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Science literacy in Australia

REPORT PREPARED FOR:

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Australian Academy of Science

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Introduction

This report presents the results of a survey among Australians to determine their level of science literacy.

The questions in this survey replicate a previous survey conducted by the California Academy of Sciences.

The survey was undertaken online and conducted between the 20th and 22nd of July, 2010. 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 (after weighting) 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%.



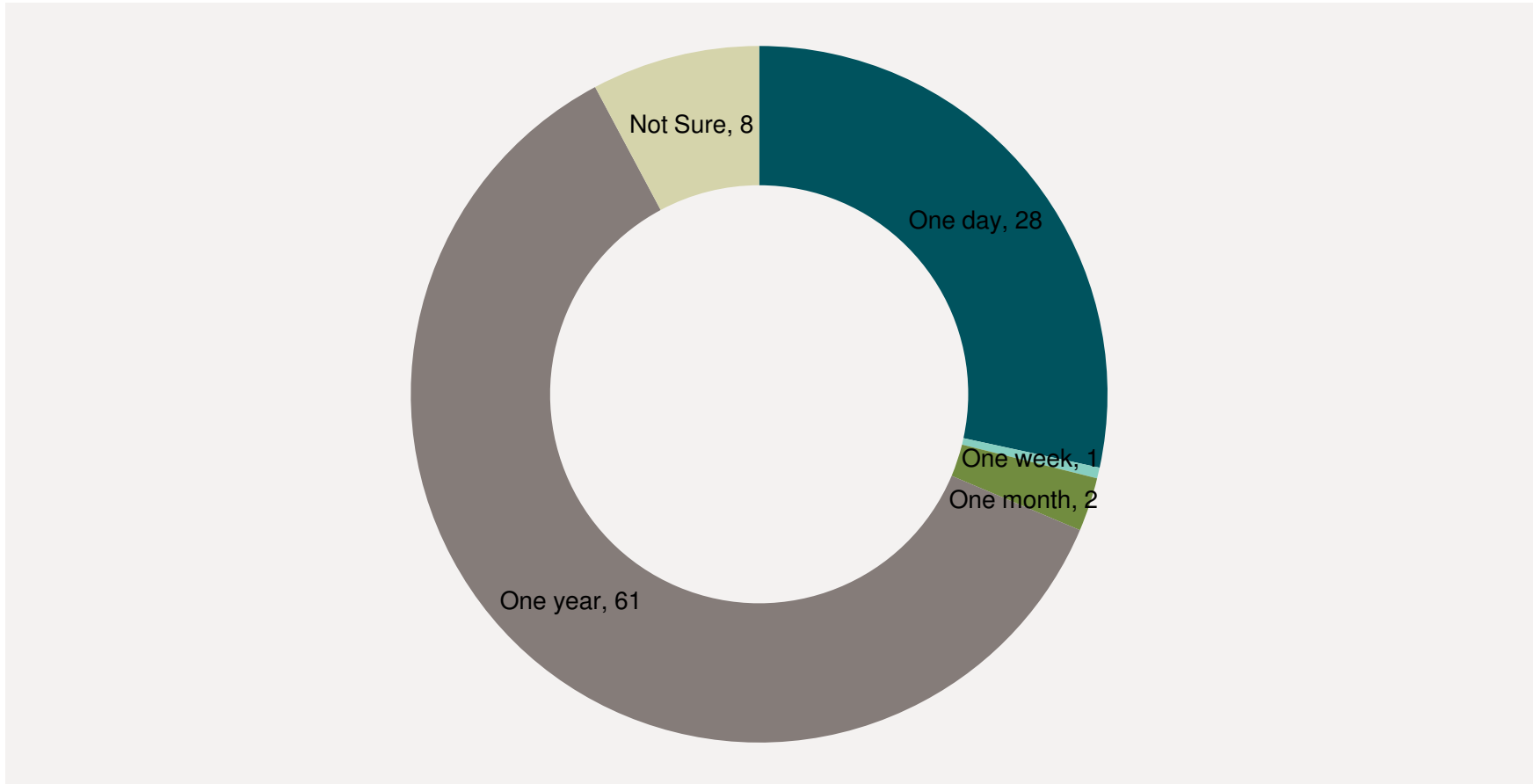
Summary of key findings



- ▶ Whilst the majority of Australians disagreed, three in ten people said that they believe the earliest humans coexisted with the dinosaurs.
- ▶ Nevertheless, the results of this survey show that most Australians are aware of many basic scientific facts. For example:
 - ▶ Around two thirds (61%) know it takes one year for the Earth to travel around the Sun;
 - ▶ Around seven in ten (71%) believe evolution is currently occurring;
 - ▶ Around three quarters (77%) believe humans are influencing the evolution of other species; and
 - ▶ Around three quarters (74%) think that between 70% and 80% of the Earth's surface is covered in water.
- ▶ However, around three quarters of Australians overestimate the proportion of the Earth's water that is fresh, with 77% of respondents believing the proportion is 4% or more.
- ▶ Younger Australians, those with higher levels of education, and men were somewhat more likely to answer each of the questions correctly.
- ▶ Results also show that most respondents believe that science education is “absolutely essential” (42%) or “very important” (38%) to the Australian economy.
 - ▶ In particular, people aged over 65 years were likely to emphasize the value of science education, with one in two (50%) stating that it is “absolutely essential” for the Australian economy.

