

# THE ORFORD INITIATIVE

*THE INFLUENCE OF MESSAGE FRAMING ON FINANCIAL DECISIONS  
FOR RETIREMENT*

DECEMBER 2021 REPORT

Written by Teagan Altschwager  
and Jody Evans

# Acknowledgments

This report presents select findings from several online experiments conducted with older Australians, exploring the impact of message framing on their behaviours towards retirement income products.

This quantitative study was conducted over several years as part of a 3-year independent research and engagement project by Melbourne Business School. The project, entitled *'The Orford Initiative: Improving the retirement outcomes for Australians by optimising their retirement income and financial security'* is funded by the Orford Foundation in collaboration with the Melbourne Business School. The project team acknowledges the invaluable support of the Orford Foundation.

Please see the [Orford Initiative webpage](#) for further information on the background, motivations, and other research conducted for this project.

## Project team

Dr Teagan Altschwager is Senior Research Fellow for the Orford Initiative at Melbourne Business School.

Dr Jody Evans is Associate Professor, Marketing at Melbourne Business School.

## Research approach

The team adopts an engaged research approach to all projects. Engaged research is based on authentic partnerships with communities and organisations to craft a research program that creates value with and for communities or organisations and that has aligned academic outcomes.

**Suggested citation:** Altschwager, Teagan and Evans, Jody (2021) *The Influence Of Message Framing On Financial Decisions For Retirement*. The Orford Initiative: Melbourne Business School. Available at: <https://go.mbs.edu/orford/>



# Table of Contents

<b>04</b>	Executive Summary
<b>05</b>	Introduction
<b>06</b>	Research Overview
<b>08</b>	Key Findings
<b>21</b>	Implications and recommendations
<b>23</b>	Conclusion
<b>24</b>	Appendices

# Executive Summary

Experimental research by the Orford Initiative (Altschwager & Evans, 2020) revealed that, when tasked with making lifetime annuity product choices, there was a strong tendency for older Australians to 'choose not to choose'. In response, this report describes several experiments that sought to extend our understanding of this 'no choice' behaviour by trialling several interventions and factors;

- **Message frames** (emotional, consumption, investment, portfolio and storytelling) were tested for their ability to change behaviours.
- **Text versus video formats** were compared to unveil any changes in engagement
- **Loss aversion** was investigated for behavioural differences triggered by hesitancy or fear
- Some studies expanded beyond the original sample of older Australians, instead focusing on an **equivalent cohort in the United States (50+)**, and a **younger cohort in Australia** to understand the role culture and age might play.

Four experiments were conducted with over 2000 respondents, each engaging with the same discrete choice task activity of comparing a series of lifetime annuity products comprising of different features.

Aggregate findings across the 4 experiments regarding the importance of lifetime annuity attributes was broadly consistent with the 2020 research; when forced to make a choice, respondents evaluated the product attributes rationally. They were mainly driven by **income level** and **death benefit** attributes, followed by **period certain guarantee** and **reversionary pension**. When the 'no choice' option was introduced, that option had almost the same relative importance as the other product attributes combined.

Three consumer segments emerged based on the importance they placed on the 'no choice' option;

- **Segment 1 – the choice group**: highly likely to make a choice (2% 'no choice')
- **Segment 2 – the mixed group**: mixed choice behaviour (59% 'no choice')
- **Segment 3 – the no choice group**: highly unlikely to make a choice (99.7% 'no choice')

The **'no choice' tendency** was highest for experiment 2 (Australian video study), potentially indicating that the video format is less effective for the older Australian cohort, and/or that the messaging framing adversely effected perceptions.

Those with **higher loss aversion** were significantly more likely to be in the 'no choice' segment (segment 3), reiterating the idea that annuities are perceived as a 'gamble', with the fear of losing retirement savings to a life insurance company a strong, prohibitive factor in decision-making.

**Consumption, emotional, and simple** messaging frames impacted segment membership. Interestingly, the emotional frame was found to foster a negative emotion toward annuities, possibly due to emotional content being perceived as deceptive or manipulative.

Four key implications are drawn to assist those seeking to better communicate the value of annuities with the Australian retiree market:

- 1. Focus on reducing fears around the perceived losses associated with annuities.**
- 2. Exercise caution with emotional messaging.**
- 3. Simplicity is key, despite product complexity.**
- 4. Education is still the vital first step in Australia, with particular attention on younger consumers.**

# Introduction

**Previous findings from the Orford Initiative revealed a propensity for older Australians to ‘choose not to choose’ when it came to lifetime annuities. In this study, we delve into potential reasons for this behaviour by exploring the influence of message framing and loss aversion.**

The 2020 Orford Initiative study (Altschwager & Evans, 2020) explored two choice modelling experiments to understand retirement decision making. The study found that, when faced with a simple retirement savings allocation task, people were willing to consider lifetime annuities. However, once complex trade-offs and information about annuity attributes were introduced, the demand for annuities declined substantially. Consumers either became overwhelmed or no longer cared about the decision and preferred to avoid making a choice entirely. Further research was recommended in the following areas:

1. *Messaging appeals* to explore any mitigating effects it might have on an otherwise overwhelming level of complicated attribute information (which has led to the dominance of ‘no choice’ decision making).
2. Explore other potential mechanisms at play that might be driving segment membership, for example an individual’s loss aversion might explain why some consumers choose particular lifetime annuity attributes.

This report extends the 2020 study in several important ways:

- We explore various messaging frames (emotional, consumption, investment, portfolio and storytelling) for their ability to better deliver retirement income product information.
- We compare the impact of text versus video messaging to understand how information format might influence behaviour.
- We investigate the role of loss aversion in understanding consumer hesitancy versus preference for lifetime annuities.
- We contrast different consumer segments to see if hesitancy lies with the product, or with the individuals receiving the information (studies were conducted with an older cohort in the United States, where the annuity industry is more prominent, and with a younger cohort of Australians).

These factors are explored through the analysis of four experimental studies; the original discrete choice experiment reported in 2020, and three extension studies conducted throughout 2020-2021.

