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Science literacy in Australia

REPORT PREPARED FOR:

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Introduction

This report presents the results of a survey among Australians to determine their level of science literacy and how it has changed over the past 3 years.

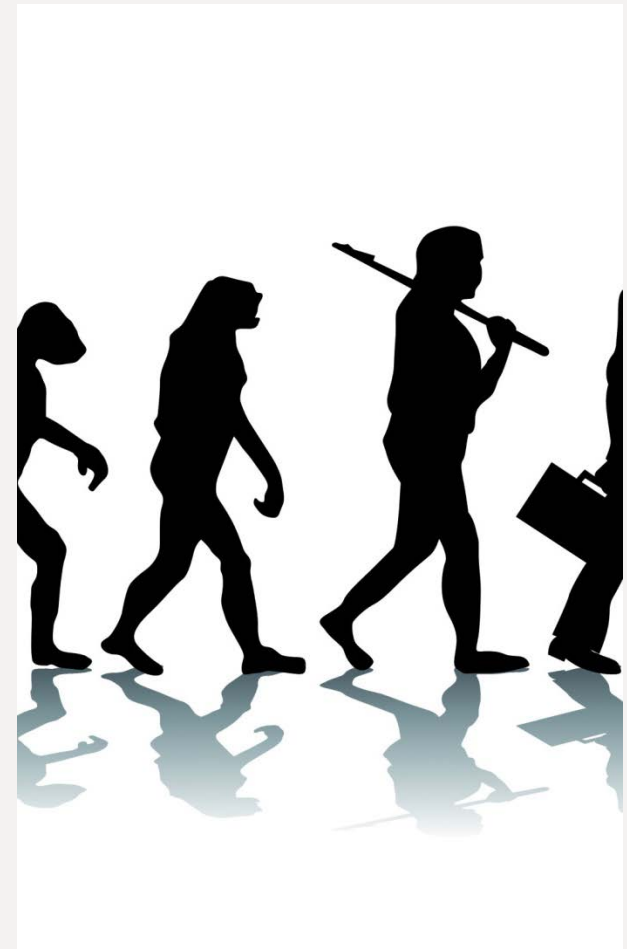
The questions in this survey were first asked of Australians in July 2010 and were based on a previous survey conducted by the California Academy of Sciences.

The survey was undertaken online and conducted between the 7th and 10th of May, 2013. Respondents were drawn from a professional social and market research panel.

The overall sample size was 1515, segmented and weighted to be nationally representative of Australia's population by gender, age and residential location.

The accuracy of the results at an overall level is +/-2.5% at the 95% confidence interval. This means, for example, that if the survey returns a result of 50% to a particular question, there is 95% probability that the actual result will be between 47.5% and 52.5%.

Note: All percentage figures in this report are rounded. Accordingly, totals may not add up to 100%.



Summary of key findings

Although most Australians have a basis grasp of key scientific facts, there are still large numbers who answer important scientific questions incorrectly

- ▶ For example: 59% knew the Earth takes one year to orbit the sun
- ▶ 70% of Australians think that evolution is currently occurring
- ▶ 73% of Australians think people are influencing the evolution of other species.

These results are broadly similar to those in 2010 however there were some small, but statistically significant decreases, in the proportion of Australians who were aware of some key scientific facts

- ▶ There was a 4% reduction in the proportion of people who knew that 3% of the earth's water that is fresh (down to 9%)
- ▶ There was a 4% reduction in the proportion of people who believe humans are influencing the evolution of other species (down to 73%)

Generally younger respondents, men and those with a higher education level were more likely to answer the questions correctly.

- ▶ For example 68% of men knew the Earth takes a year to orbit the sun compared to 50% of women. Whilst 78% of university educated respondents knew that evolution is still occurring compared to 63% of those with just a high school education.

However, knowledge levels amongst young people have dropped more than other groups over the last 3 years

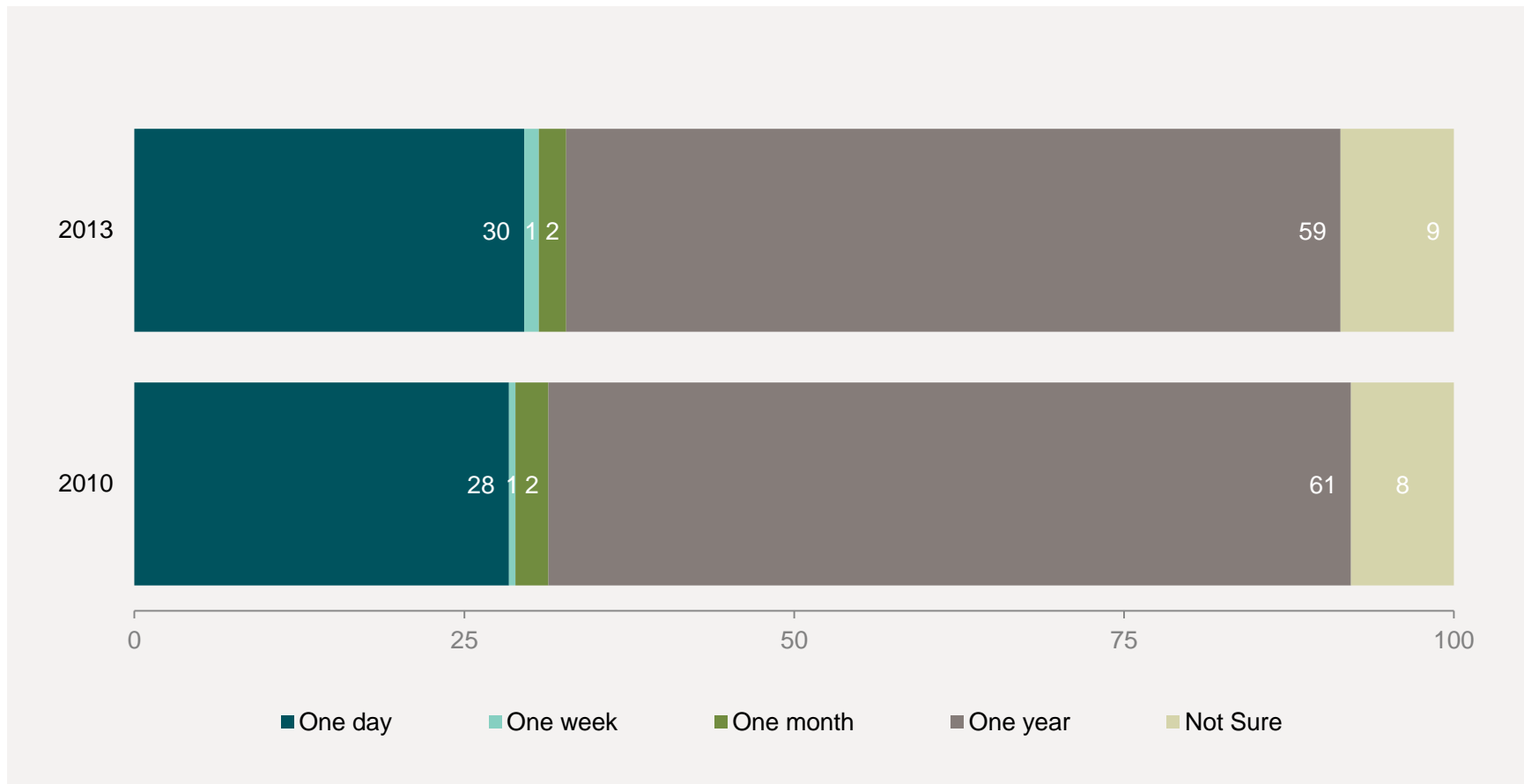
- ▶ For example, there was a 12% reduction in the proportion of 18-24 year-olds who know the earth orbits the sun in a year (down to 62%).
- ▶ There were also tentative, but less significant falls in the proportion of 18-24 year olds who believe that evolution is occurring or that humans are influencing the evolution of other species.

There remains a high acknowledgement that science education is important to the Australian economy

- ▶ 79% of Australians say that science education is absolutely essential or very important; almost the same proportion as 2010.