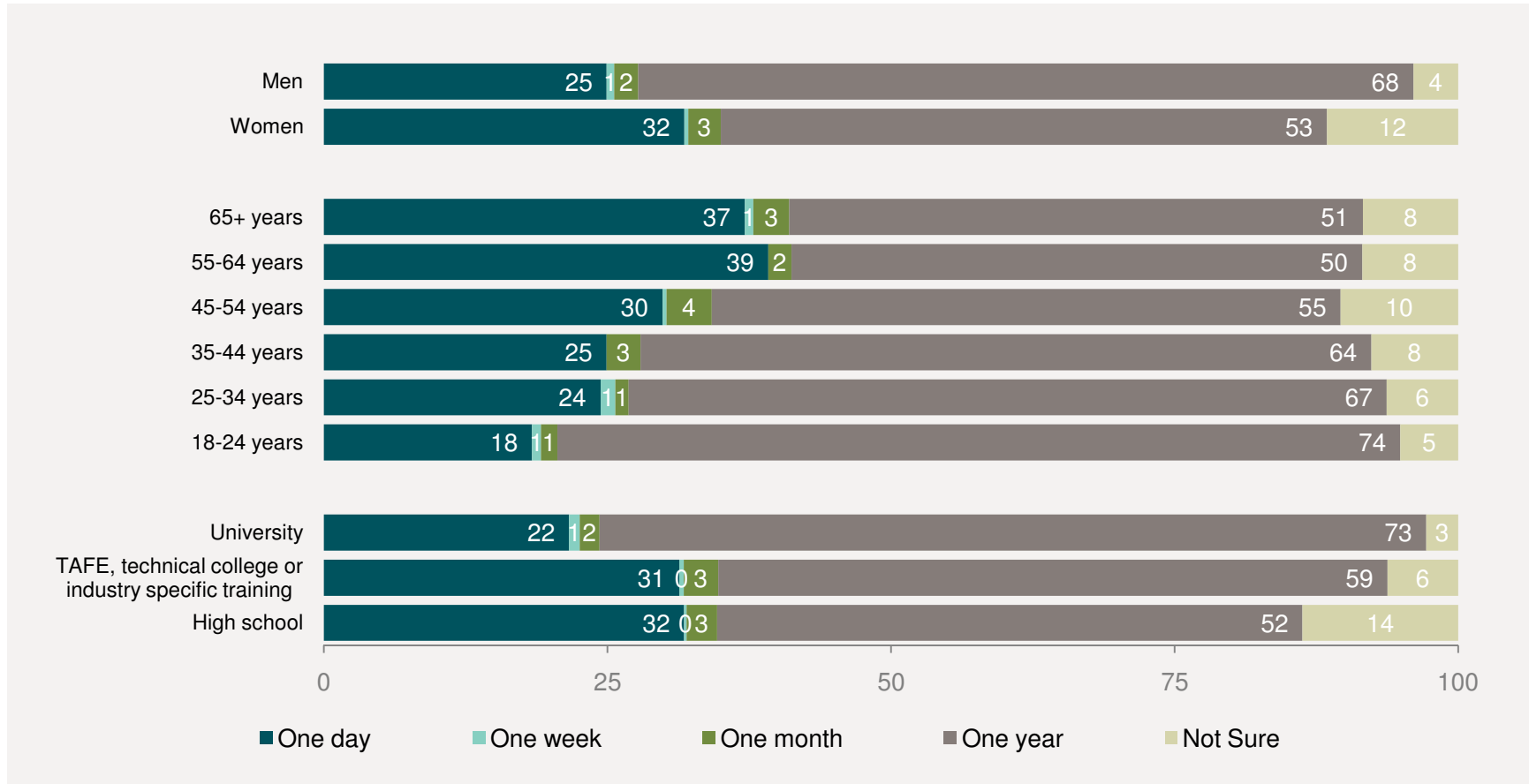
Results

Around two thirds of Australians know that it takes one year for the Earth to travel around the Sun



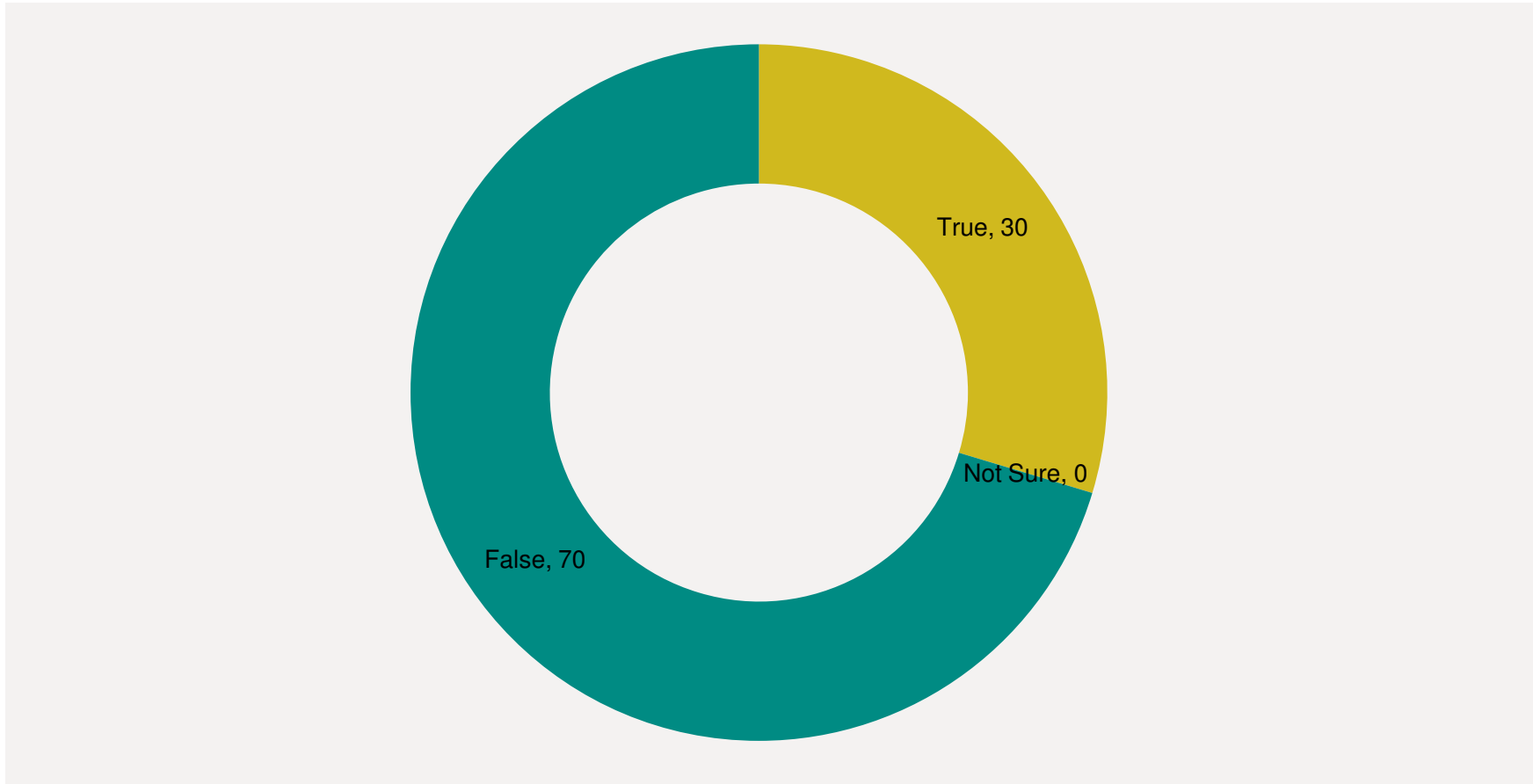
▶ Approximately one quarter (28%) think that it takes one day.