# Method

## Four experiments were conducted to understand the various factors under investigation.

Experiments were distributed by Qualtrics, and took an average (median) of 14m (experiment 1), 18m (experiment 2), 16m (experiment 3), and 17m (experiment 4) to complete. Data quality was assessed for speeders<sup>1</sup>, flatliners<sup>2</sup> and those who provided incomprehensible responses to a written question. Responses that did not satisfy quality requirements were removed from analysis. 538 (experiment 1), 543 (experiment 2), 636 (experiment 3) and 286 (experiment 4) quality responses were maintained for analysis.

Quotas were employed to ensure balance across key population characteristics and representation of relevant groups of interest. Respondents are representative of Australian demographics in terms of gender and age<sup>3</sup>. Respondents also represent a cross-section of education levels, household annual income brackets, and stages of retirement (not retired, partially retired, fully retired, and never worked). See Appendix A1 for a summary of respondent characteristics. The survey was constructed using established measures from academic literature, (see Appendix A2 for a complete list of measures and their sources).

Each experiment was designed using Sawtooth Choice Modelling

software. All studies employed the same *discrete choice design* to uncover relative importance of annuity attributes across various levels (see page 8 more for detail and appendix A6, A7, and A8 for choice design).

The benefit of choice modelling methods is in the creation of *tradeoffs* – these tasks force people to make sacrifices and decisions between products/ attributes, rather than simply stating that ‘everything is important’. Tradeoffs are more reflective of real-life decision making – often the ‘perfect product’ with *all the best features* either does not exist or is prohibitively expensive; therefore, people are forced to make sacrifices in order to get the attributes that are of greatest value to them.

### Notes:

<sup>1</sup> Speeders complete the survey significantly shorter or longer than average.

<sup>2</sup> Flatliners answer questions in noticeable patterns or give exactly the same response to majority of questions (e.g. all 7s).

<sup>3</sup> People aged 50+ qualified to participate in experiment 1, 2 and 3 given their proximity to retirement, and likely recency of considering retirement issues and engaging in retirement decision making. People aged 35-49 qualified to participate in experiment 4, to explore the sentiments and behaviours of a slightly younger cohort.

# Method

Each experiment had a different focus regarding message framing, information format, and/or cohort.

## EXPERIMENT 1 (original Aus text study)

(n= 538)

Older Australian sample (50+)

No messaging frames (simple/control message only).

Text information format.

## EXPERIMENT 2 (Aus video study)

(n= 543)

Older Australian sample (50+)

6 messaging frames: Simple (control), emotional, consumption, investment, portfolio, and storytelling.

Video information format.

## EXPERIMENT 3 (US text study)

(n= 636)

Older United States sample (50+)

6 messaging frames: Simple (control), emotional, consumption, investment, portfolio, and storytelling.

Text information format.

## EXPERIMENT 4 (younger Aus video study)

(n= 286)

Younger Australian sample (35-49)

4 messaging frames: Simple (control), emotional, portfolio, and storytelling.

Video information format.

# Key Findings

The experiments investigate how people make decisions about lifetime annuities when faced with varying product attributes by employing a discrete choice modelling design.

In the choice tasks, respondents were asked to imagine they were 65 and considering putting \$100,000 of their retirement savings into a lifetime annuity. Over 16 choice tasks, respondents were presented with 2 lifetime annuity products, each with different product attributes (see appendix A6 for an overview of attributes and levels, and A7 for product attribute combinations across each task). These attributes include:

Starting monthly  
income (\$250,  
\$350, \$450, \$550)

Reversionary  
pension  
(none, partial, full)

Period certain  
guarantee  
(none, 10-year, 20-  
year, 30-year)

Payout at death  
(yes, no)

Investment type  
(capital guaranteed,  
investment linked)

Access to capital  
(yes, no)

A balanced choice design ensured adequate representation and variation across attributes and levels to allow for accurate analysis of tradeoffs (without having to include *every possible* combination of attributes/levels). This approach also excludes ‘extreme’ attribute combinations (i.e. a product will not have *all* the best (worst) level of features and the highest (lowest) price, as these are clearly (inferior) superior product choices that don’t aid in exploring attribute tradeoffs.

Respondents were asked to select their preferred product (A or B), and were then asked ‘*given the option, would you really buy the annuity you chose above?*’ (yes or no) (see appendix A8 for an example of the task). This allowed us to capture a ‘forced choice’ (where respondents had to select a product) as well as a ‘full choice’ (where they were given the option to not make a choice).

Prior to the choice tasks, respondents were shown a table that explained each annuity attribute, and possible levels (see appendix A3). They were also presented the 2 annuity products in a table detailing the attributes *during* each task for comparison (see appendix A8 for an example).

# Key Findings

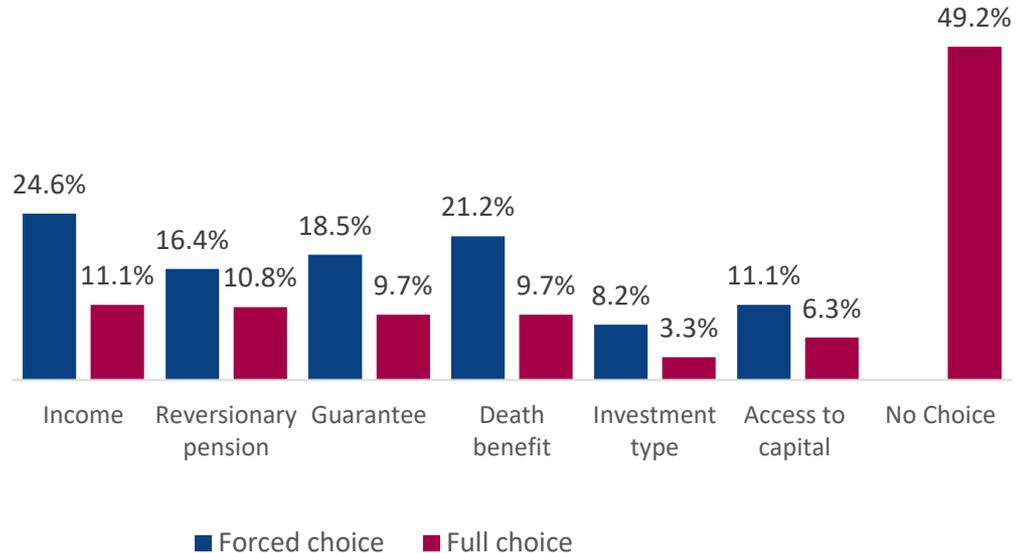
## Relative importance of attributes – Forced choice versus full choice (aggregate)

Figure 1 shows the relative importance for each annuity attribute, across both forced choice (people had to choose between products) and full choice conditions (people had the option to choose ‘neither’ product) aggregated across the four experiments.