Results

Around 6 in 10 Australians know it takes one year for the Earth to travel around the sun

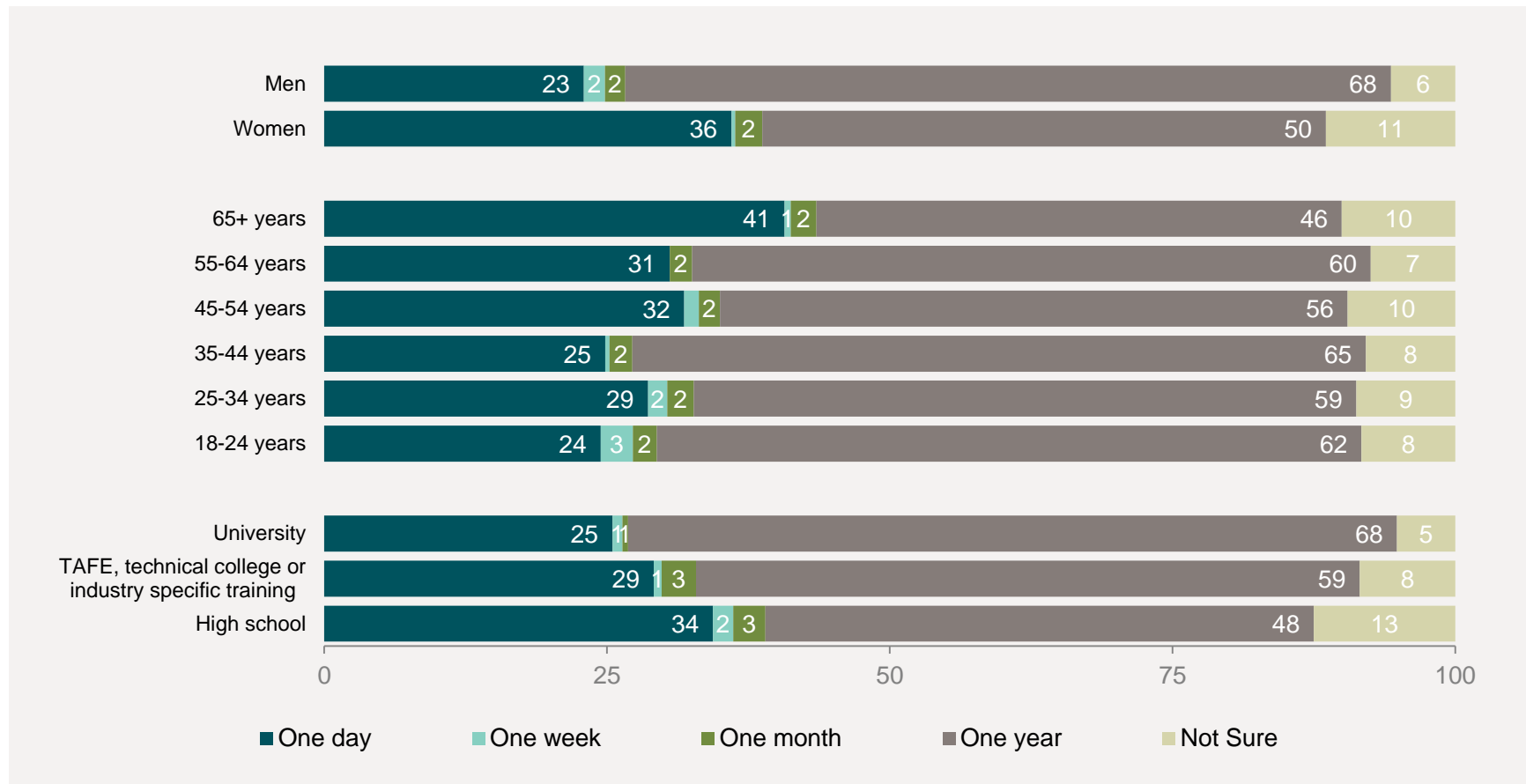


The proportion that gave the correct answer fell from 61% to 59% since 2010.

30% of Australians think that it takes one day for the Earth to orbit the sun.

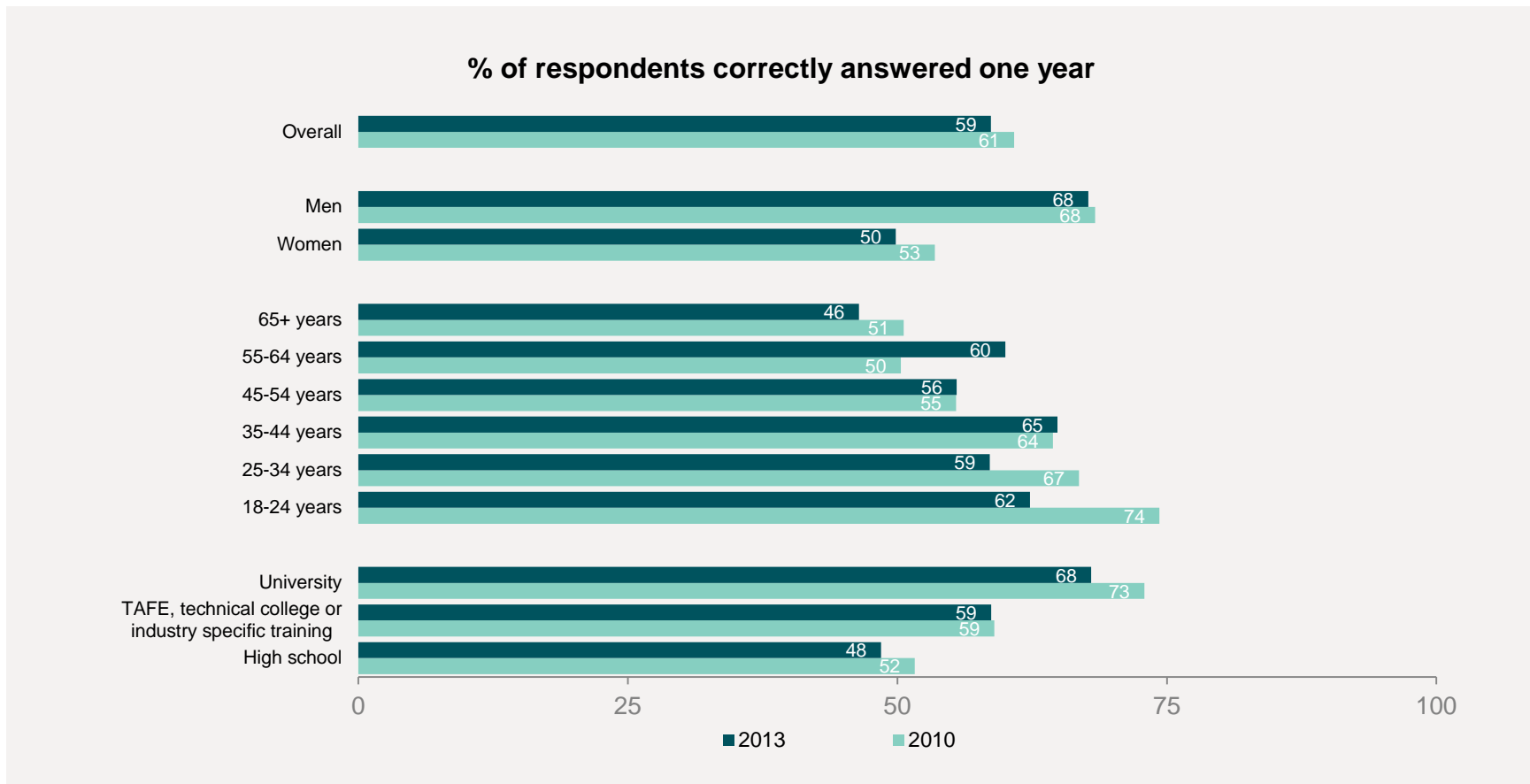
Q: How long does it take for the Earth to go around the Sun?

Men, younger people, and those with higher education levels were more likely to know the correct answer