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



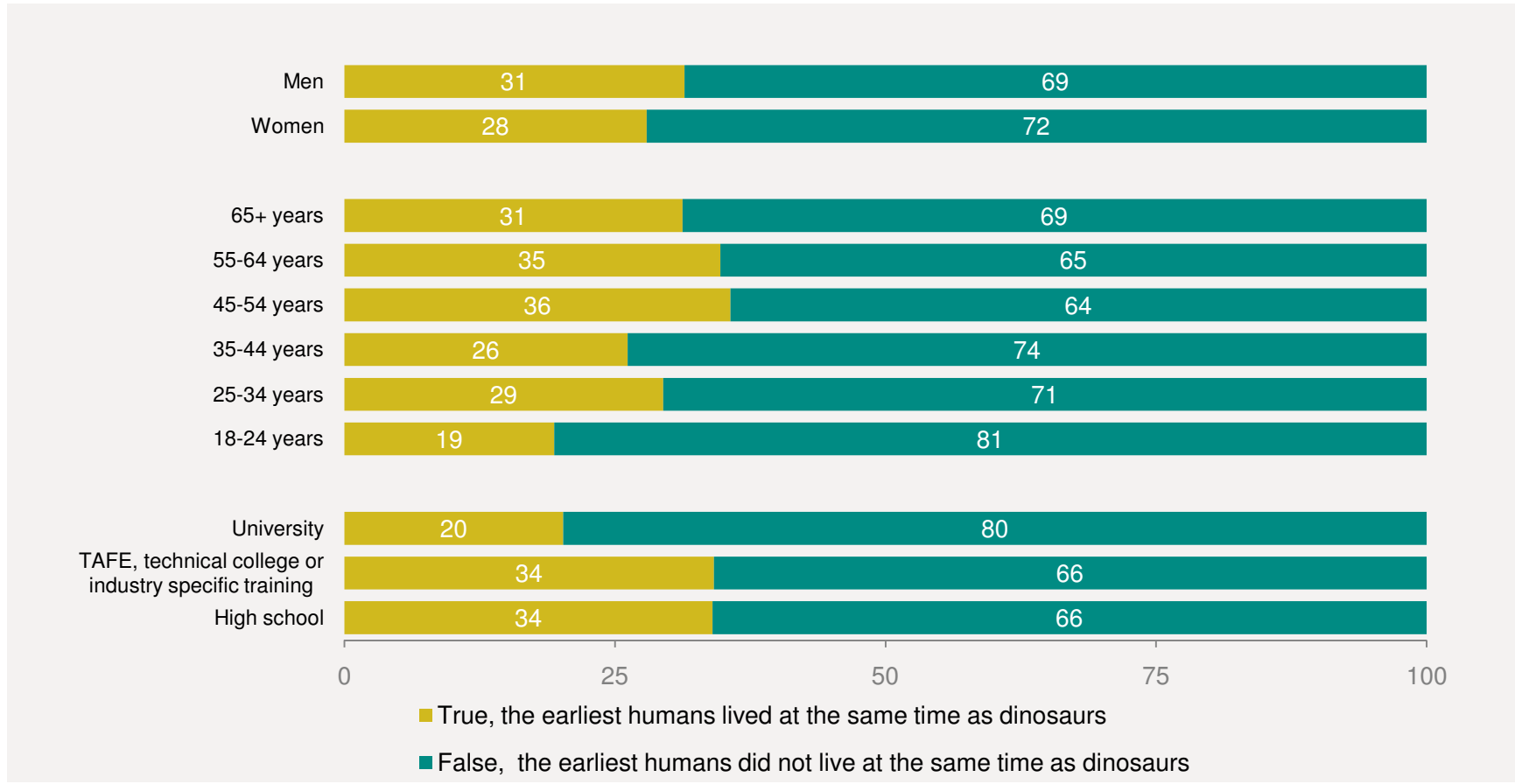
Most people, regardless of gender, age group, or highest education qualification achieved, were most likely to correctly answer that it takes one year for the Earth to go around the Sun. However, across all demographic segments, a number of Australians answered that it takes a day for the Earth to travel around the Sun – even 22% of people with university qualifications thought this was the correct answer.

Three in ten Australians believe that humans lived at the same time as dinosaurs



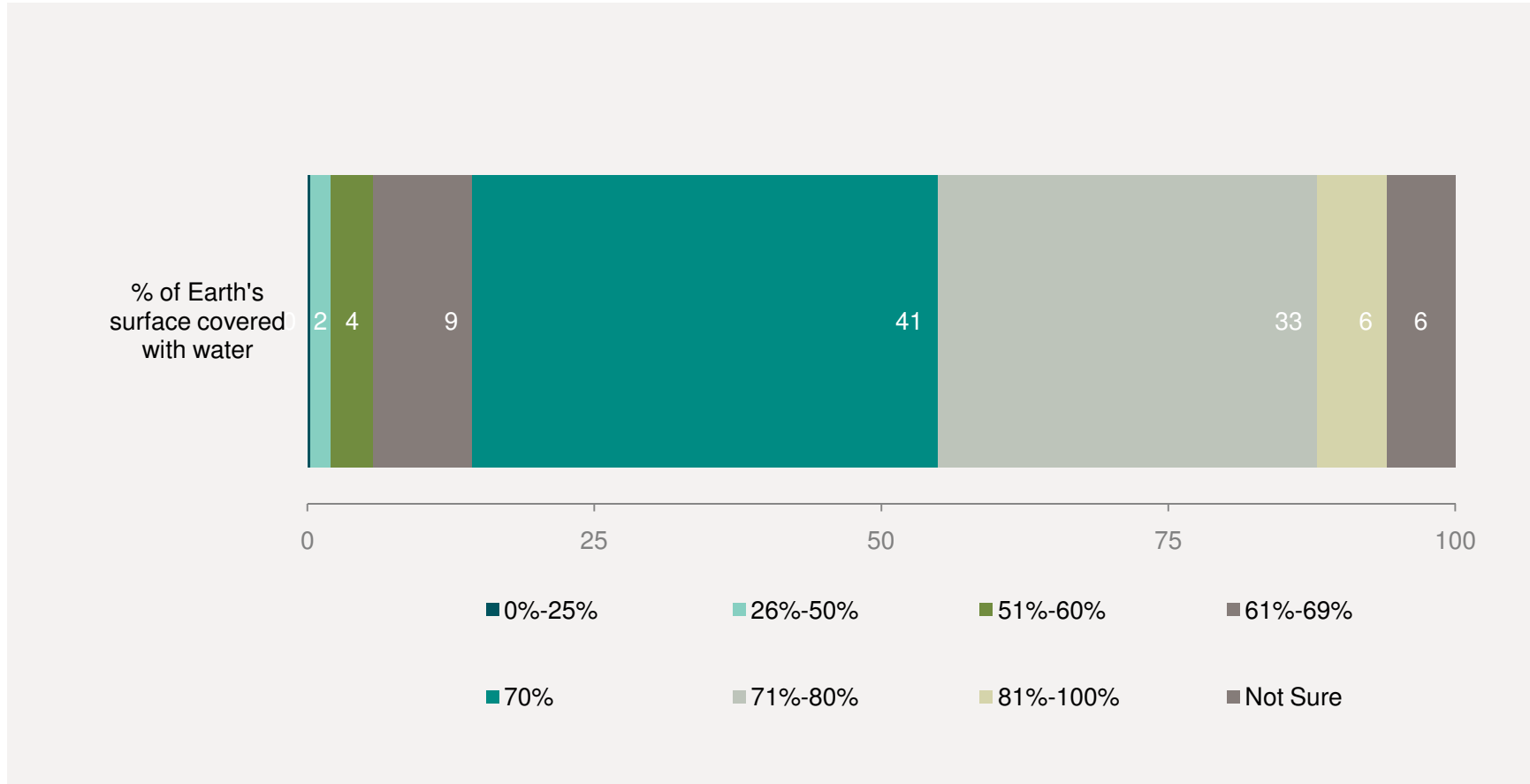
Seven in ten do not believe that humans were alive during the time of the dinosaurs.

