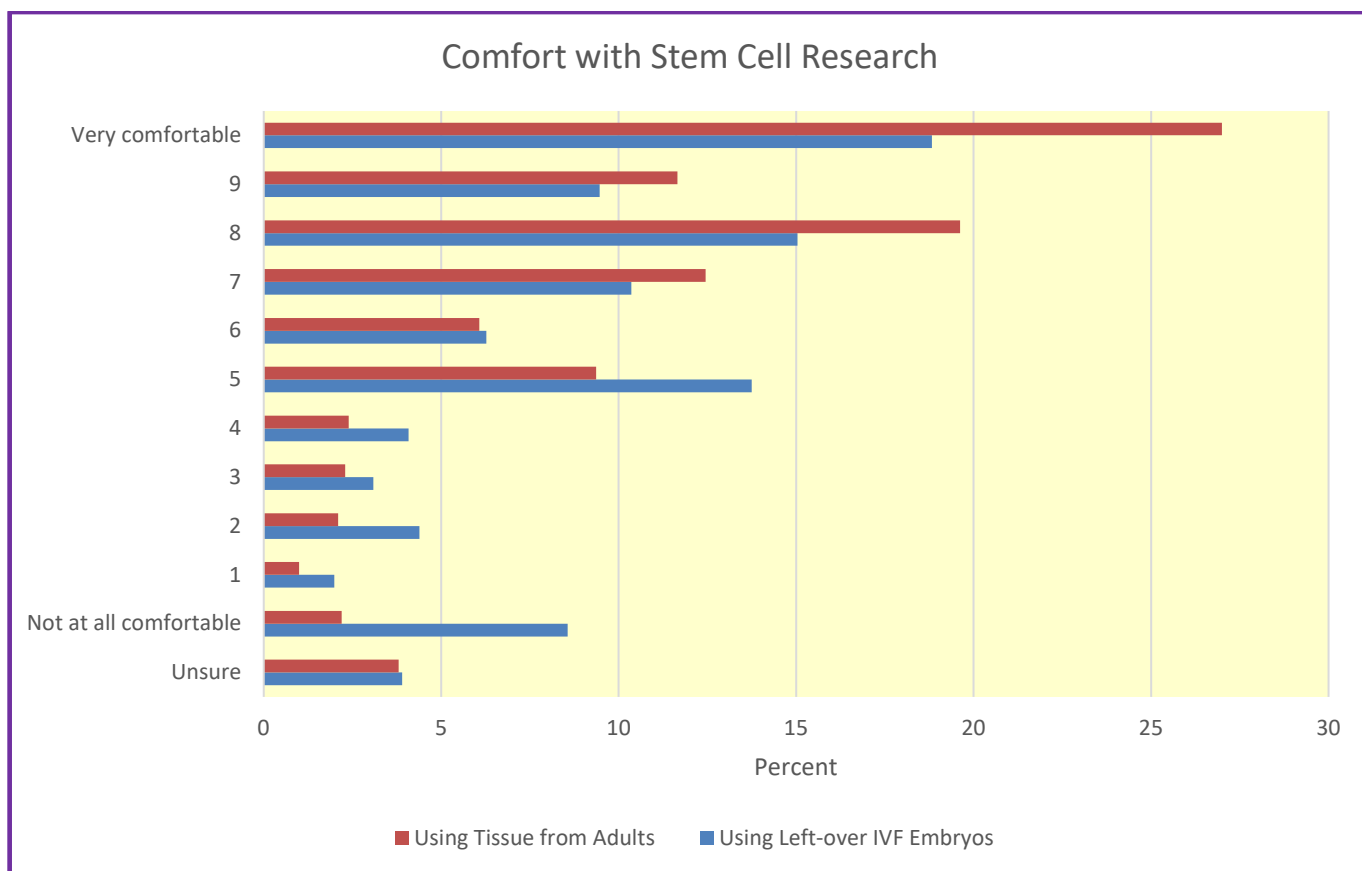
On average, Australians were more comfortable with stem cell research using tissue from adults (average rating = 7.5) than with stem cell research using left-over IVF embryos (average rating = 6.4).

Seventy-seven percent of the sample reported some comfort with stem cell research using tissue from adults (rating above the midpoint of 5 on the scale), compared with 60% who reported some level of comfort with stem cell research using left-over IVF embryos.

Twenty-two percent of respondents were not comfortable (rating below the midpoint of 5 on the scale) with stem cell research using left-over IVF embryos, while few respondents (10%) were not comfortable with stem cell research using tissue from adults.

While 4% of respondents nominated 'unsure' for stem cell research using both tissue from adults and left-over IVF embryos, a higher proportion of people nominated the mid-point of 5 (neither comfortable nor uncomfortable) for research using left-over IVF embryos (14%) than for research using tissue from adults (9%).

Men were significantly more comfortable with stem cell research using left-over IVF embryos than women were ($p < .05$), but there were no differences between men and women for the degree of comfort with stem cell research using tissue from adults.