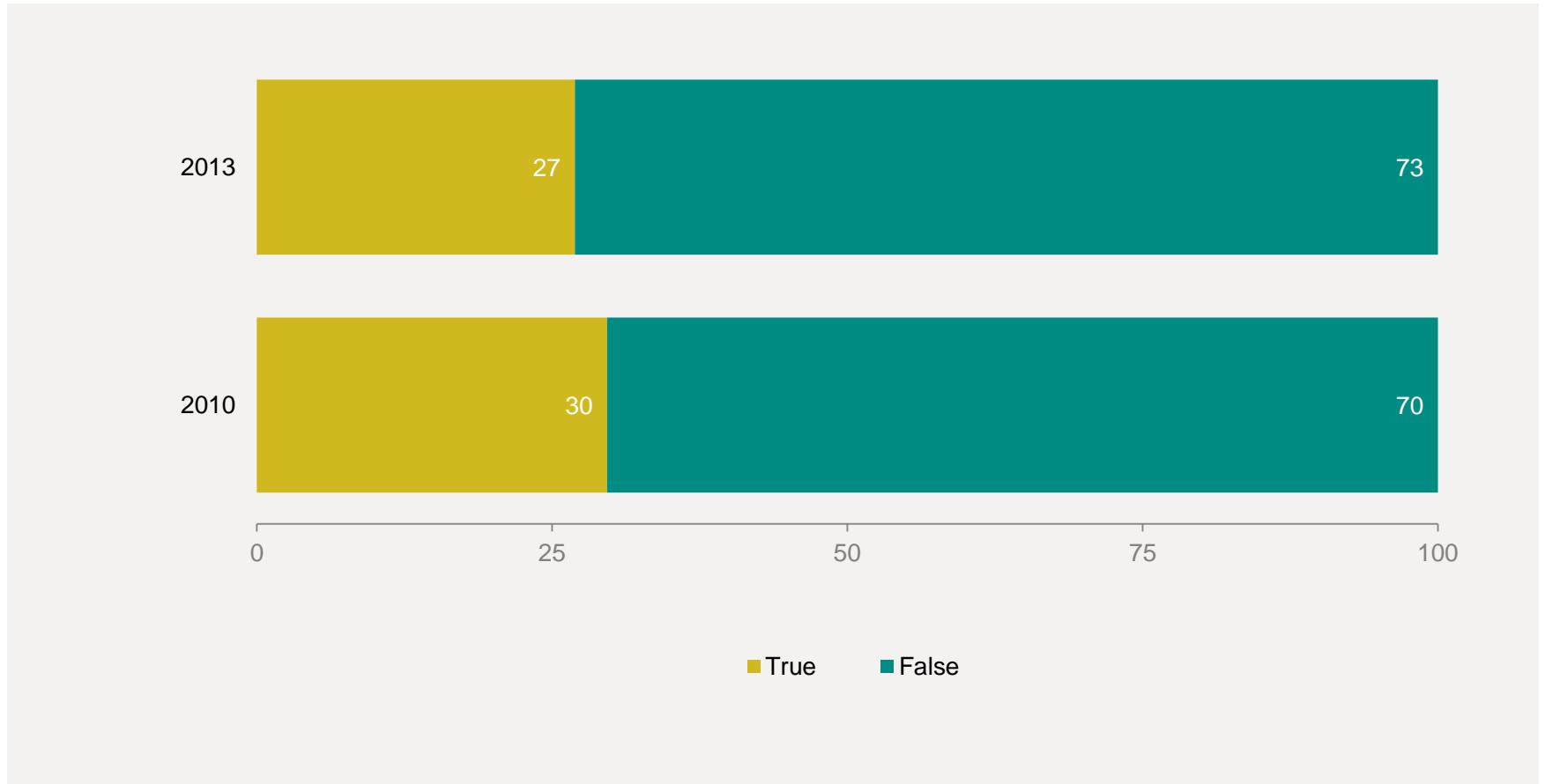
Whilst 68% of men correctly identified the time taken to orbit the sun as one year, this fell to 50% amongst women. Similarly, whilst 68% of university graduates gave the correct answer, this fell to 48% amongst those with high school qualifications.

The greatest fall in knowledge of how long the earth takes to orbit the sun is amongst younger cohorts



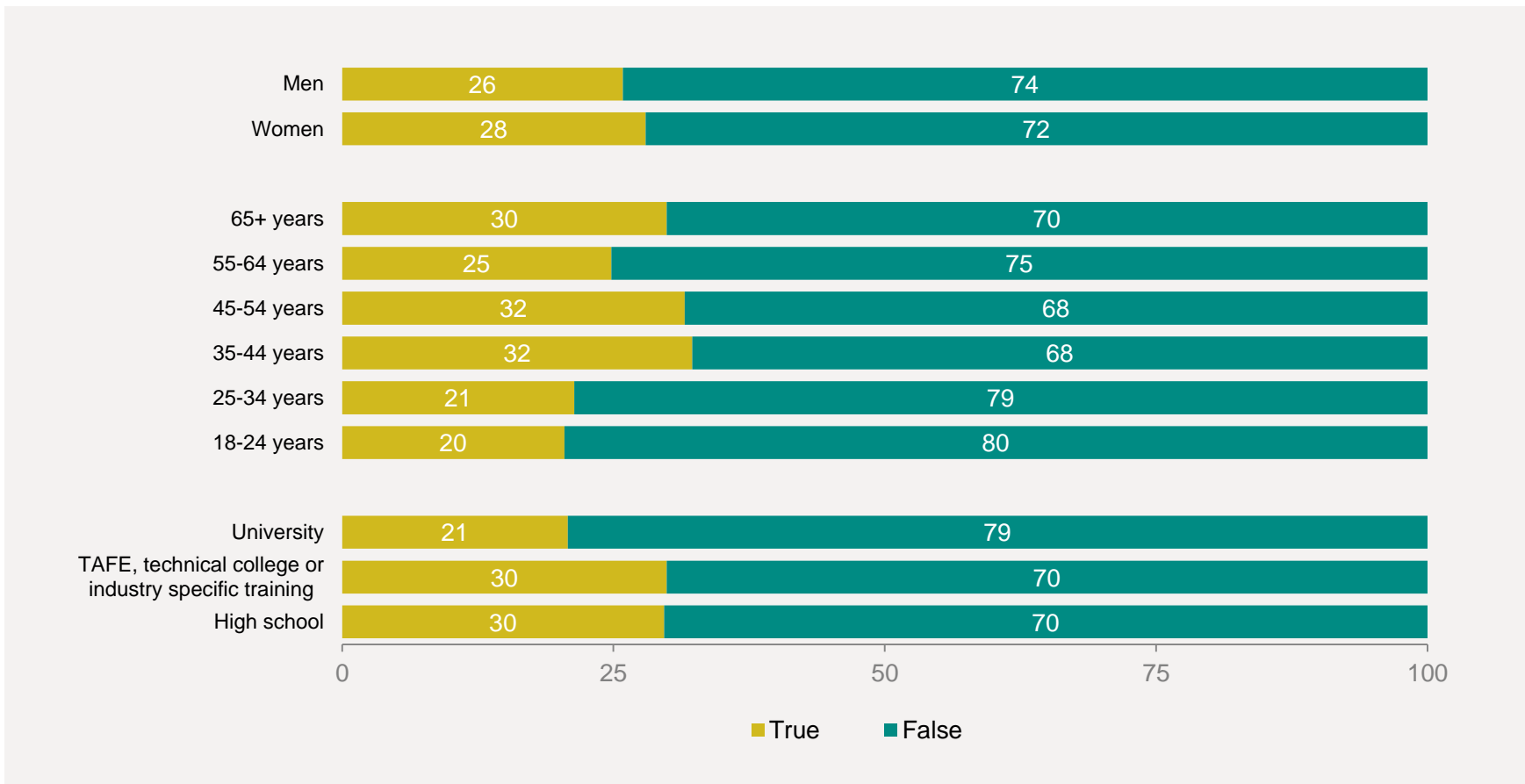
Whilst overall about the same proportion of 6 out of 10 Australians answered the question correctly. The proportion of 18-24 year olds answering correctly fell from 74% in 2010 to 62% in 2013, and the proportion of 25-35 year olds answering correctly fell from 67% to 59%.

73% of Australians know that the earliest humans did not live at the same time as dinosaurs



This is a small increase from 70% in 2010.

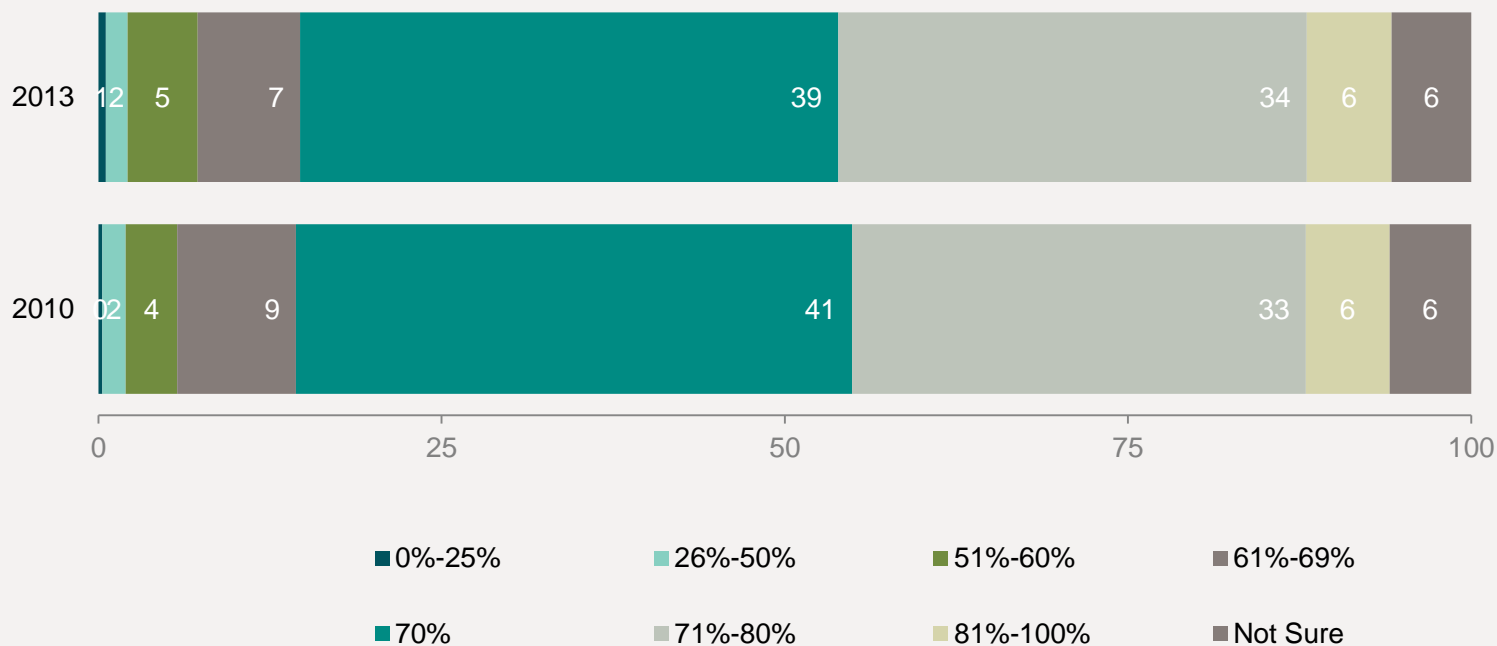
People with less education and older people are the most likely to think that humans lived during the time of the dinosaurs