When forced to make a choice, the dominant drivers of choice are *income* and *death benefit*. *Period certain guarantee*, *reversionary pension* and *access to capital* drive choice to a lesser extent, and *investment type* (investment-linked versus capital guaranteed investment options) has the least impact on product choice.

Once respondents are given the option of ‘no choice’ (the ‘full choice’ values charted in maroon), then this option dominates all other attributes (with 49% importance given to ‘no choice’).

1: RELATIVE ATTRIBUTE IMPORTANCE (%) – AGGREGATE ACROSS 4 EXPERIMENTS



# Key Findings

## Relative importance of Attributes – Study comparisons across full choice condition

### 2: RELATIVE ATTRIBUTE IMPORTANCE (%) – COMPARISONS ACROSS 4 EXPERIMENTS

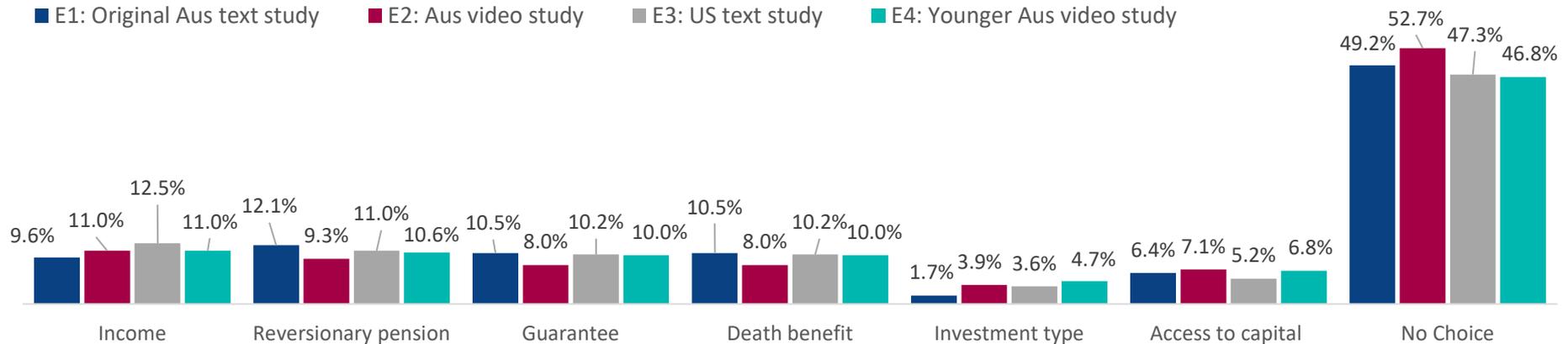


Figure 2 shows the relative importance for each annuity attribute *by study* in the full choice condition (where people were given the option to not choose). There appears to be little difference in the drivers of choice across the experiments, with 'no choice' still being the dominant driver. The no choice option had slightly more impact in experiment 2, the Australian video study (52.7%) compared to the other experiments.

# Key Findings

Two utility graphs are compared on the next page to demonstrate the relative importance of attributes across attribute levels, and to further highlight the dramatic impact of giving people the choice *to not choose*.

Figure 3 (left) maps the relative importance (utility) of attributes across attribute levels when respondents are forced to choose a product. When forced to make a choice, respondents evaluate the product attributes rationally across attribute levels. They prefer:

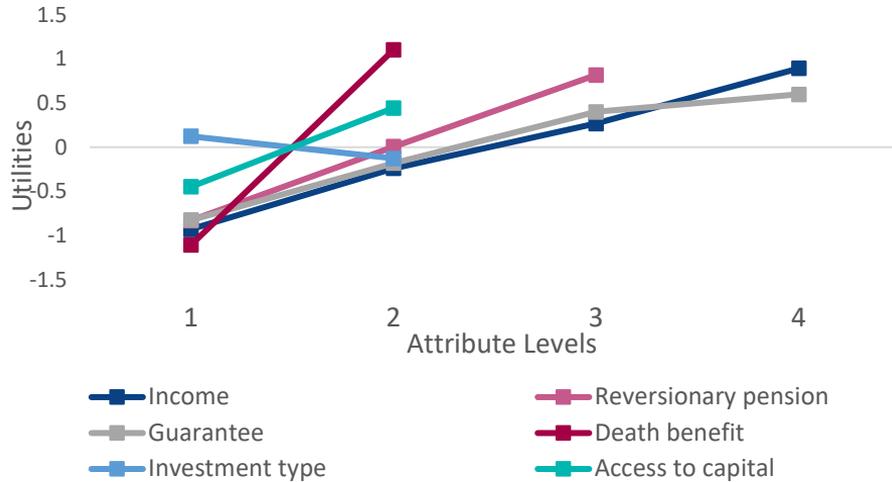
- Higher income over lower income
- Full reversionary pension over partial and none
- Longer guarantee over shorter guarantee
- Death benefits over no death benefits
- Access to capital over no access to capital

The introduction of 'no choice' (figure 4) dramatically alters choice behaviour:

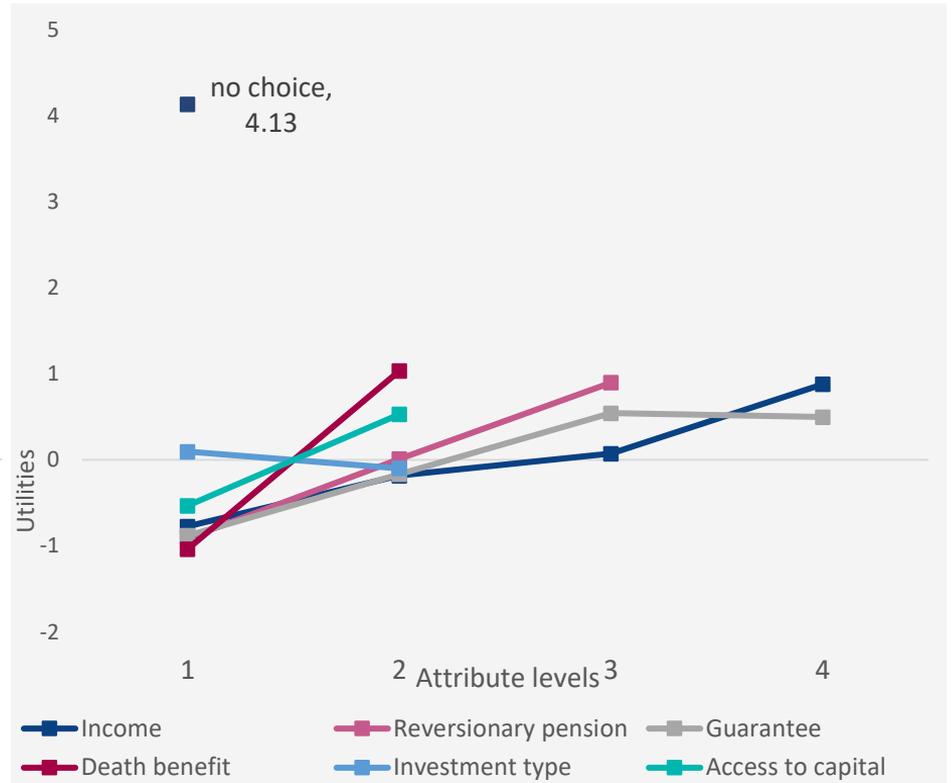
- The 'no choice' option has almost the same relative importance as the other 6 product attributes *combined*.
- The *income* attribute in the forced choice graph (figure 3) indicates a strong linear relationship, with increased relative utility across each attribute level (i.e. as income increases). However, when the 'no choice' option is introduced, income levels 2 and 3 now have essentially the same level of importance (figure 4); only at the highest and lowest income levels is a difference in importance apparent.
- Similarly, *period certain guarantee* has a mainly linear relationship in the forced choice graph (figure 3), with a slightly lower increase in utility between the 20-year and 30-year guarantee. However, in the 'no choice' option, there is no difference in importance between these benefit levels.

# Key Findings

### 3: UTILITIES BY ATTRIBUTE LEVELS – FORCED CHOICE



### 4: UTILITIES BY ATTRIBUTE LEVELS – FULL CHOICE



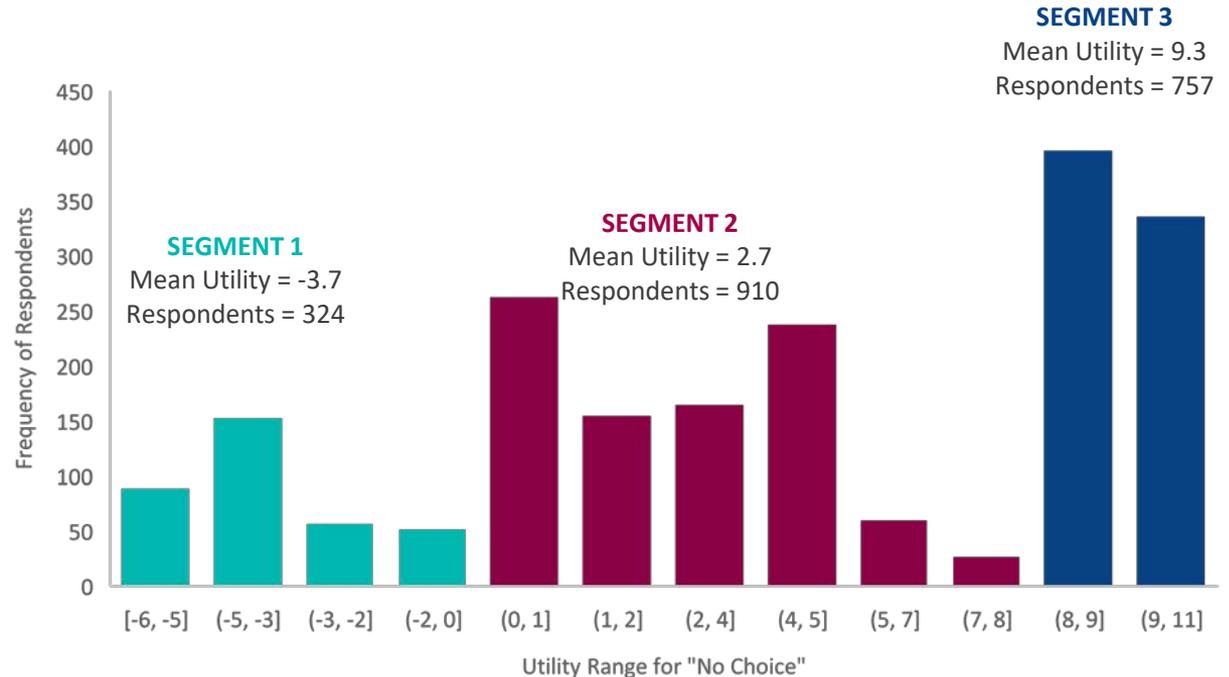
# Key Findings

## 3 segments based on propensity to choose the no choice option

Figure 5 identifies three key segments that emerged based on the relative importance (utility) of the 'no choice' option.

This segmentation method allows us to compare people based on their propensity to choose the 'no choice' option, which is either extremely high (Segment 3), moderate (Segment 2) or low (Segment 1).