Comfort with Different Methods of Reducing Depression and Anxiety

In 2017 we also asked respondents about comfort with using either drugs or psychological therapies for reducing depression and anxiety.

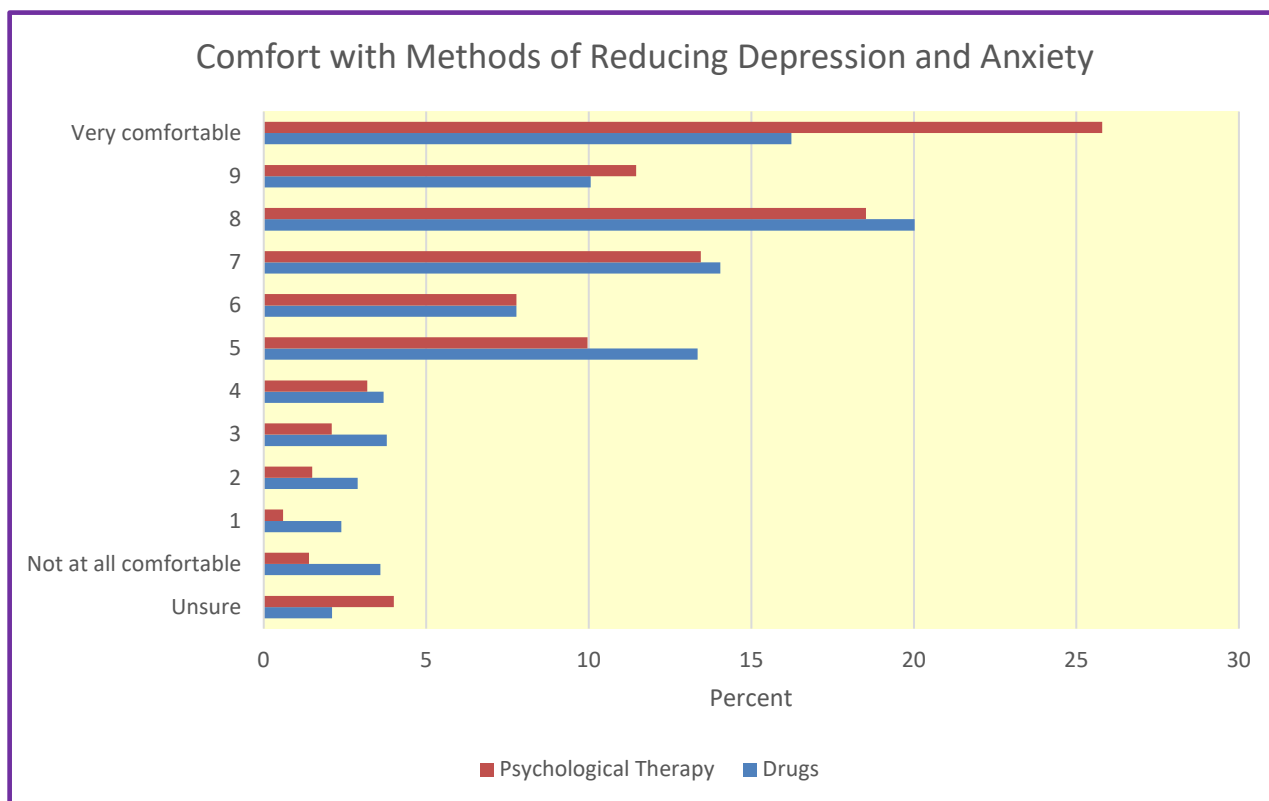
On average, Australians were more comfortable with the use of psychological therapies (average rating = 7.6) than with the use of drugs (average rating = 6.7) for reducing depression and anxiety.

Seventy-seven percent of the sample reported some comfort with the use of psychological therapies (rating above the midpoint of 5 on the scale), compared with 68% who reported some level of comfort with the use of drugs.

Sixteen percent of respondents were not comfortable (rating below the midpoint of 5 on the scale) with the use of drugs for reducing depression and anxiety, while very few respondents (9%) were not comfortable with the use of psychological therapies.

A slightly higher proportion of respondents were neither comfortable nor uncomfortable (rating at the mid-point of 5) with the use of drugs for reducing depression and anxiety (13%) than with the use of psychological therapies (10%). Fewer respondents reported being unsure about the use of drugs (2%) than with the use of psychological therapies (4%).