Whilst only 21% of university graduates think humans lived with dinosaurs this increases to 30% amongst those with high school qualification.

30% of over 65s think humans lived with dinosaurs compared to 20% of those aged 18-24.

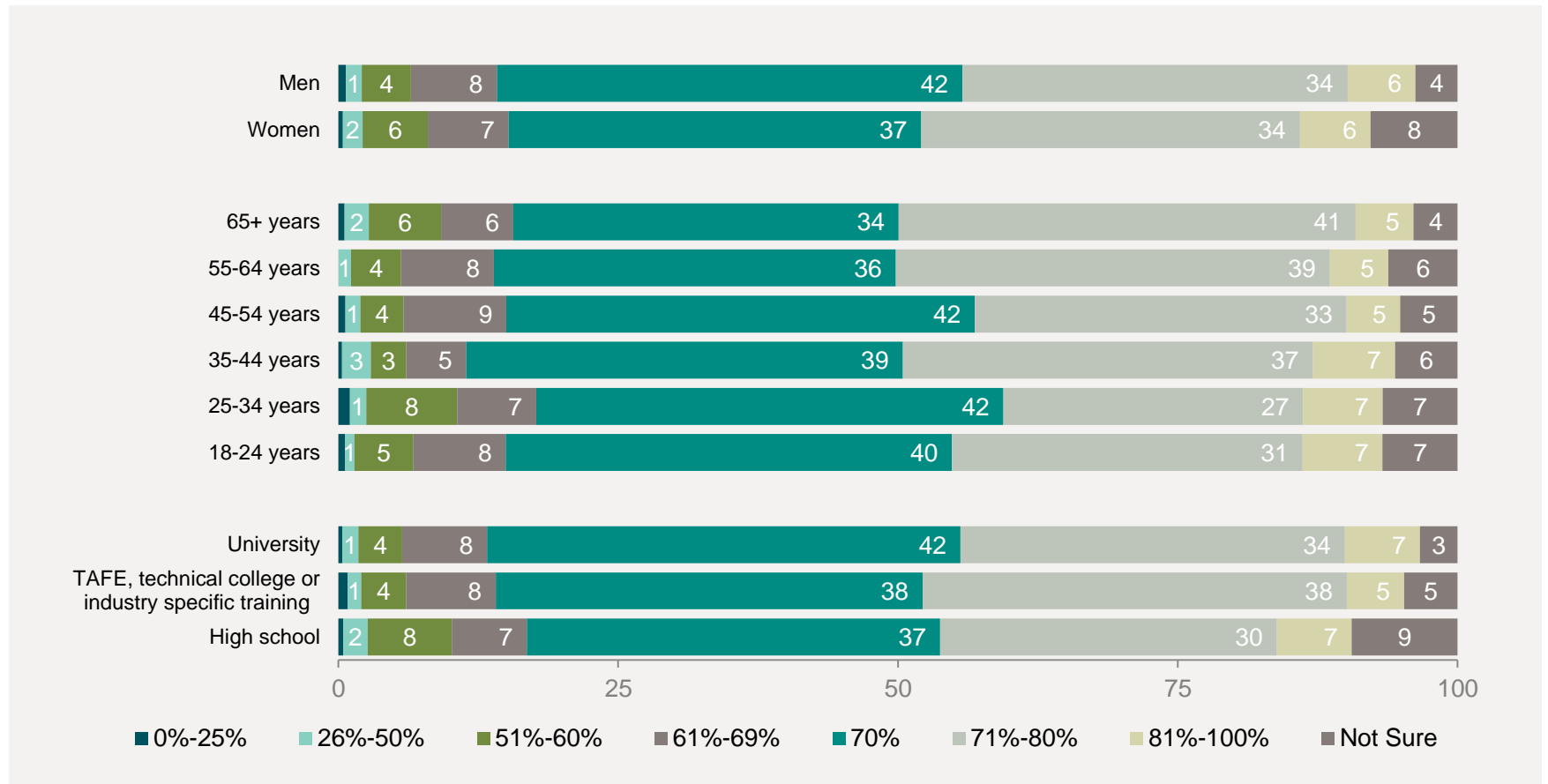
Around three quarters of Australians think that between 70% and 80% of the Earth's surface is covered in water



39% of Australians correctly think the percentage of the Earth's surface that is covered with water is 70%, whilst another 34% think that the coverage is between 71% and 80%.

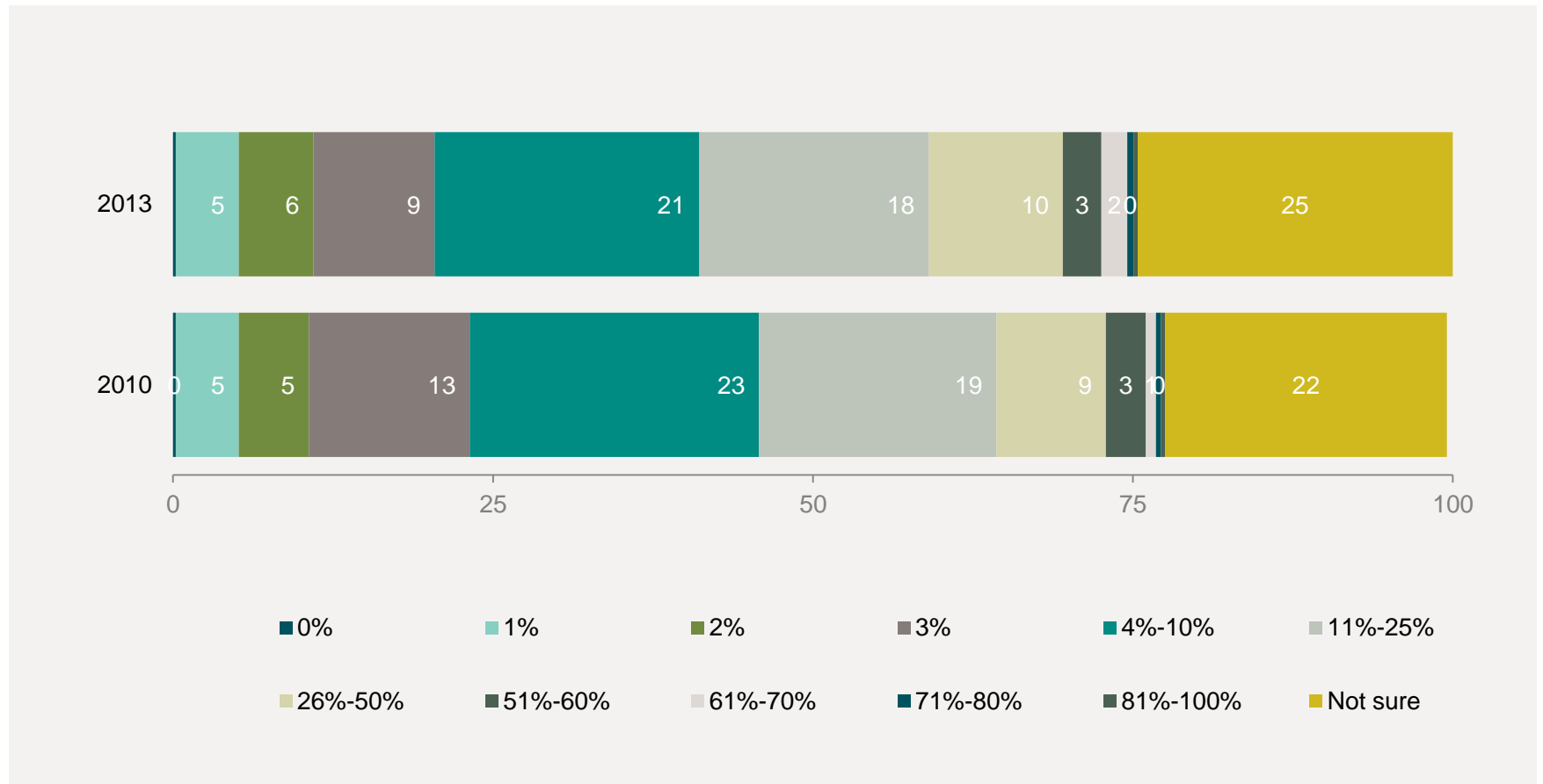
The answers given are virtually unchanged since 2010.