5: FREQUENCY OF 'NO CHOICE' UTILITY – AGGREGATE ACROSS 4 STUDIES



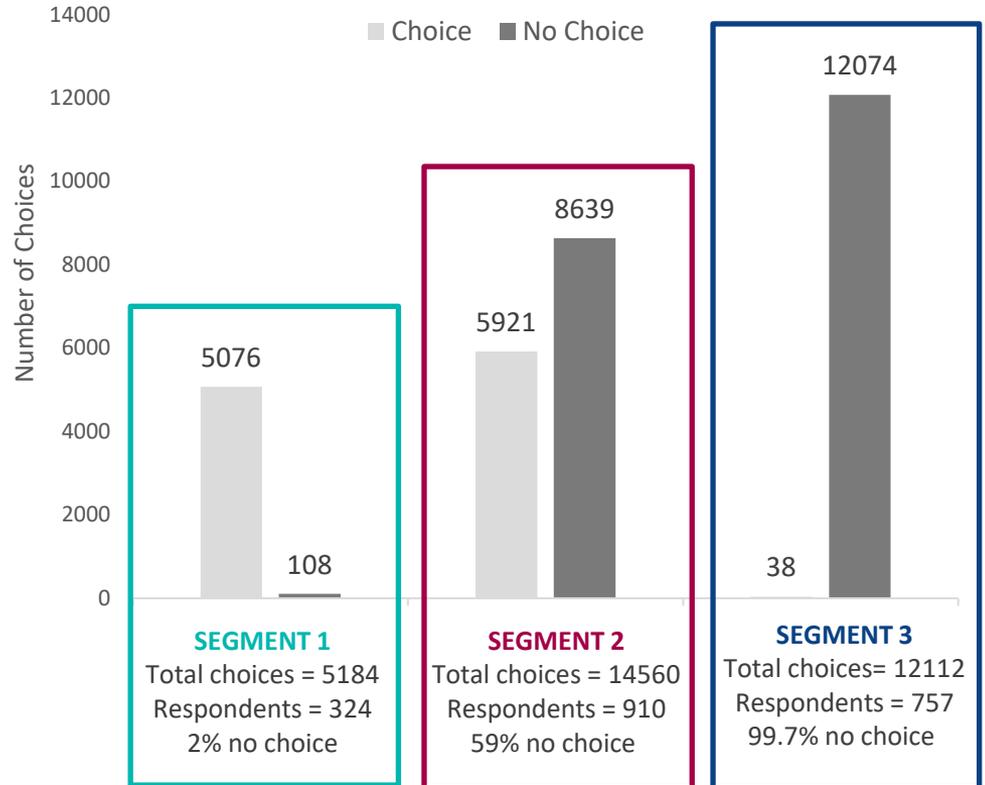
# Key Findings

## Number of Choice and No Choice per Segment

Figure 6 illustrates how dramatic the choice differences are between segments. For each segment, a 'choice count' is reflected (how many times in total did respondents in each segment make or not make a choice).

- In segment 1, out of 5184 available choices, respondents made 5076 choices and only 108 'no choice'
- The complete reverse is seen for segment 3 where out of 12112 available choices, 12074 decisions were 'no choice'.
- This shows how different the segments are in their behaviour – some make a product choice all the time, some never choose, and then segment 2 is somewhere in the middle with greater balance, however with a preference to not choose (59%).

6: NUMBER OF 'CHOICE' AND 'NO CHOICE' PER SEGMENT



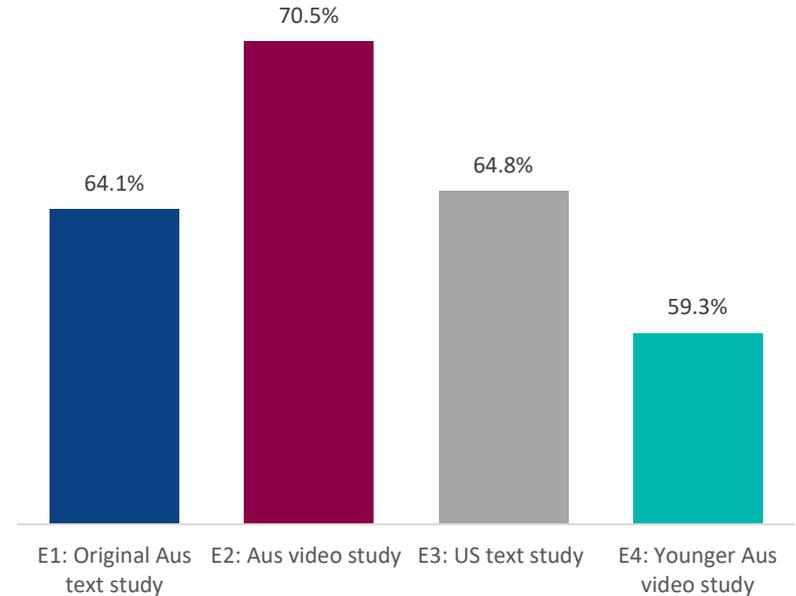
# Key Findings

## Percentage of 'no choice' across experiments

Figure 7 indicates that experiment 2 (the Australian video study) has a significantly higher percentage of 'no choice' compared to the other three studies. No significant differences were found between the other three studies.

Possible explanations for this heightened propensity to not choose in experiment 2 could be that the *video* information format is less effective for the older Australian cohort versus a younger group (key difference between E2 and E4), and/or that the *message framing* has an adverse effect on their perceptions (key difference between E1 and E2).