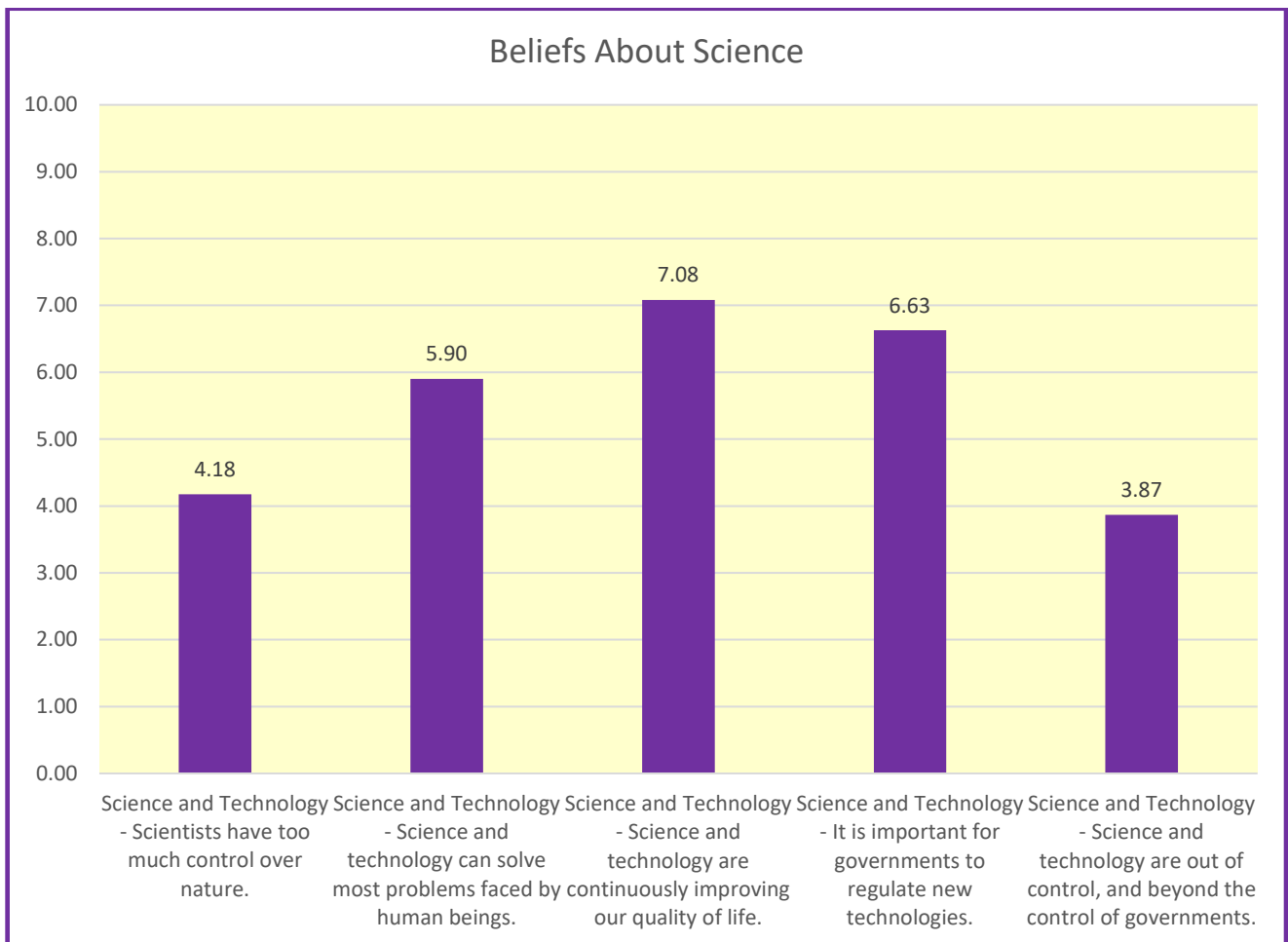
Women were significantly more comfortable with both the use of drugs ($p < .01$) and psychological therapies ($p < .001$) than men were.



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 scientist 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.