Around three quarters of all demographic groups think between 70-80% of the world's surface is covered in water



The group with the highest proportion giving the correct answer was University graduates with 42% correctly answering that 70% of the world's surface is covered by water, this fell slightly to 37% amongst those with a high school qualification.

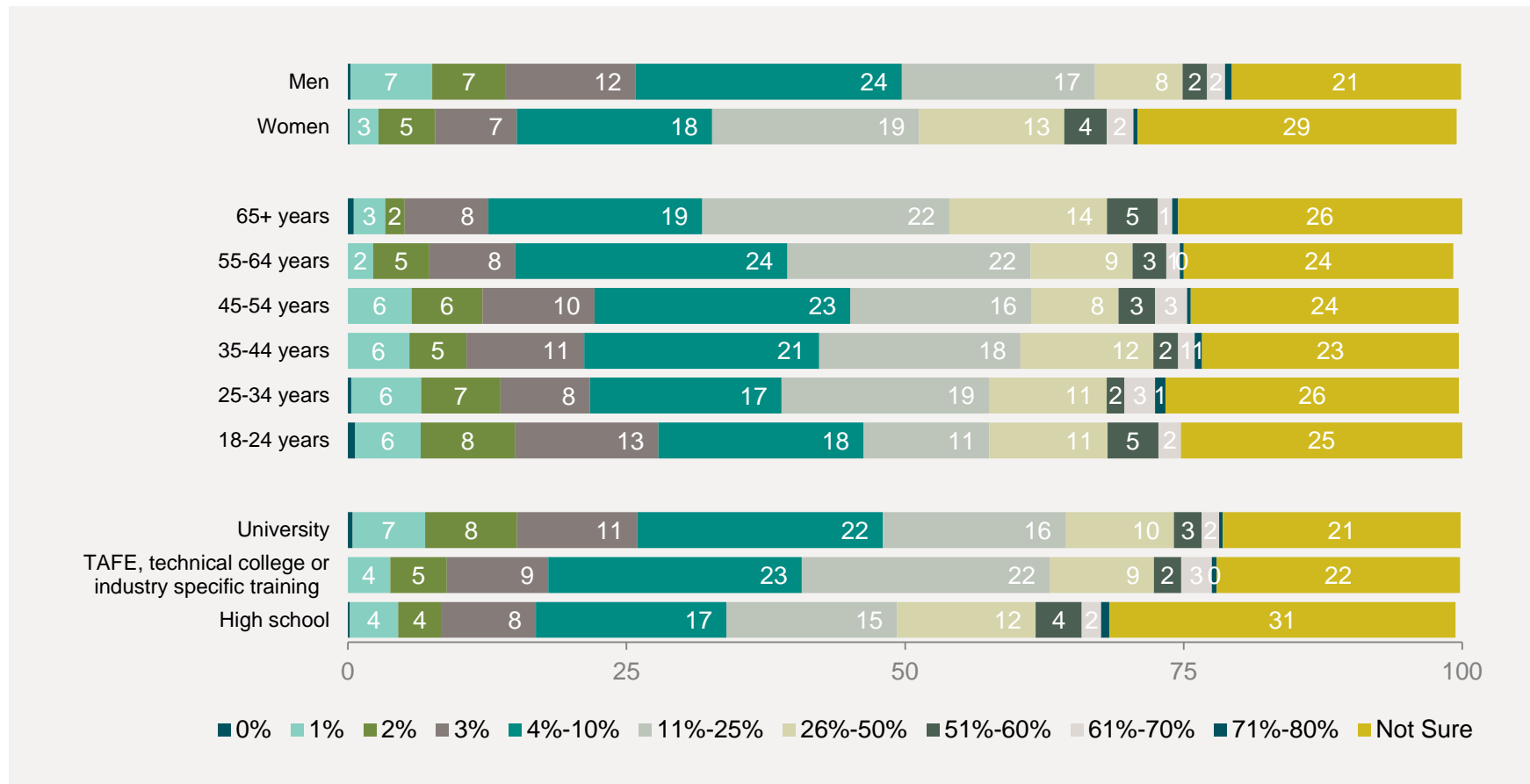
Most Australians overestimate the amount of the Earth's water that is fresh



A quarter of Australians are not sure of the percentage of the Earth's water that is fresh.

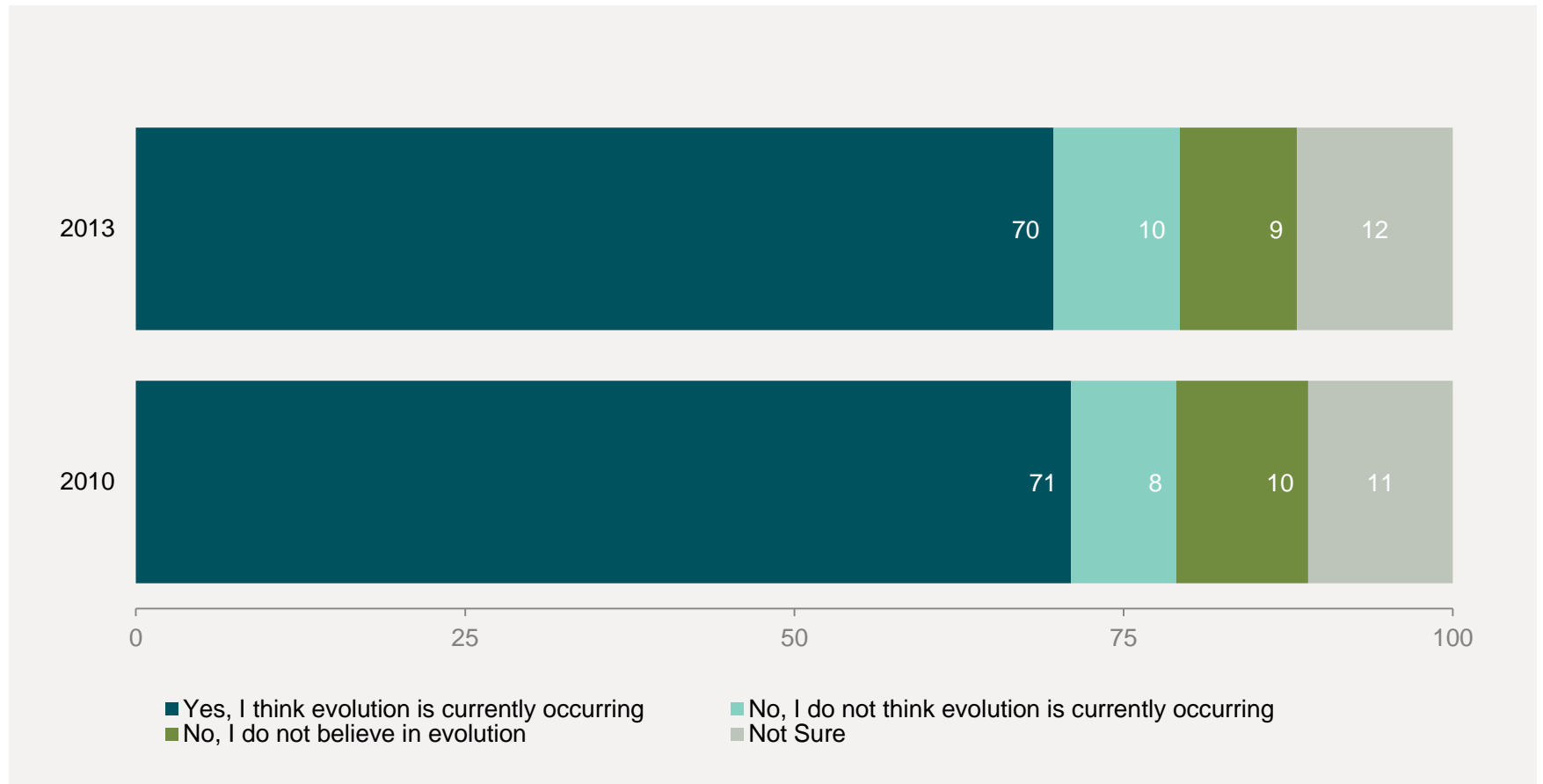
Only 9% correctly gave the answer as 3% of the Earth's water, down from 13% who gave the correct answer in 2010.