Australians aged 45-64 years and people with less education are the most likely to think that humans lived during the time of the dinosaurs



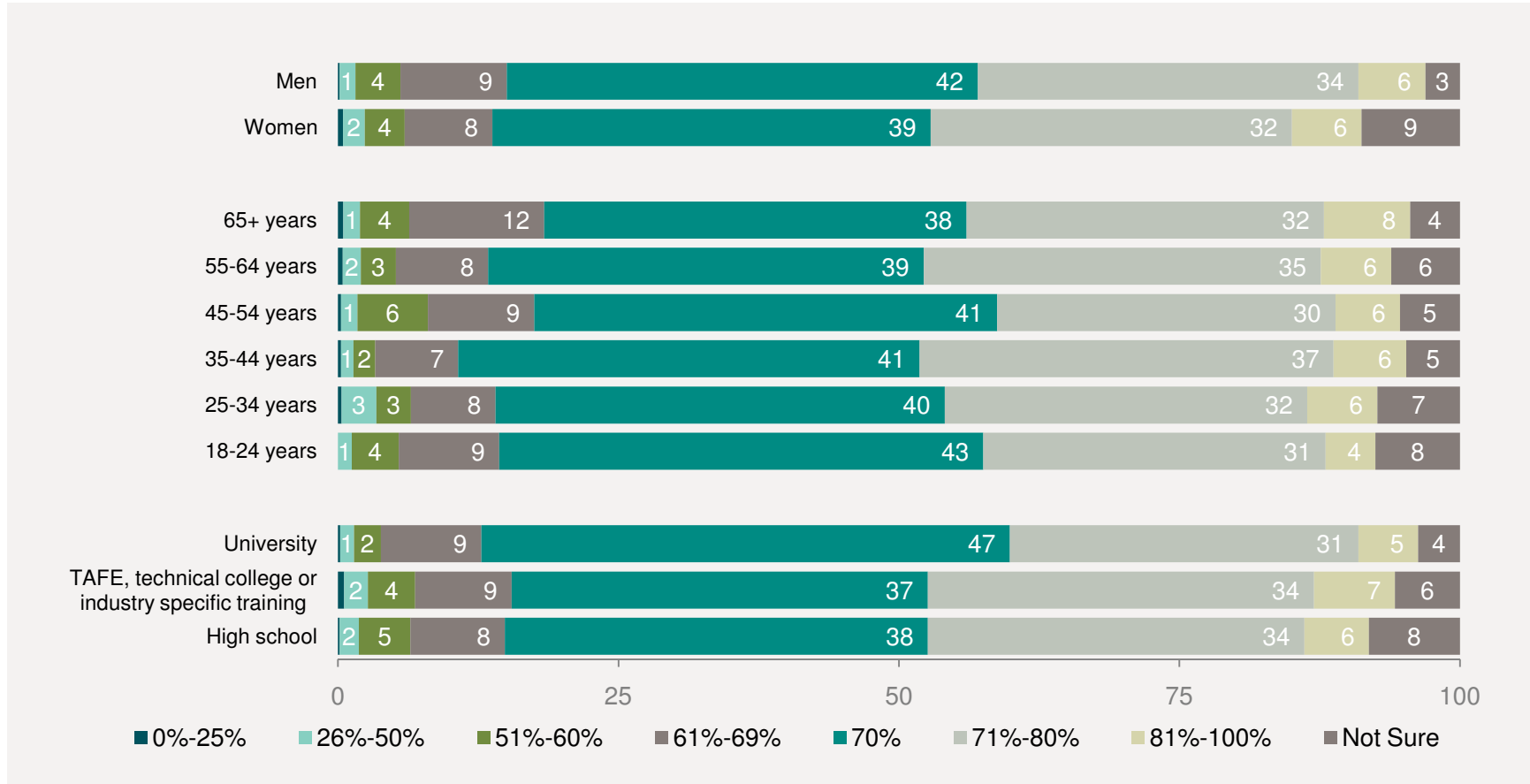
▶ However across all age groups, genders and education levels the majority of Australians believe that the earliest humans did not coexist with dinosaurs. People with university qualifications were more likely than those with less education to answer correctly, although one in five (20%) still agreed that humans and dinosaurs cohabited.

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



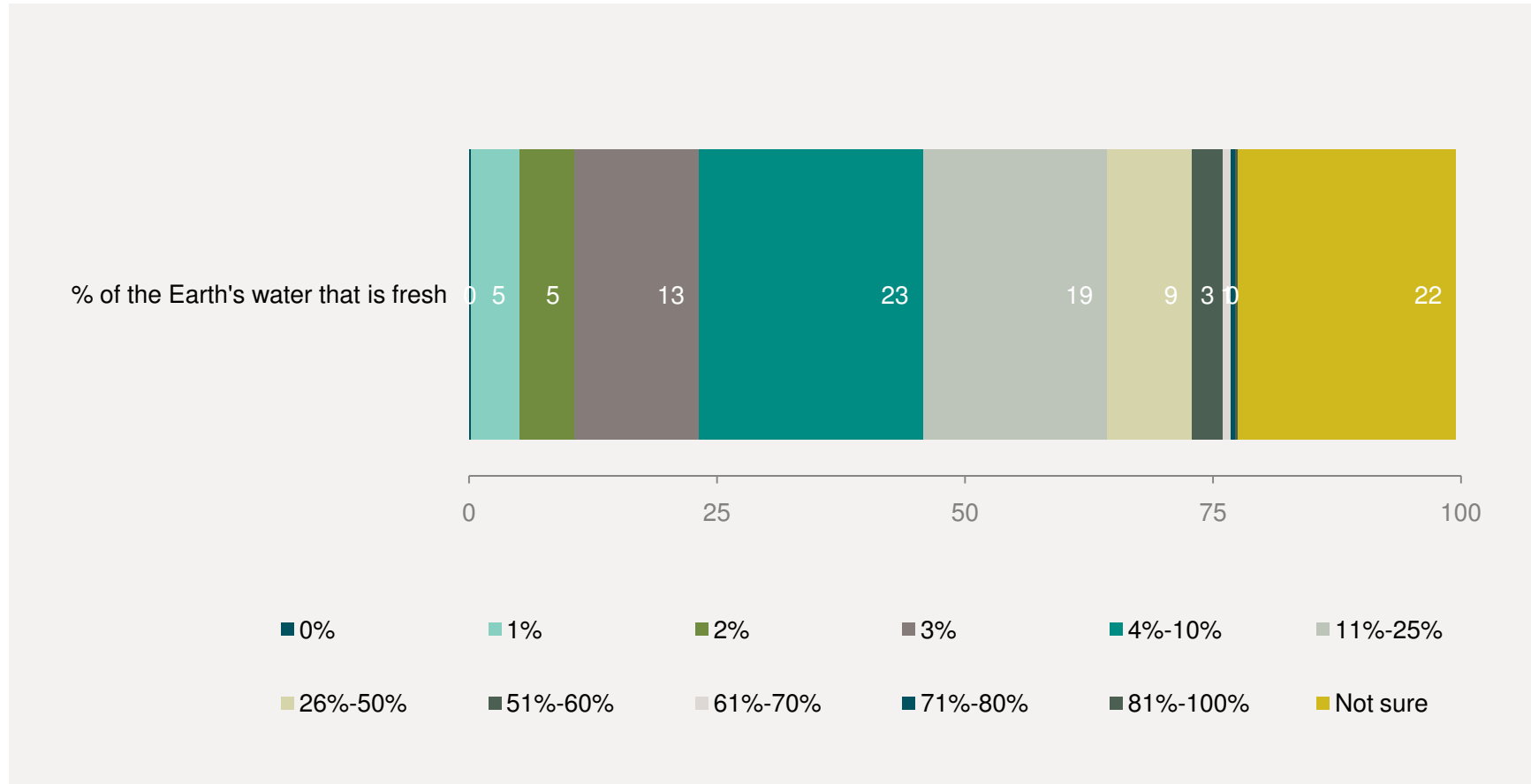
▶ 41% of Australians think the percentage of the Earth’s surface that is covered with water is 70%, whilst another 33% think that the coverage is between 71% and 80%. There were minimal variations between different demographic groups, such as age, gender and location.