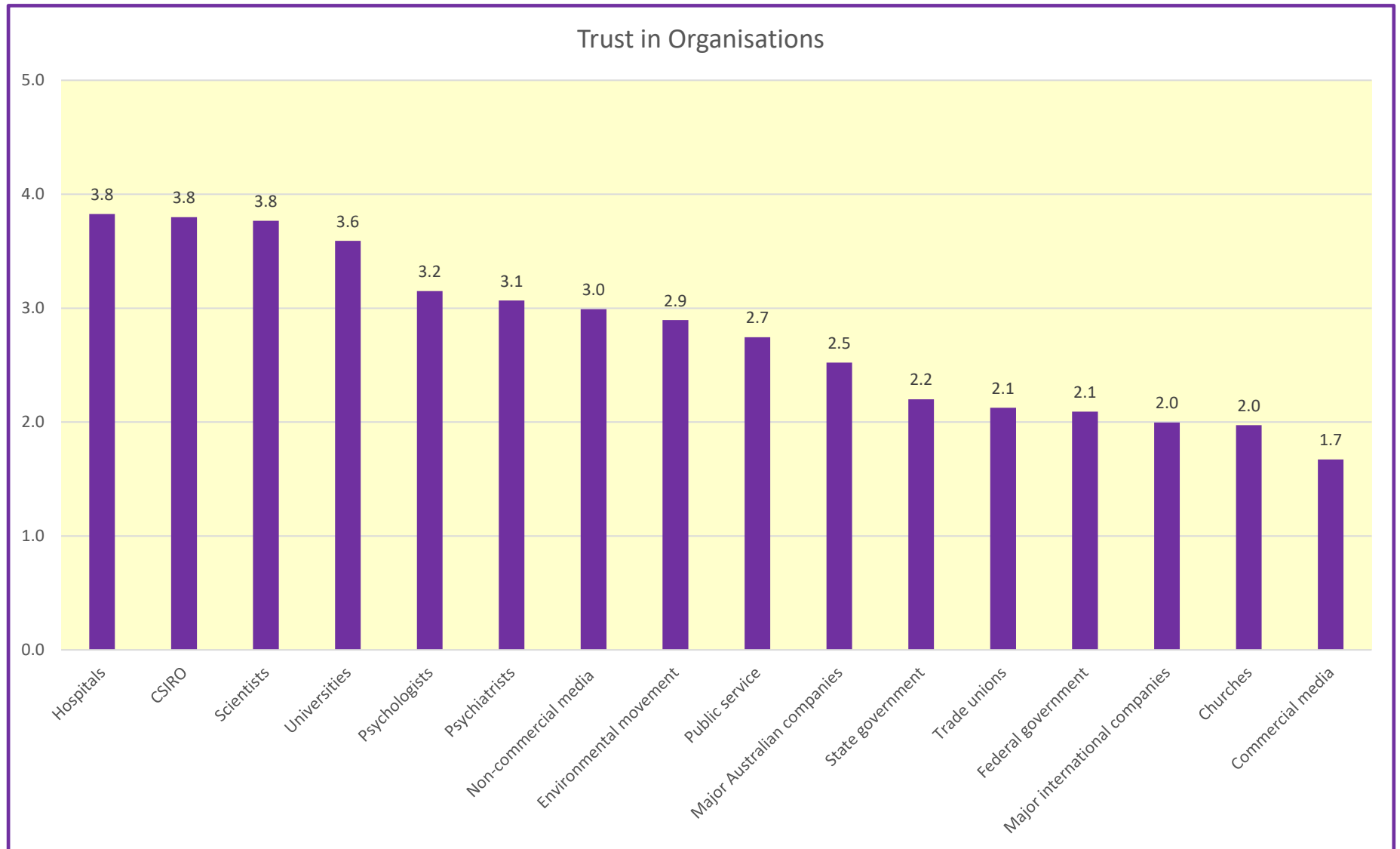
Australians continue to have the most trust in scientific and medical personnel and institutions (such as CSIRO, scientists, universities and hospitals). Trust in mental health professionals (psychologists and psychiatrists) is relatively high, and in similar degree to trust in the non-commercial media (e.g. the ABC).

Australians have a degree of trust in the environmental movement, the public service and major Australian companies, but they do not trust the churches, major international companies, governments or trade unions.

The relative trust in State and Federal governments has varied over the years, depending on the political climate at the time the Monitor is conducted each year. As in prior years, trust for governments was generally low, with no significant differences in trust between State and Federal government this year.

In line with findings from previous years, results in 2017 indicate that trust in major international companies remains significantly lower than trust in major Australian companies.

Consistent with previous results, trust in the commercial media is the lowest of all the organisations.



Concern About Social Issues

As in previous years, respondents were asked an open-ended question regarding what they felt were the most important issues or problems for Australia at present. In 2017 we gave respondents the option of nominating up to three social concerns. If respondents nominated a very broad area (e.g. education), they were asked if there was some specific aspect of that issue that was of particular concern.

Responses were firstly divided into broad categories and then into subcategories of the broader social concern. Since not everyone nominated three concerns, the data was analysed two ways: firstly by looking at the frequency of categories in the first nominated concern; and secondly by pooling all the concerns and looking at the frequency of the categories in the pooled data. The pattern of results was very similar for both methods of analysis, with identical ranking of social concerns, and similar percentages of responses in the different categories. Given this finding, it was deemed appropriate to use the pooled data.

In 2017, quality of life once again became the most often cited social concern, followed by population and public health. Within the quality of life category, the most frequently cited issues related to employment (21%), housing affordability and availability (19%), homelessness (16%), the economic divide between rich and poor (14%), and the impact of social media and technology (13%).