Men, younger people and those with a university education are more likely to know that 3% of the Earth's water is fresh



However a minority of all groups gave the correct answer, whilst 12% of men knew the answer, only 7% of women did. Similarly whilst 13% of those aged 18-24 knew the answer, this fell to 8% amongst those aged over 65.

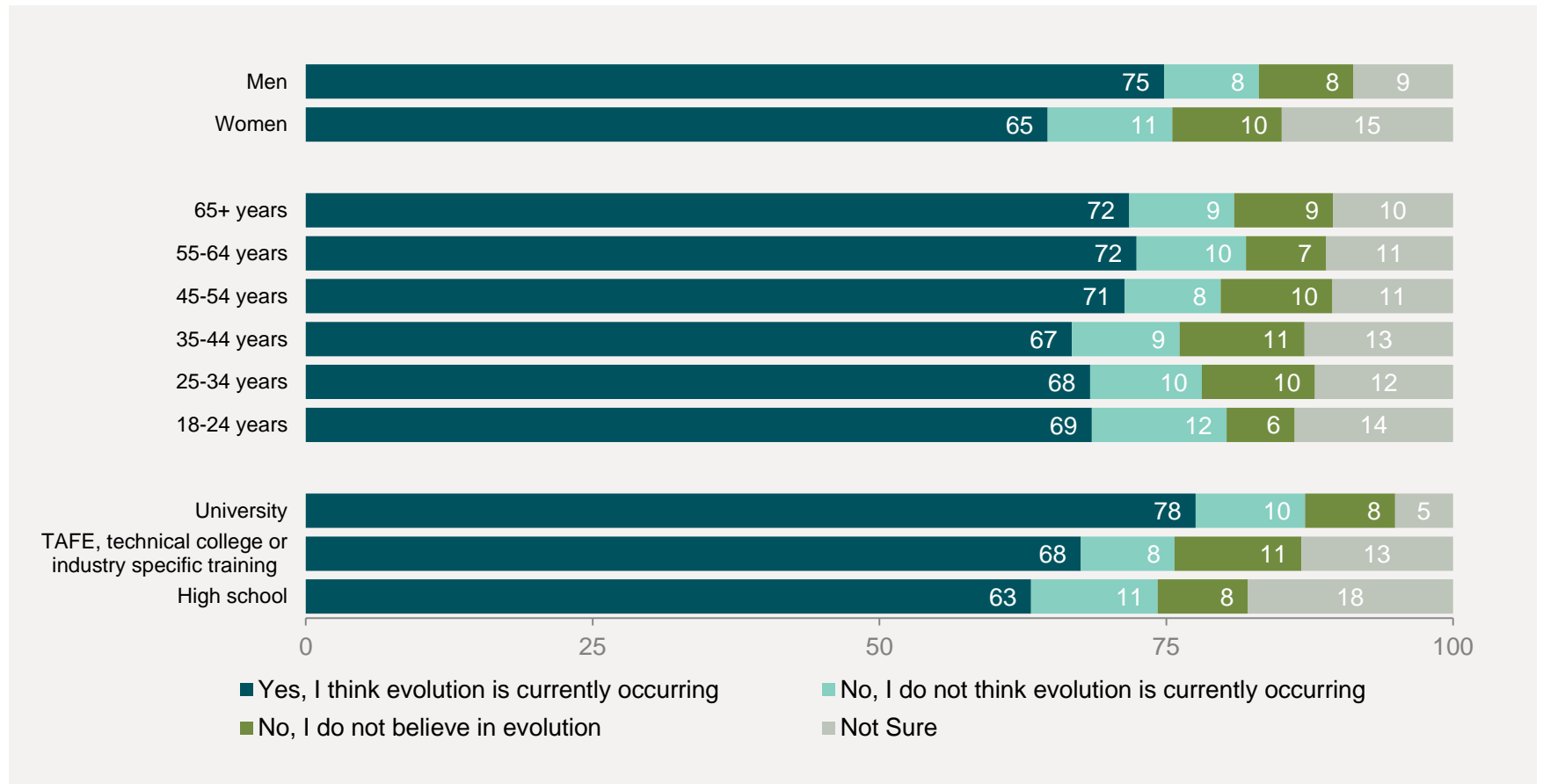
70% of Australians think that evolution is currently occurring



However 9% say they do not believe in evolution and 10% that it isn't currently occurring. These proportions were very similar to 2010.

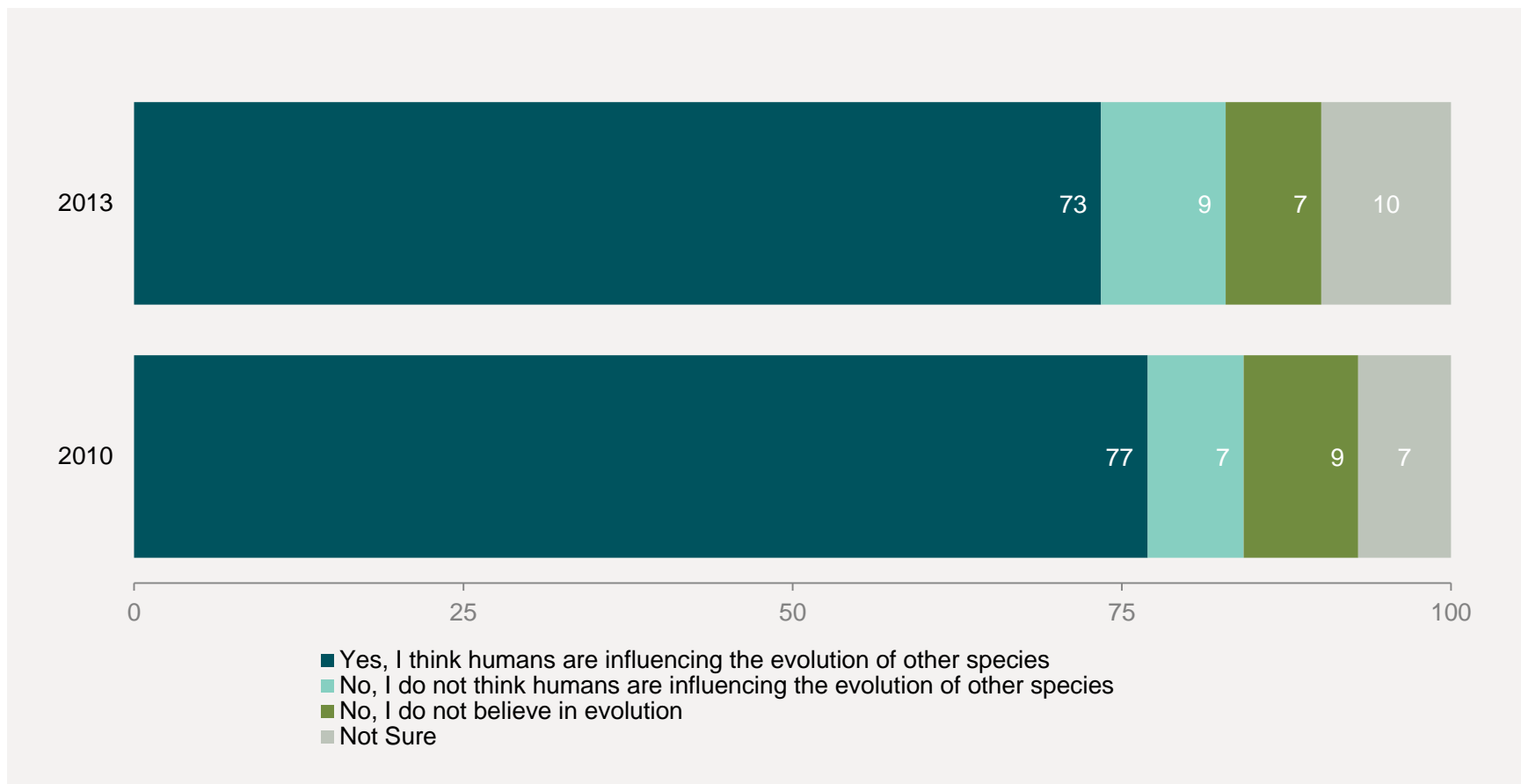
Q: Do you think that evolution is occurring?

Men and people with higher education levels are more likely to think that evolution is currently occurring



At least 60% of each demographic group think that evolution is currently occurring.
 Whilst 75% of men think evolution is occurring, only 65% of women think this is the case.