7: PERCENTAGE OF 'NO CHOICE' ACROSS EACH STUDY

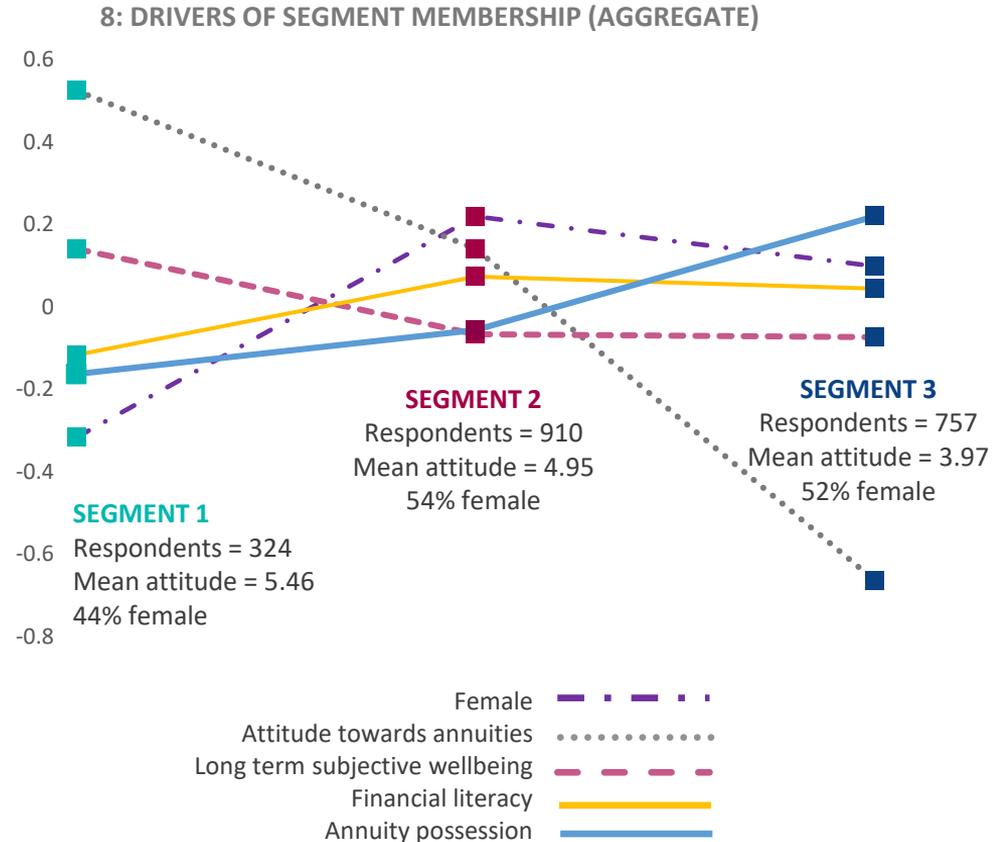


# Key Findings

## Drivers of segment membership across the four studies

Figure 8 demonstrates the statistically significant drivers of segment membership to determine common traits between members.

- Attitude towards annuities is, by far, the strongest predictor of segment membership. Those with stronger positive attitudes are significantly more likely to be in the choice segment (segment 1).
- In contrast, females, individuals with annuities, and those with higher financial literacy are less likely to be in the choice segment (segment 1), and are more likely to be in either the mixed or no choice segments (segments 2 or 3).
- An individual's *long term subjective financial wellbeing* is also a significant driver of segment membership. The greater an individual's subjective *long term* financial wellbeing, the more likely they are to make annuity choices (i.e. be in segment 1).

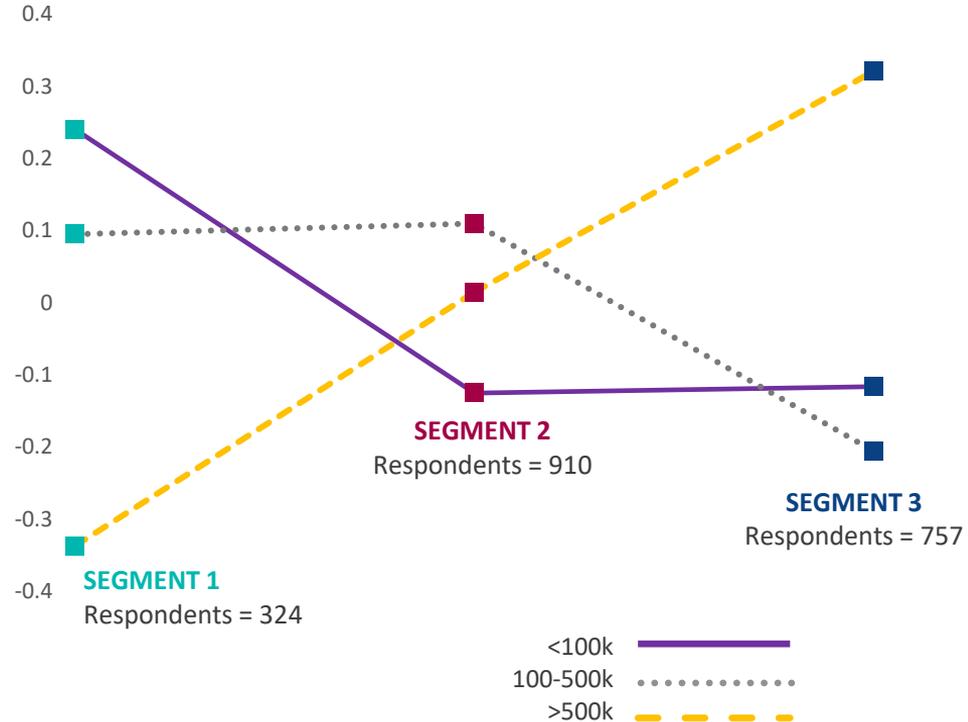


# Key Findings

## Retirement savings also drives segment membership (across the four studies)

Figure 9 highlights the role of retirement savings in driving segment membership. Individuals with over \$500,000 in retirement savings are less likely to be in the choice segment (segment 1). The opposite is true for individuals with lower retirement savings. This could reflect a lessened fear of running out of retirement funds for the higher savings group, therefore making the idea of protecting against longevity with a lifetime annuity seem less important.