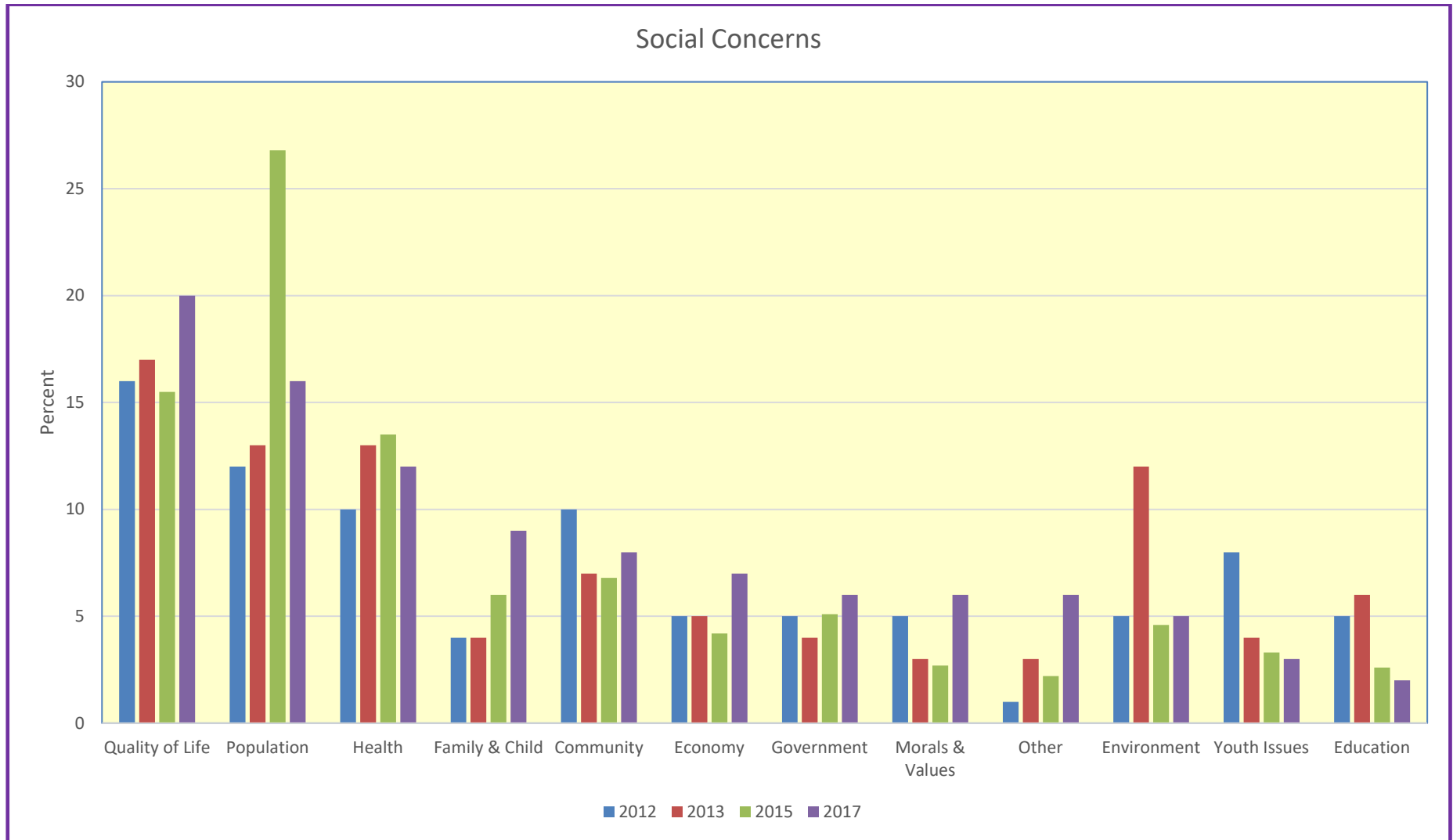
Population concerns related to racism (21%), refugees/asylum seekers (20%), indigenous issues (14%), immigration (13%) and integration/assimilation (13%).

Within the public health category, people most often cited problems related to drugs and alcohol (53%), often making a connection with crime and violence. The next most frequently cited health issue related to mental health (20%).

Other notable changes from prior years was an increased concern about marriage equality (being the main issue within the 'family & child' category; 78%) and the emergence of concerns related to freedom of speech / political correctness, and women's issues, such as workplace and pay equality. Both of these 'emerging' issues were included in the 'other' category. Also notable in 2017 was the decreased emphasis on environmental concerns, youth issues and education.

As in 2015, there were very few responses related to energy and resources in 2017, so it was deemed more appropriate to include these in the 'other' category rather than having them as a separate category.

Categories of Social Concern



Subcategories of Social Concerns

The information below details the most frequently cited subcategories within the broad social concerns nominated by respondents (less frequently cited issues are not included). The subcategories are listed in descending order of frequency of response.

Quality of Life

Employment
Housing
(affordability/availability)
Homelessness
Inequality (rich/poor divide)
Social media / technology
(impact)

Population

Racism
Refugees / asylum seekers
Indigenous issues
Immigration
Integration / assimilation

Health

Drugs / alcohol
Mental health
Health services / funding
Disability support

Family & Child

Marriage equality
Domestic violence

Community

Law & order / crime & violence
Aging population / aged care
Social welfare
Infrastructure (road / rail)

Economy

Inflation / cost of living
Economy (general)
Economic debt

Government

Leadership / In-fighting
Policies / direction
Government (general)
Personal interests (not
listening to public)

Morals & Values

Equity / inclusion
Respect
Greed / selfishness

Other

Women's / gender issues
Political correctness / freedom
of speech
Media (uses and misuses to
effect public opinion)