Almost three quarters of Australians think that humans are influencing the evolution of other species

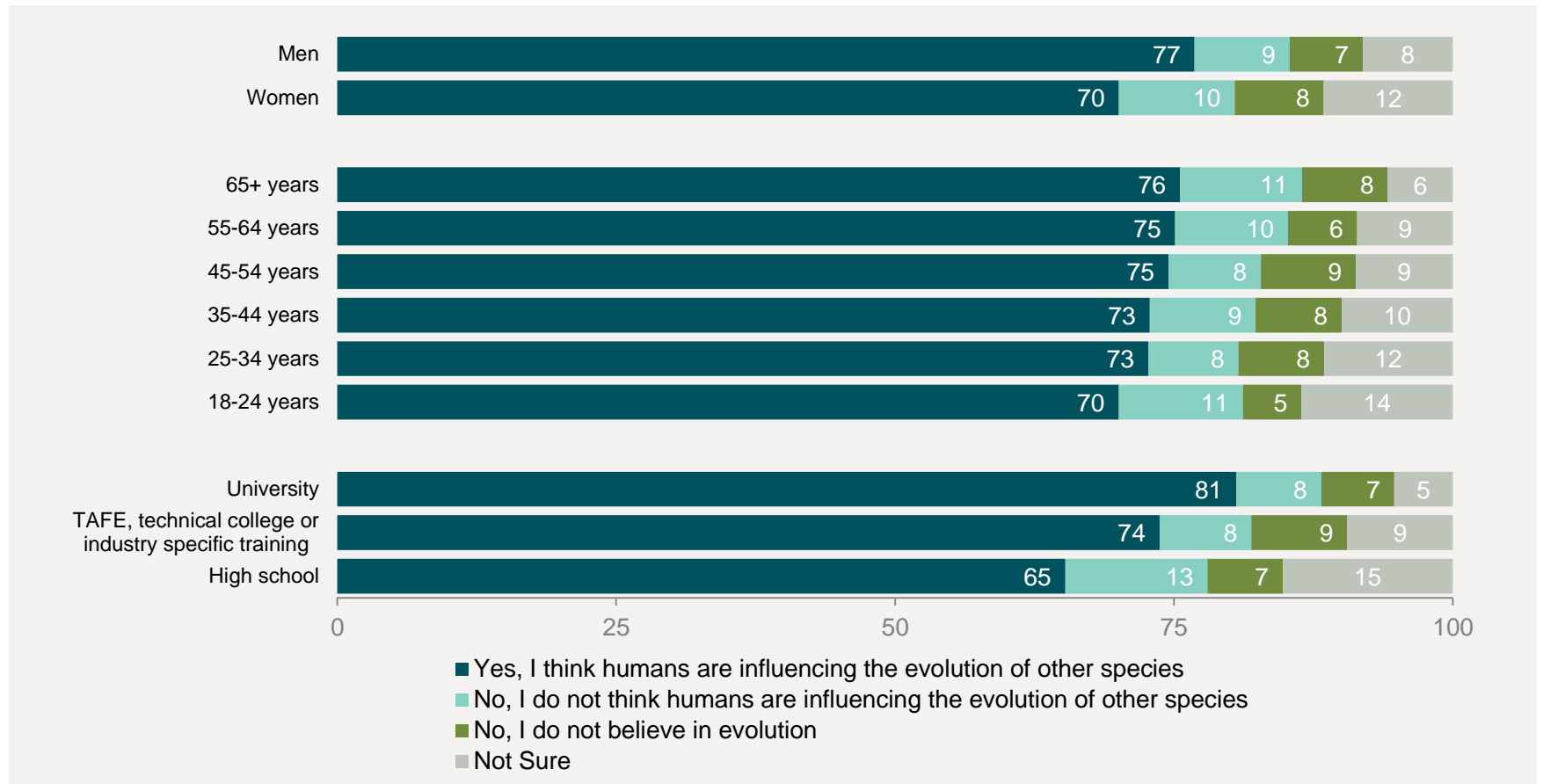


However this proportion has decreased slightly from 77% in 2010 to 73% in 2013.

9% do not think humans are influencing the evolution of other species.

Q: Do you think that humans are influencing the evolution of other species?

People with higher education levels are more likely to agree that humans are influencing the evolution of other species

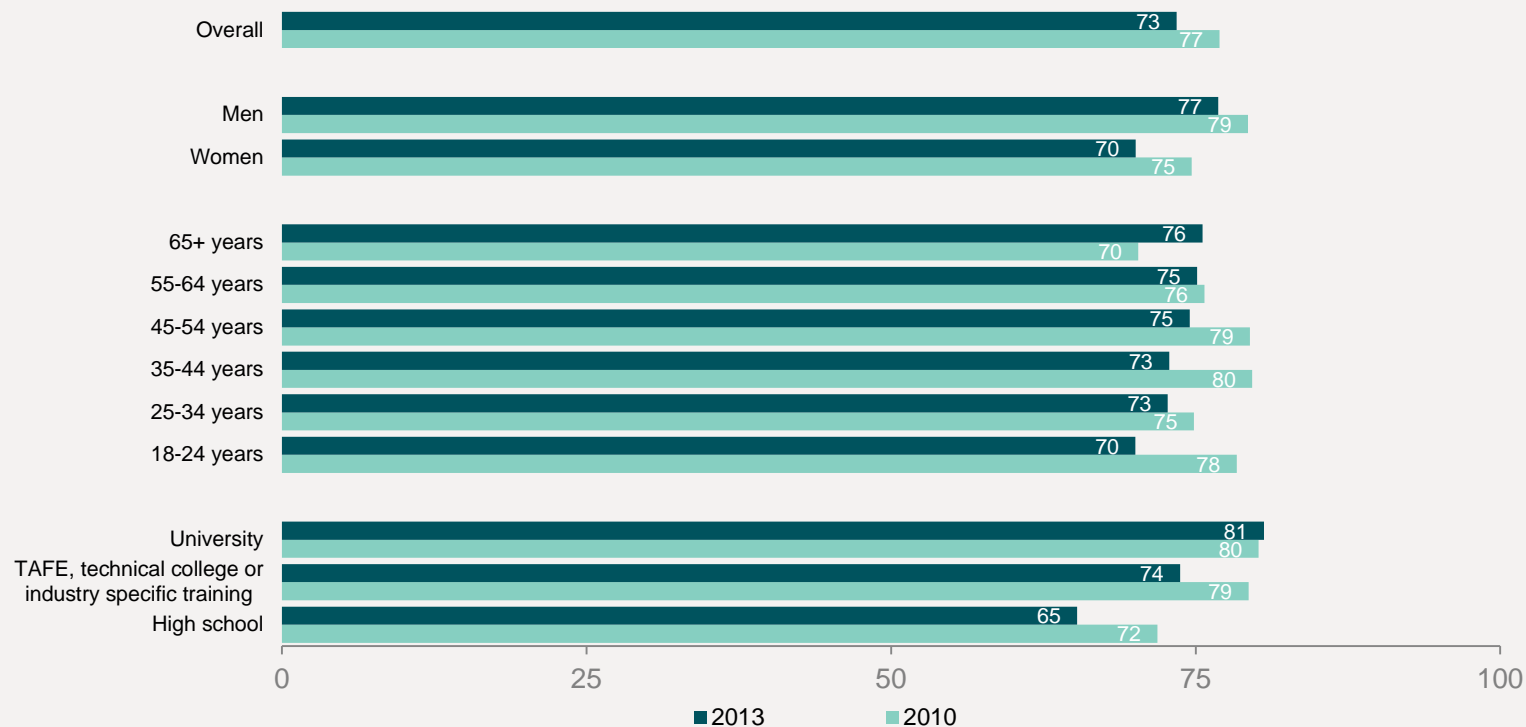


81% of those with university education think humans are influencing the evolution of other species, compared to 65% of those with a high school education.

At least 65% of each demographic group think humans are influencing the evolution of other species.