This was true across the different demographics



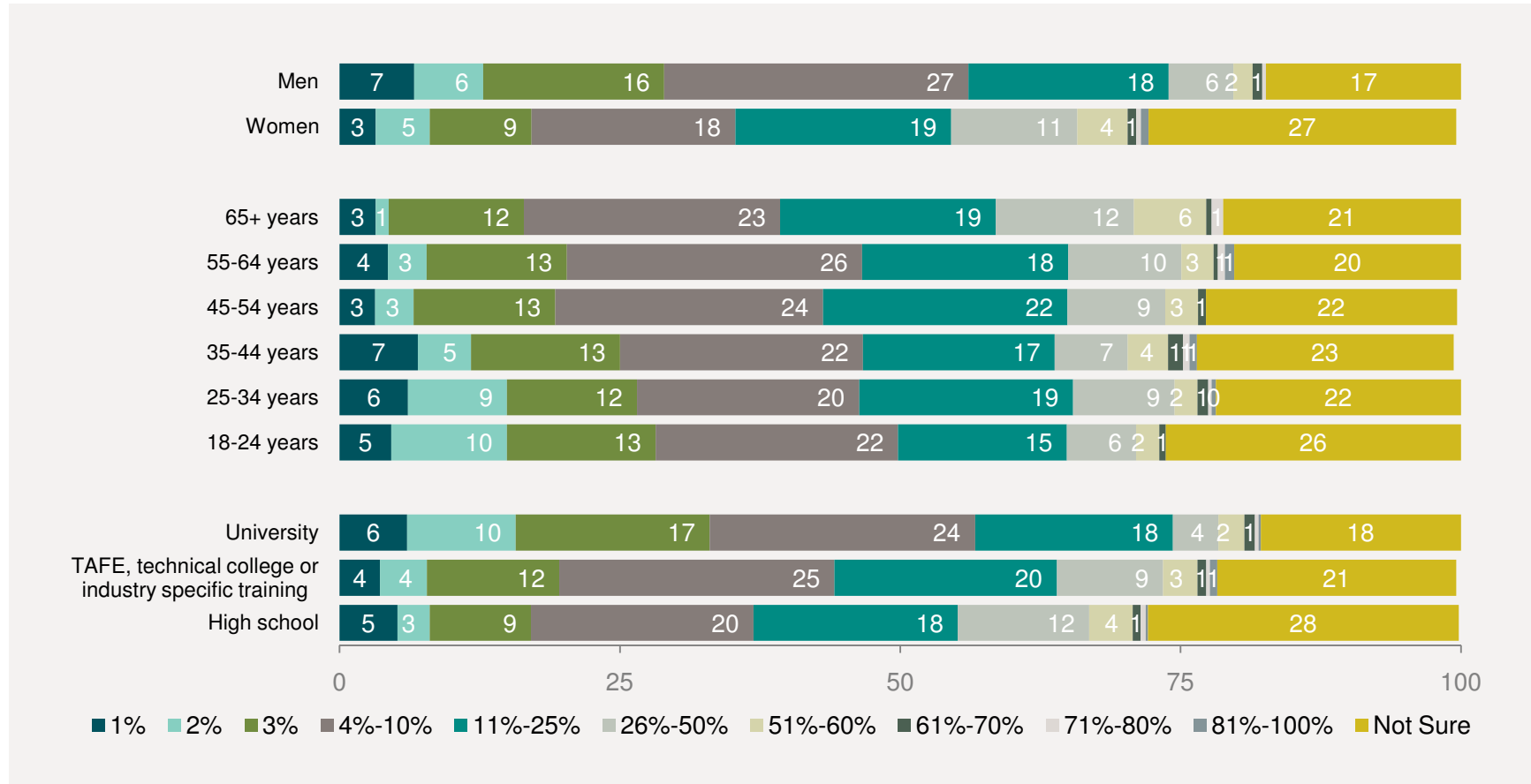
▶ People with a university education were more likely to say the percentage of the Earth’s surface covered with water is 70%. Whilst those with a university degree were more likely to answer correctly than other people, most (53%) still did answer incorrectly. Across all demographic groups, Australians were more likely to overestimate the percentage of the Earth’s surface covered with water.

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



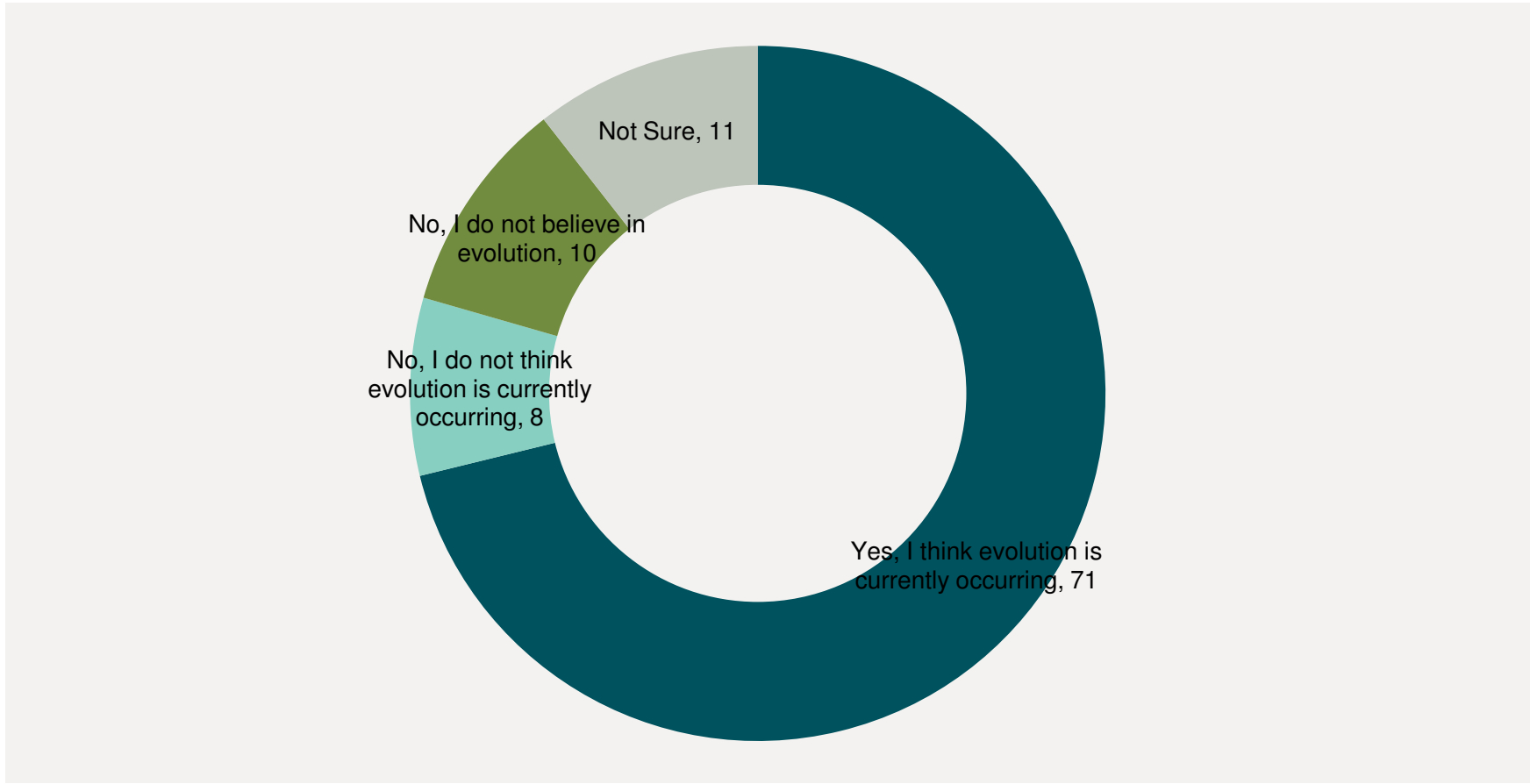
▶ Almost one quarter (22%) of Australians say they are not sure how much of the Earth's water is fresh, and amongst those respondents who did enter a figure, most tended to think the amount of fresh water was between 3-25%