Environment

Climate change
Conservation / sustainability
Lack of government action

Youth Issues

Employment opportunities
Homelessness
Attitudes / lack of respect

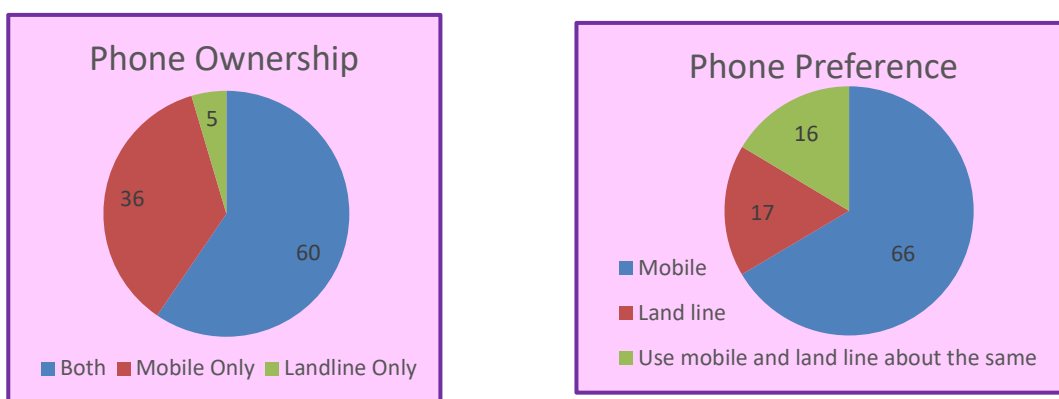
Education

Standards
Education (general)
Curriculum content

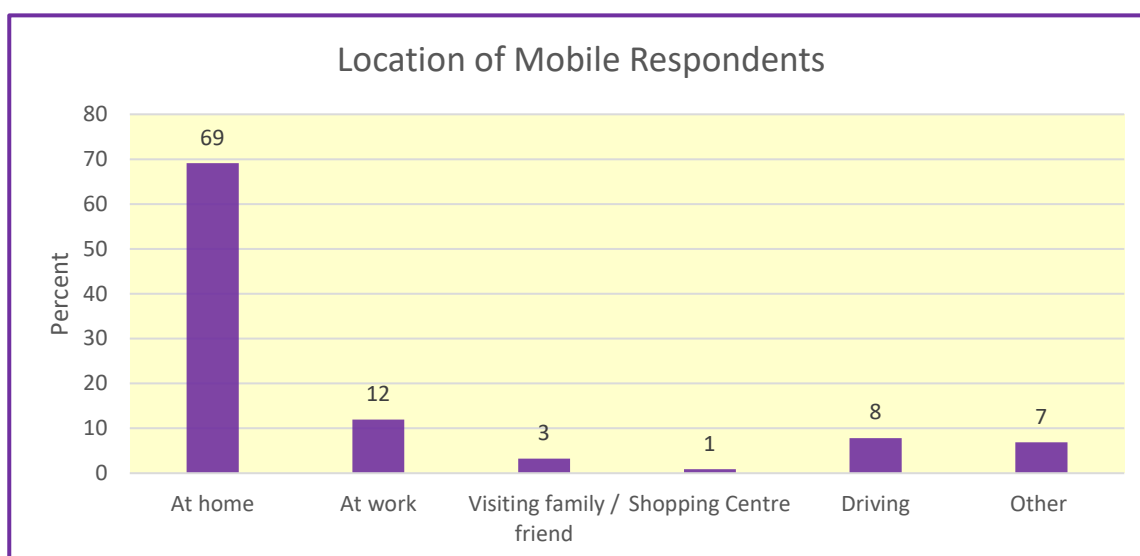
Landline vs Mobile Calls

In 2017 50% of respondents completed a telephone interview (CATI), and 50 % completed the survey online. Online respondents were sourced through Qualtrics. These participants have previously agreed to participate in survey research for incentives (i.e., points that they can use for rewards). Of the CATI respondents, 44% of the respondents were contacted on mobile numbers, and 56% were contacted on landline numbers. All phone numbers were randomly computer generated.

Of the CATI respondents, the majority (60%) owned both a landline and a mobile phone; 36% were mobile only and 5% were landline only. Of the respondents who had both landline and mobile phones, the majority (66%) preferred to use their mobile phone rather than their landline.