9: RETIREMENT SAVINGS IMPACT ON SEGMENT MEMBERSHIP (AGGREGATE)



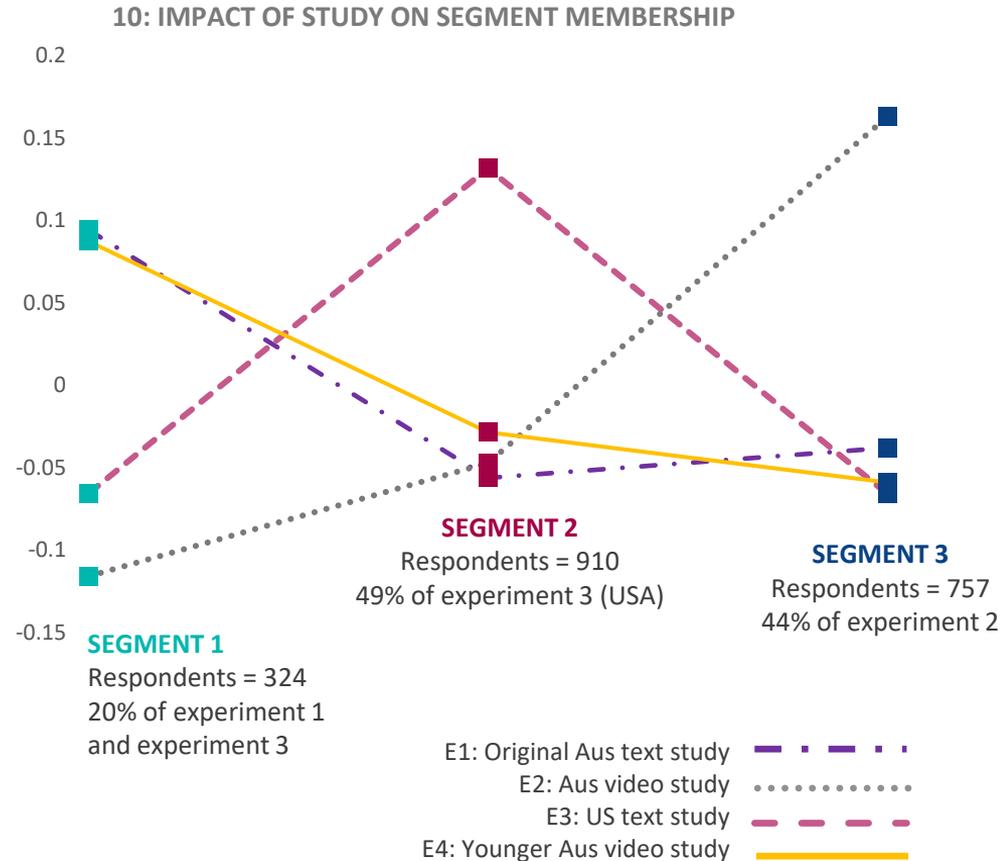
# Key Findings

## Impact of study on segment membership

Figure 10 shows how respondents from each experiment fit within each segment.

- Those in experiment 2 (Australian video study) are more likely to be in the no choice segment (segment 3).
- Individuals in experiment 3 (US text study) are more likely to be in the mixture segment (segment 2).
- Individuals in experiments 1 (original Australian text study) and 4 (younger Australian video study) have an almost identical pattern of segment membership, being more likely in the choice segment (segment 1).

An interesting finding here is the American sample (E3) showing higher membership in the 'mixed' choice segment; familiarity with annuities as a retirement income product could perhaps explain the dynamic here, as individuals in the US segment are more comfortable both making and not making a choice based on the combination of lifetime annuity attributes presented to them.

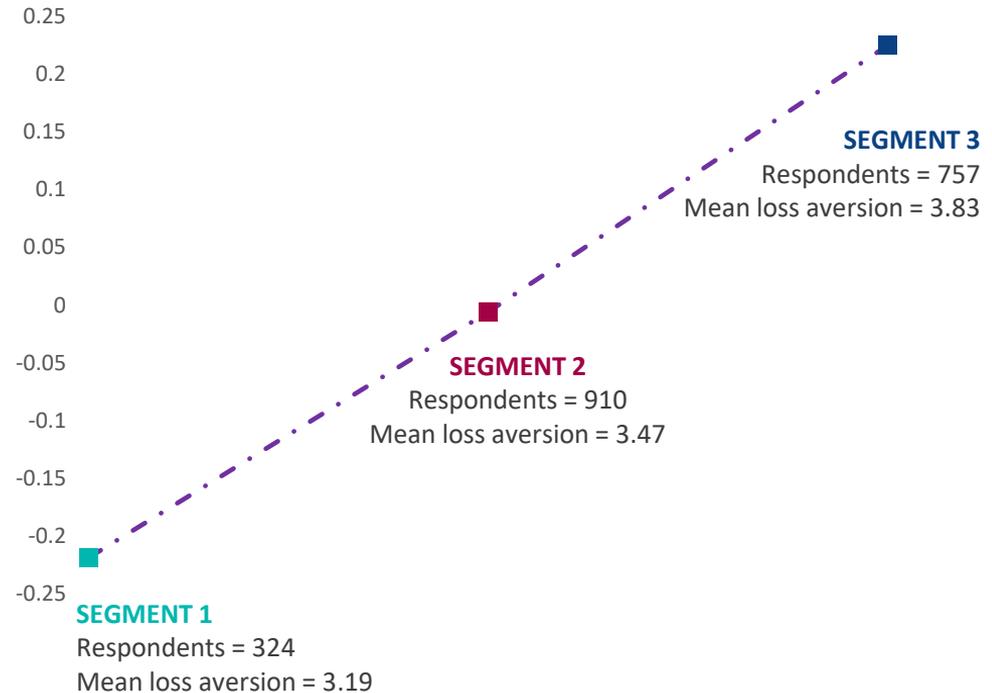


# Key Findings

## The impact of loss aversion on segment membership (experiments 2, 3, and 4).

Loss aversion has a strong, significant impact on segment membership (figure 11). Individuals with higher loss aversion are more likely to be in the no choice segment (segment 3). This is consistent with previous sentiments from Orford Initiative qualitative research (Altschwager & Evans, 2019a) where individuals perceived annuities as a 'gamble', and an investment in which they stood to lose their retirement savings to the life insurance company if they were to die earlier than they anticipated.