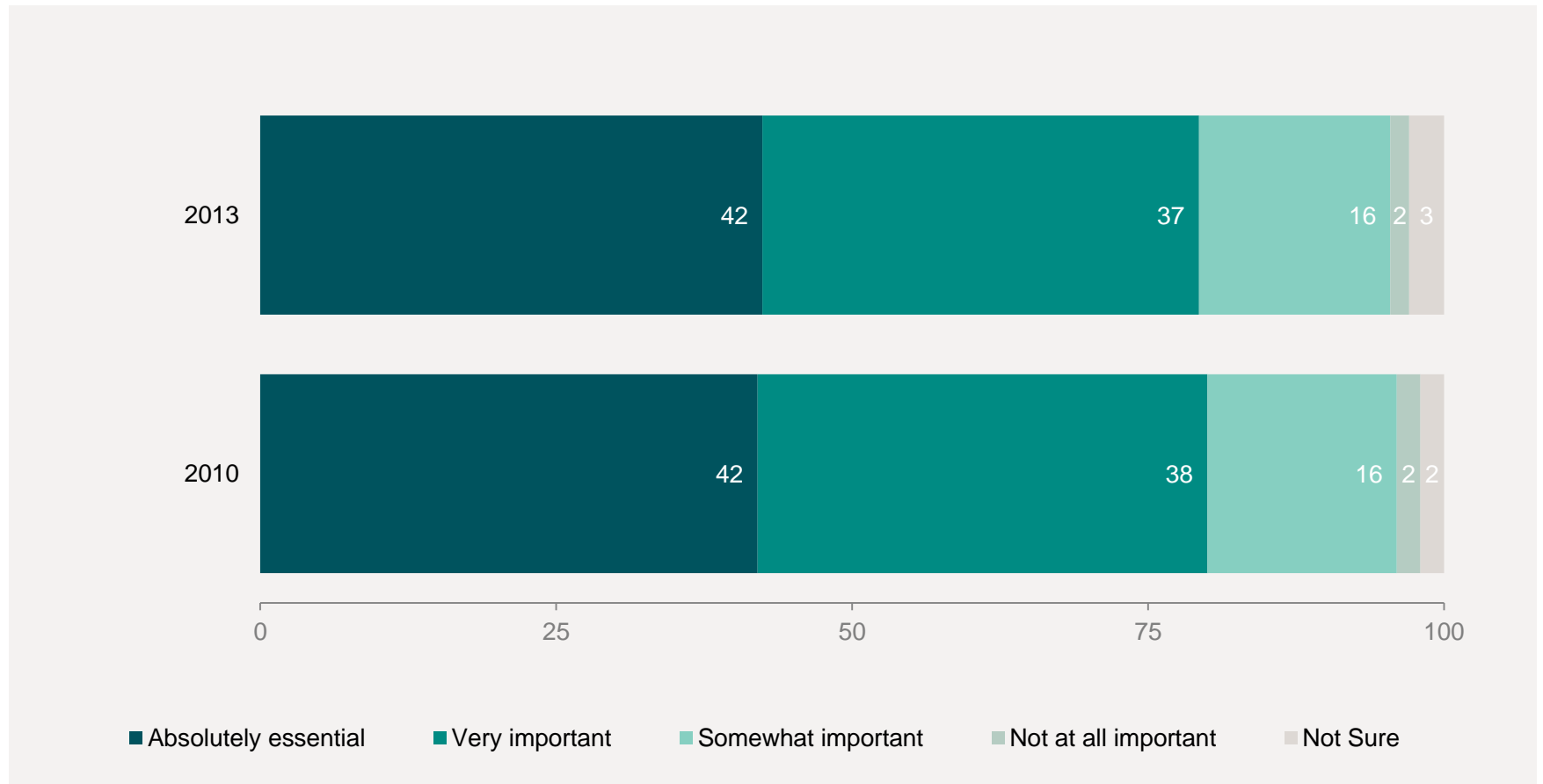
The greatest fall in knowledge as to whether humans are influencing evolution is amongst 18-24 year olds

% of respondents correctly answered humans are influencing evolution



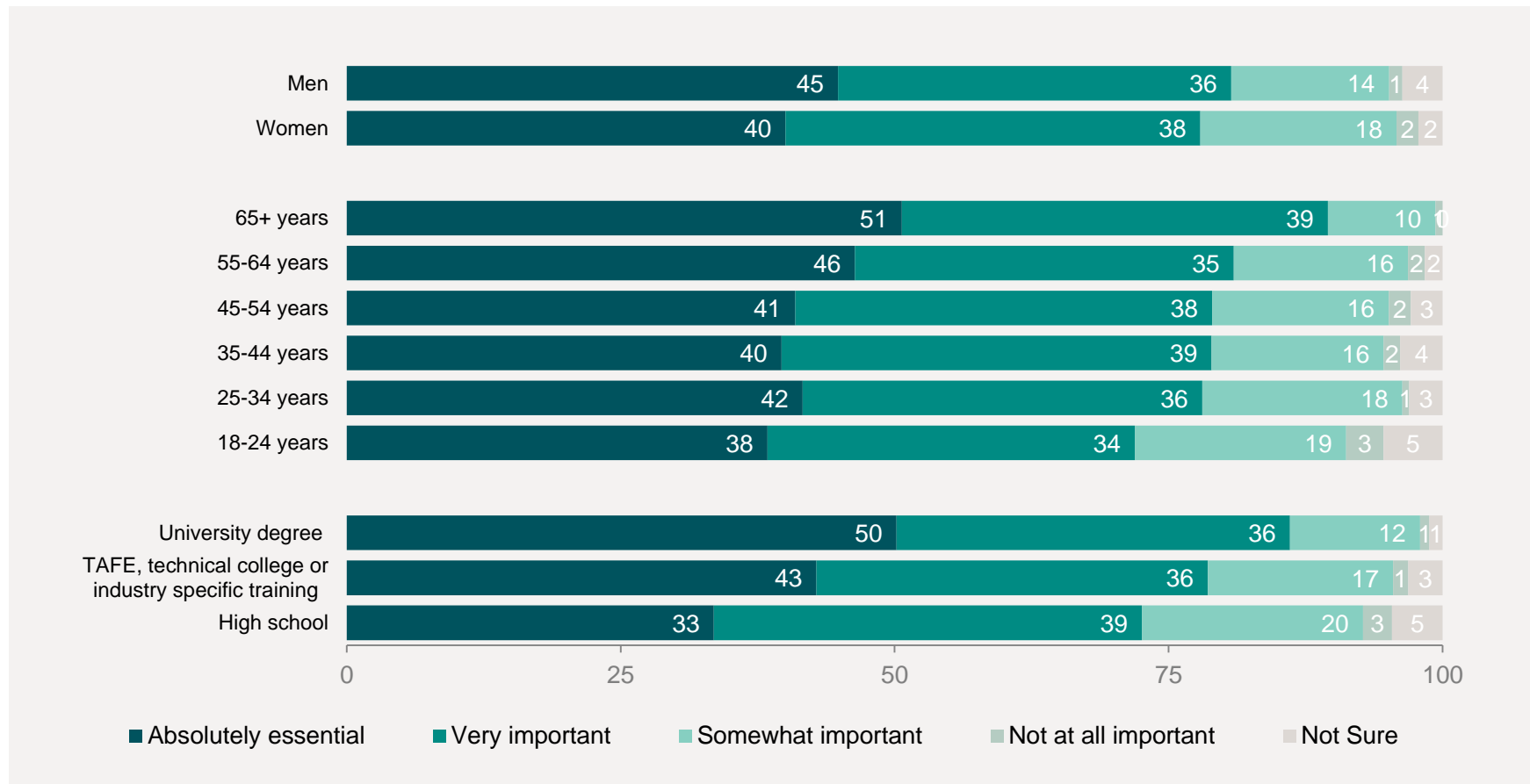
Whilst overall the proportion who answered correctly fell from 77% in 2010 to 73% in 2013, there was a larger fall amongst 18-24 year olds from 78% to 70%, and amongst those with a high school education from 72% to 65%.

Most Australians believe that a science education is absolutely essential, or very important for the Australian economy.



79% of Australians say science education is absolutely essential or very important to the Australian economy, almost the same proportion as in 2010.

Men place more emphasis on the value of science education, as do people with higher levels of education and older people



81% of men say science education is absolutely essential compared to 78% of women.

90% of over 65 year olds say science education is absolutely essential compared to 72% of those aged 18-24.

Appendix

Sample Characteristics

Sample sub-segment	% of sample	# in sample
Male	50	760
Female	50	755
18-24 years	10	147
25-34 years	20	303
35-44 years	21	319
45-54 years	20	310
55-64 years	17	264
Over 65	11	172
Metro	66	1000
Rural	34	515

Total sample = 1515. Please note that percentages have been rounded, and may not equal 100%.

Household annual income

Sample sub-segment	% of sample	# in sample
NSW	33	506
VIC	26	388
QLD	20	303
SA	7	113
WA	9	138
Other	4	67

Sample sub-segment	% of sample	# in sample
Less than \$20,000	6	98
\$20,000 - \$39,999	14	213
\$40,000 - \$59,999	16	235
\$60,000 - \$79,999	13	191
\$80,000 - \$99,999	12	183
\$100,000 - \$149,999	17	262
\$150,000 - \$249,999	4	67
\$250,000 or more	2	23
Prefer not to say	16	243

Total sample = 1515. Please note that percentages have been rounded, and may not equal 100%.

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