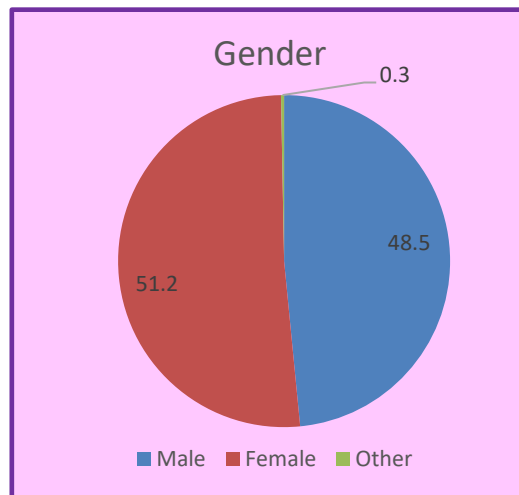
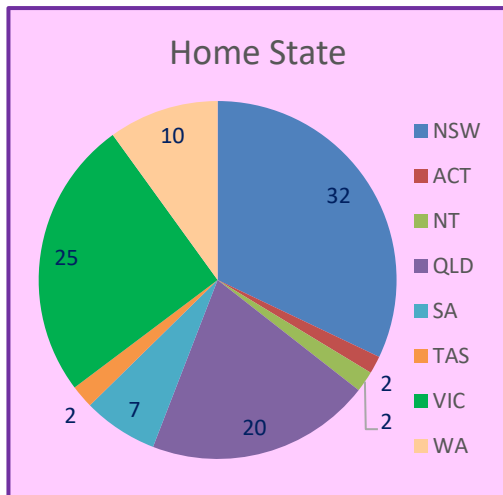
Landline calls were only conducted in households, therefore all landline respondents were at home. For the calls made to mobile phones, we asked respondents where they had been while they were speaking to us. The majority of respondents (69%) were at home, while 12% were at work and 8% were driving. Respondents who nominated 'other' indicated they were on public transport; outdoors (parks & gardens); in a café or restaurant; at university; in a sporting venue; or in a medical facility (GP or hospital waiting room).



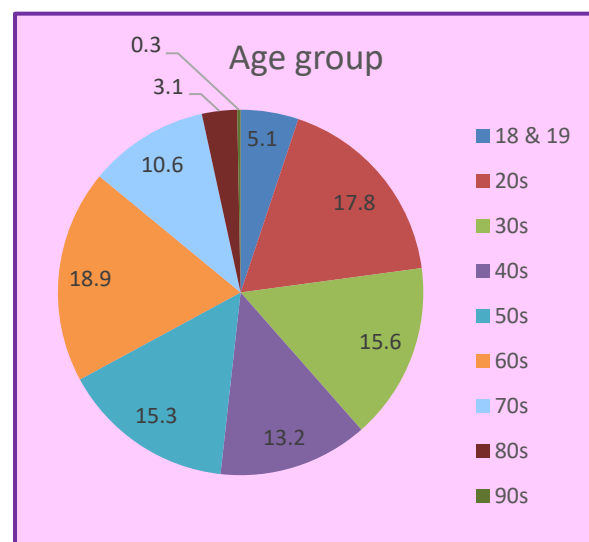
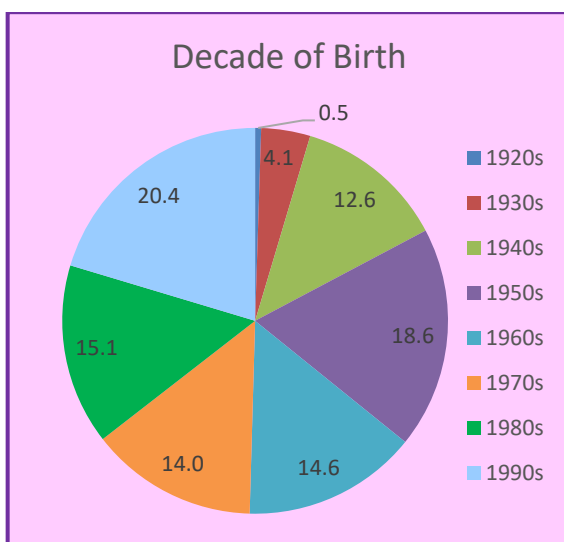
The National Survey Sample

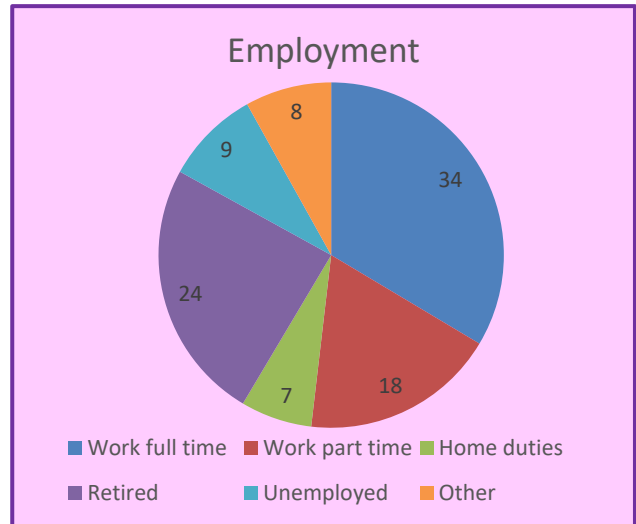
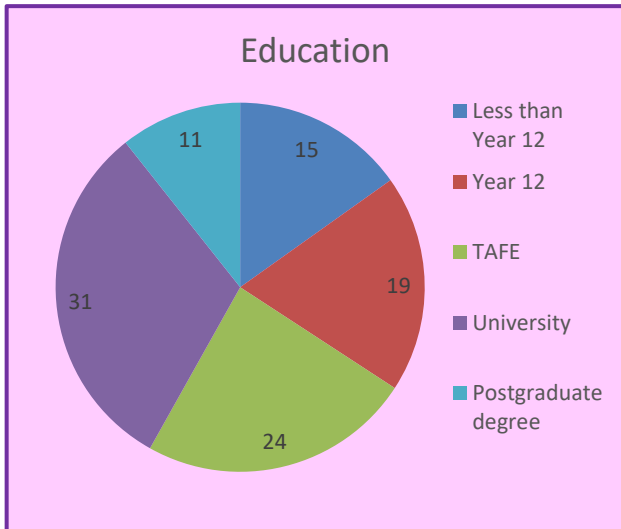
1,004 respondents took part in the 2017 national survey. The target population was the Australian general public aged 18 years and over. CATI interviews ($n = 501$) were conducted between 8th November and 21st November 2017, while online surveys ($n = 503$) were completed between 21st November and 11th December 2017.