Women are more likely to be unsure about the percentage of fresh water, as are people with a lower level of education



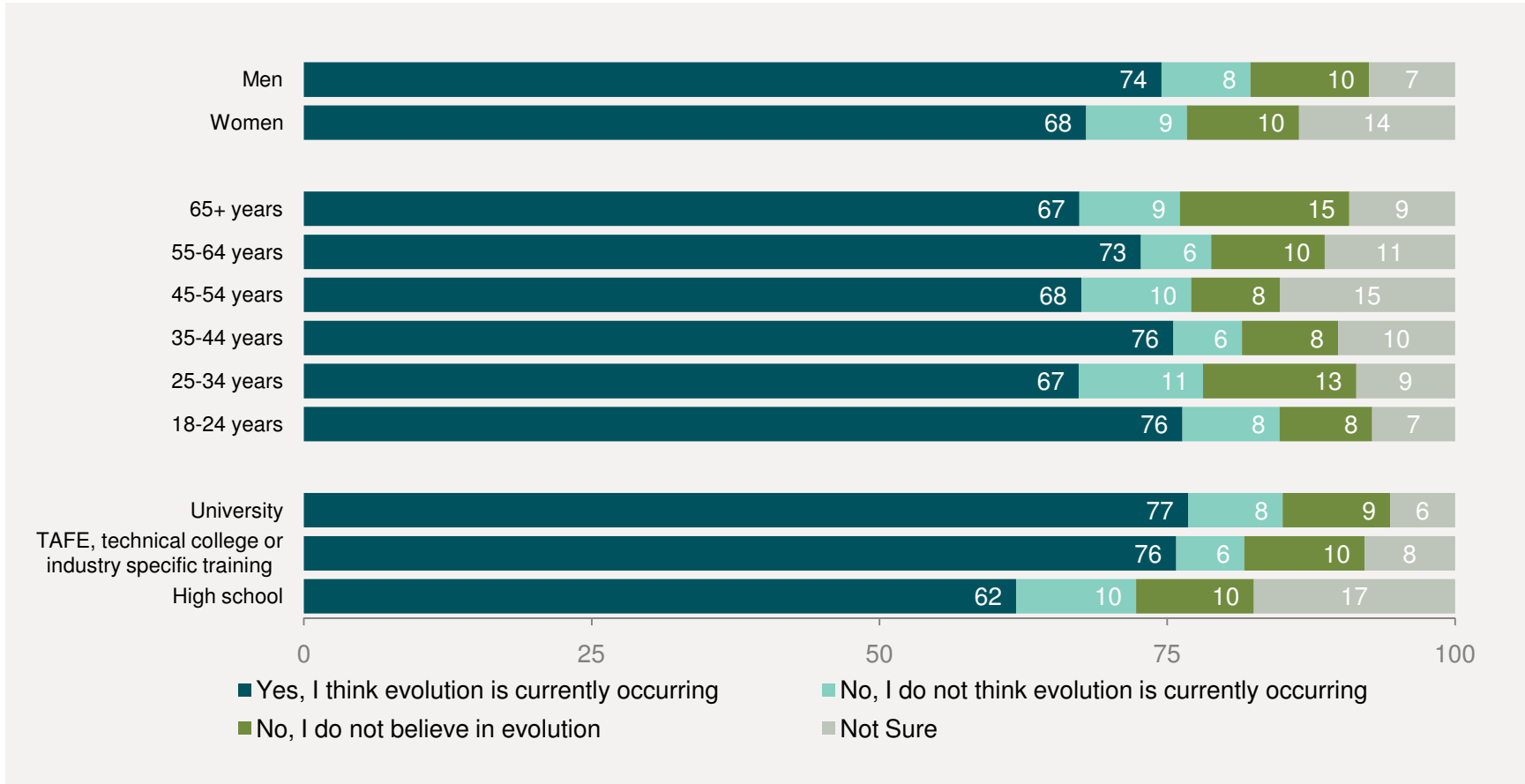
Men are more likely to think that the percentage of fresh water on Earth is 3% (16% versus 9% of women), as are those with a university education (17% compared with 12% or fewer of people with less education). The small number of correct answers suggest that most Australians do not know how much of the Earth's water is fresh.

Around seven in ten Australians think that evolution is currently occurring



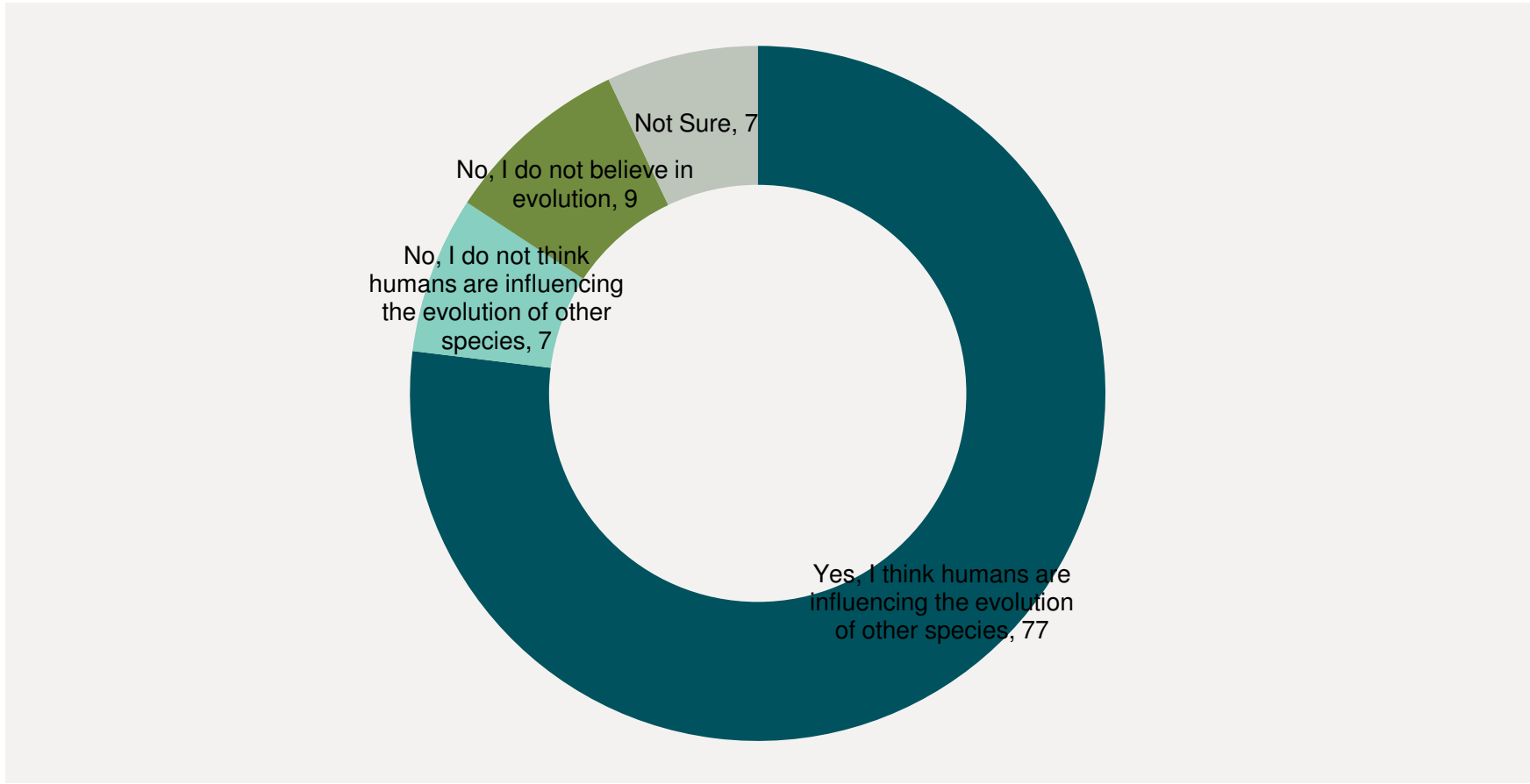
Close to three quarters (71%) of Australians think that evolution is happening, whilst one in ten (10%) do not believe in evolution at all.

Men, people aged 18-24 years and people with higher education levels are more likely to think that evolution is occurring



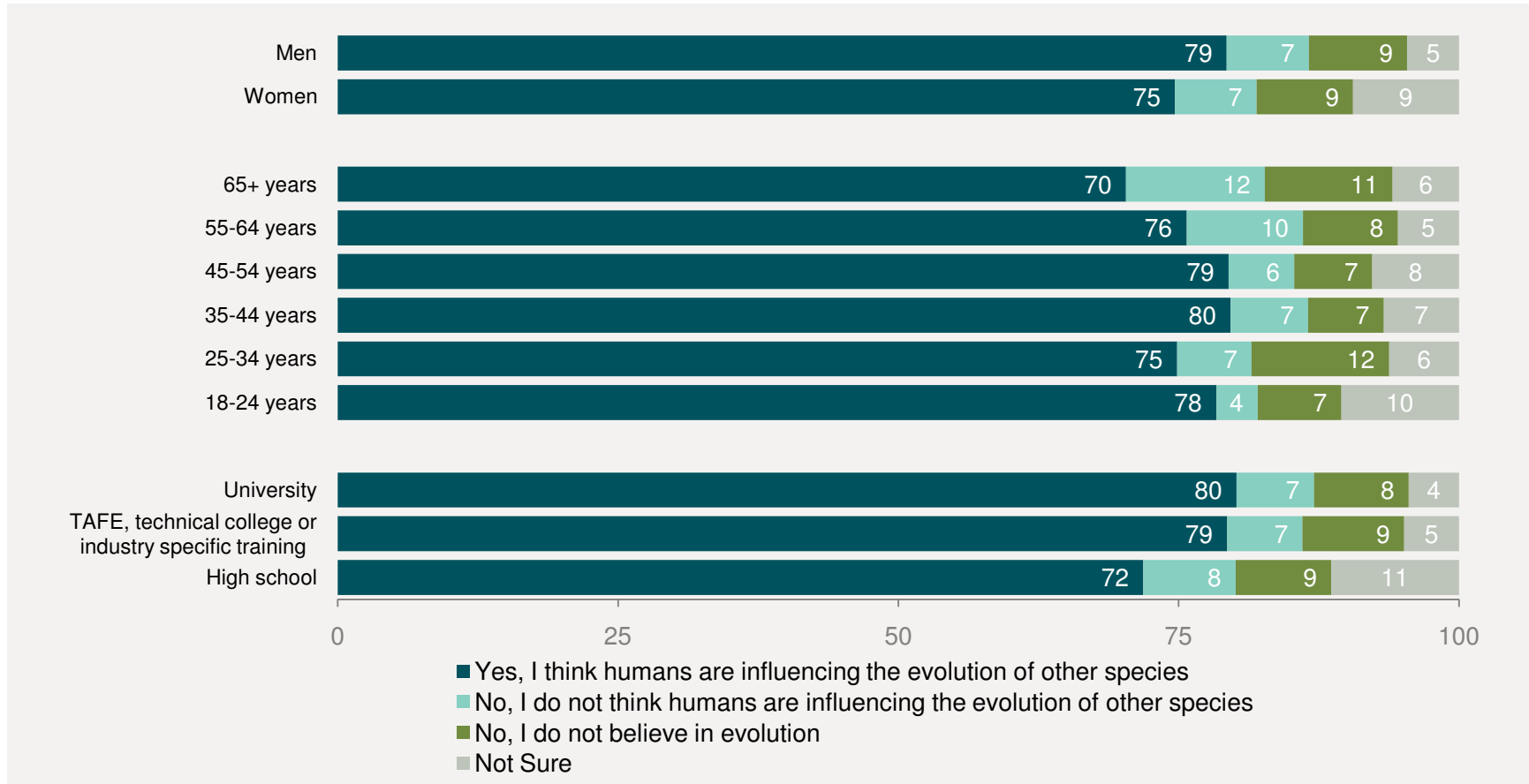
However, most people think that evolution is occurring in spite of their gender, age or level of education. Australians whose highest level of education is a high school qualification were much more likely to be unsure, stating that they don't know if evolution is occurring (17%).

Around three quarters of Australians also think that humans have had an influence on the evolution of other species