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

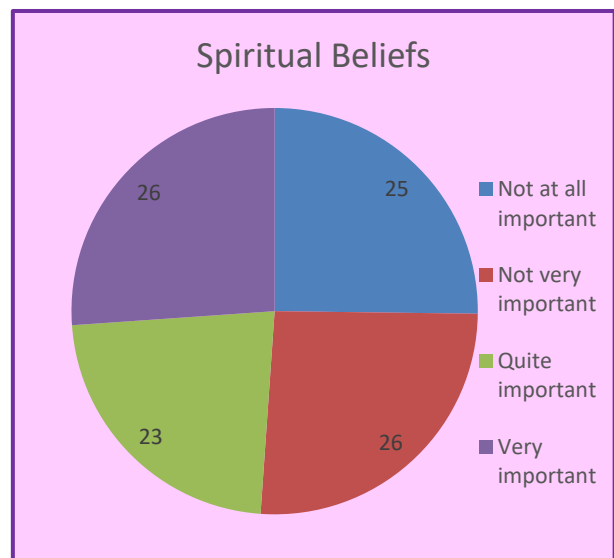
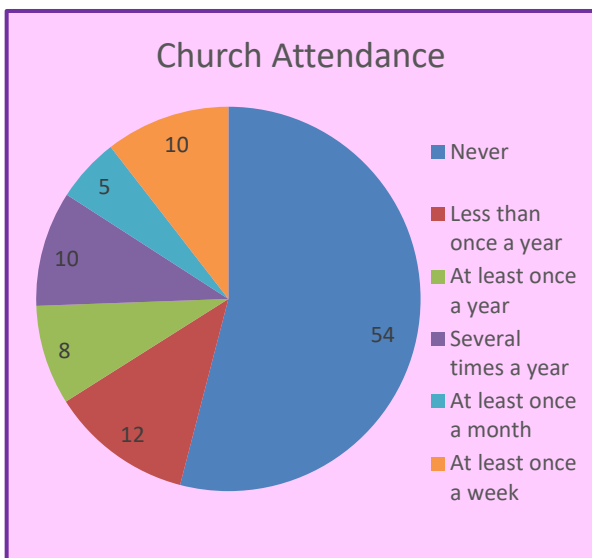


All states and territories were represented in the sample. Fifty-one percent of the sample was female. The average age of the sample was 48 years.





The majority of the sample had completed tertiary education (66%) and were currently employed (52%).



Forty-six percent of the sample never attended church. Of those that did attend church, 10% did so at least once per week. When asked about the importance of spiritual beliefs, forty-nine percent of the sample ascribed some degree of importance.

Swinburne University CATI Facility

The Monitor is produced by the Swinburne University Computer Assisted Telephone Interviewing (CATI) Facility, which is part of the Department of Statistics, Data Science and Epidemiology, within the Faculty of Health, Arts & Design.

Any questions can be directed towards the authors of the Monitor:

Dr. Gordana Bruce (03 9214 5783) gbruce@swin.edu.au

Prof. Christine Critchley (03 9214 5480) ccritchley@swin.edu.au

The CATI Facility specialises in designing and conducting high quality telephone surveys for academic, government and private organisations. Our aim is to simplify data collection for our clients while maintaining rigorous research standards.

The CATI Facility Executive Committee is comprised of:

Prof. Christine Critchley (Academic Leader)

Dr. Gordana Bruce (Manager)

Mr Jarrod Walshe (Research Fellow)

For further information about the services provided by the Swinburne University CATI Facility please contact Gordana Bruce:

Phone: (03) 9214-5783

E-mail: gbruce@swin.edu.au

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Supervisors (in alphabetical order)

Liz Crestani
Michael King
Matt O'Rourke

Josh Szabo
David Szmalko

Interviewers (in alphabetical order)

Jack Adams
Liv Bradfield
Georgia Chatterton
Stephen Chen
Teagan Connop-Galer
Elliott Creagh
Tara Dowler
Chawis Ferrier
Jana Filipovic
Steph Hall

Spencer Heffernan
Louella Jackson
West Macdonald
Dimitri Midas
Mai Nguyen
Nick Raubenheimer
Mel Stott
Mady Szabo
Ruby Wiles

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