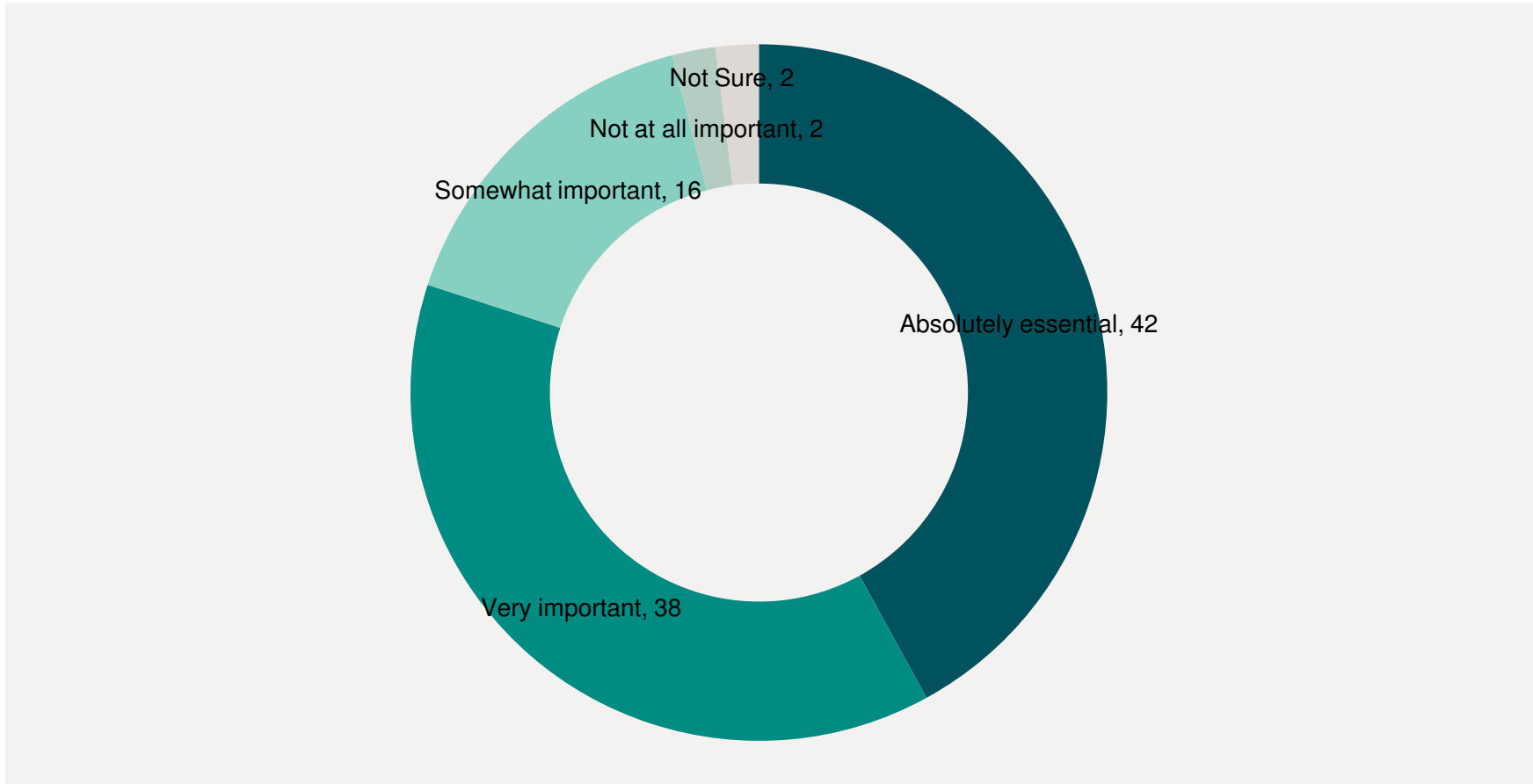
Less than one in ten think that humans are not influencing the evolution of other species (7%).

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



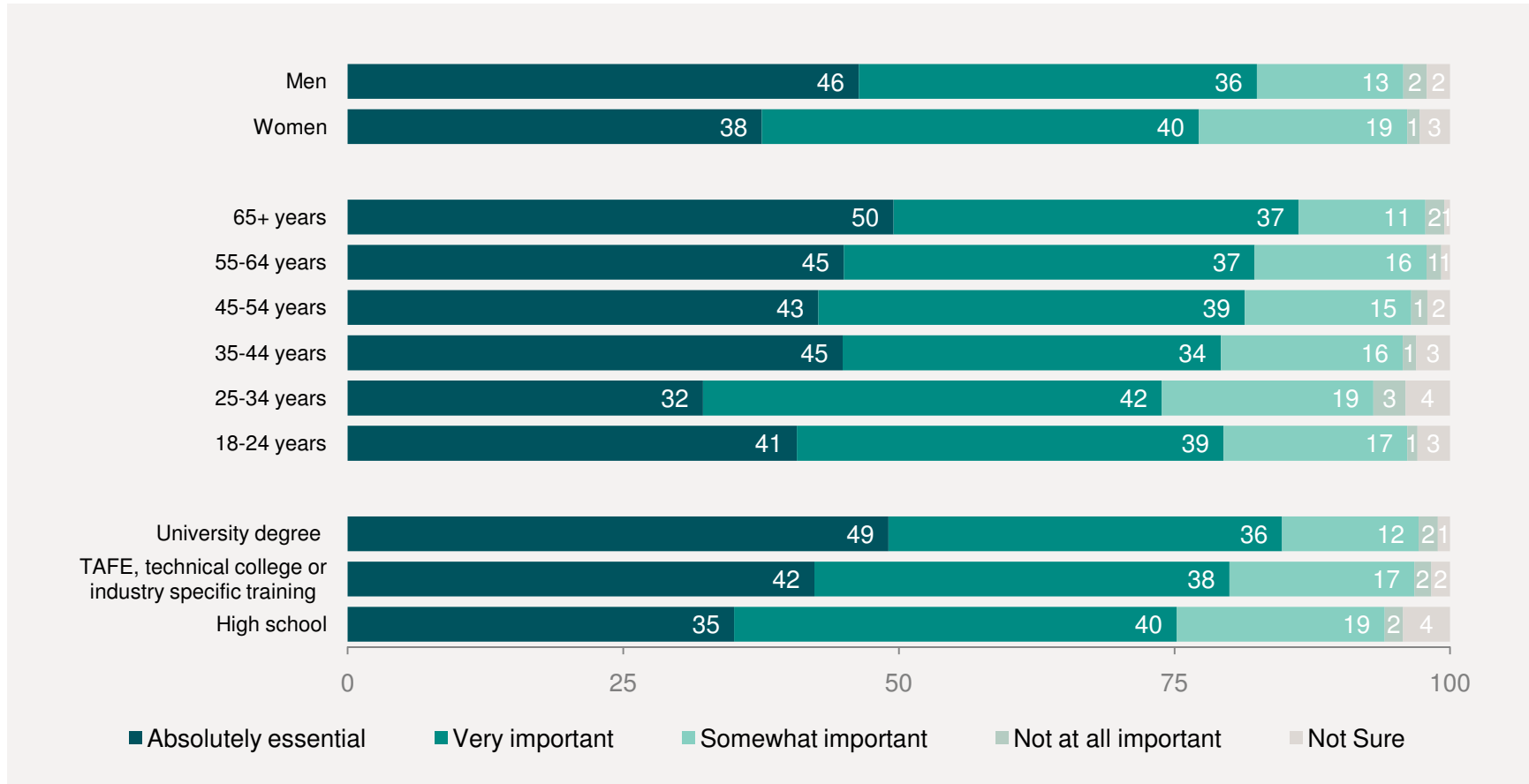
Most Australians, regardless of gender, age or education level believe that humans are influencing the evolution of other species, although people with less education are again more likely to be unsure. Australians aged over 65 years are the most likely to disagree that humans are influencing the evolution of other species – with one in three (30%) contradicting this statement.

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



A clear majority of Australians feel that science education has an important role to play – 80% think that science education is either very important or absolutely essential to the Australian economy.

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



▶ Australians view science education as important for the economy, but men, people aged over 65 years and people with university qualifications are more likely to think that science education is absolutely essential.

Appendix

Sample Characteristics



Sample sub-segment	% of sample	# in sample
Male	50	750
Female	50	765
18-29 years	17	260
30-39 years	21	324
40-49 years	20	310
50-59 years	21	319
60+ years	20	302

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

Location



Sample sub-segment	% of sample	# in sample
NSW	33	504
VIC	26	391
QLD	19	281
SA	8	124
WA	9	133
Other	5	82
Metro	69	1040
Rural	31	475

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
Less than \$20,000	6	92
\$20,000 - \$39,999	18	277
\$40,000 - \$59,999	15	229
\$60,000 - \$79,999	14	214
\$80,000 - \$99,999	14	205
\$100,000 - \$149,999	14	210
\$150,000 - \$249,999	4	65
\$250,000 or more	1	14
Prefer not to say	14	209

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

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