11: LOSS AVERSION IMPACT ON SEGMENT MEMBERSHIP



# Key Findings

## Several message frames impact segment membership

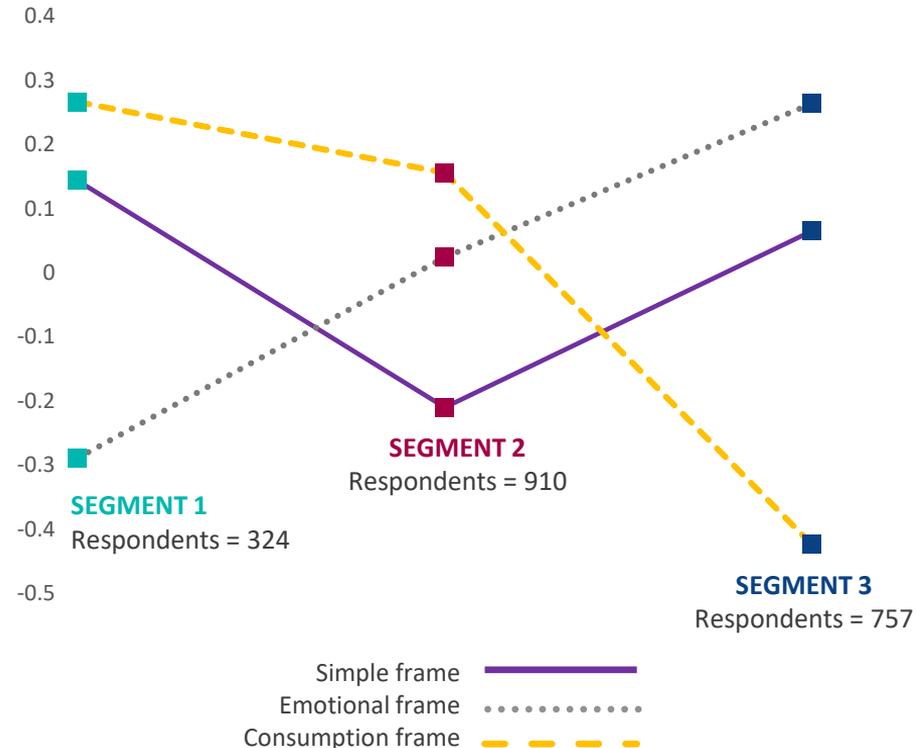
Individuals in the **consumption frame** are more likely to be in the choice segment (segment 1), suggesting that language framed around a lifetime annuity's ability to cater to one's spending needs throughout retirement is helpful in aiding their annuity choice behaviours.

People in the **emotional frame** are more likely to be in the no choice segment (segment 3). This is interesting as it suggests that the emotional content fosters a negative emotion towards annuities. A possible explanation for this is that the emotional content elicits perceptions of deception or attempted emotional manipulation, i.e. it could be perceived that the emotional language is veiling product attributes merely in an attempt to sell annuities.

Individuals in the **simple frame** are less likely to be in the mixed segment (segment 2), instead landing on the extreme ends of the spectrum (segments 1 and 3). This indicates that the information in the simple frame is perhaps easier to understand and internalise, thus leading to more decisive action for or against annuities.

Only the three frames discussed above and shown in figure 12 had a significant impact on segment membership in this research; **storytelling**, **portfolio**, and **investment frames** did not have a significant effect.

12: IMPACT OF MESSAGE FRAME ON SEGMENT MEMBERSHIP



# Implications and recommendations

This report extended our understanding of why older Australians prefer to ‘choose not to choose’ when presented with various lifetime annuity product decisions. For those seeking to use these insights to better communicate about lifetime annuities, we offer the following four implications and recommendations.

## 1. Reduce fears around perceived losses

Results indicated that those with high loss aversion were more likely to avoid making an annuity choice. Annuities are often marketed to consumers as a way to avoid risk – specifically, *the risk of running out of retirement funds*. However, if consumers are more driven by their fear of *losing* money to an annuity provider than the fear of running out of retirement funds, then this communication is not effectively targeting or mitigating the root of their fear.

It is advised that financial advisers include a loss aversion assessment in their profiling of clients, so they may tailor messaging to address this underlying personal characteristic. In subsequent

consultations with high loss averse clients, we recommend that advisers explain the individual’s loss aversion rating and how this mindset might steer them from making financially optimal decisions. Further, emphasis could be placed on what can be *gained* from annuities– safety, security – to mitigate the fear of loss. Perceived loss can also be managed directly, by discussing the likelihood of dying prematurely, the reasons for annuity providers keeping the funds (e.g. mortality pooling), and product features that could mitigate losses (e.g. guarantees, death payouts).

## 2. Exercise caution with emotional messaging

Previous research highlighted that consumer decisions around annuities are driven by emotion (Altschwager & Evans 2019b). Despite this, the findings in this report reveal that people do not respond favourably to emotional message framing. Perhaps they perceive emotional framing as deceptive or trying to emotionally manipulate for a sale, or perhaps there is a perception that financial products *ought* to be discussed without emotion -

the Altschwager & Evans (2019b) study found that while behaviour was driven by emotion, respondents would only report (admit) to rational decision-making. While acknowledging the strong emotional drivers at play in annuity decision-making, it is not advised that consumers be targeted using emotional messaging. Instead, consumption and simple frames yield better results. Consumption framing in particular can help providers resonate with consumers on a personal level by highlighting the spending and consumption behaviours an annuity could facilitate, while not overstepping into emotional messaging.

# Implications and recommendations

## 3. Simplicity is key, despite product complexity

Numerous reports have reiterated the importance of simplicity in annuity communication, as annuities suffer from low consumer awareness in Australia, and are often misunderstood (Altschwager & Evans 2019a, 2019b). This was again demonstrated in this report, as the ‘simple’ message frame was one of only two (out of the six tested) frames to have a positive effect on annuity choice. Further, the video information format did not seem helpful for the older Australian cohort. Attempts to make information more dynamic and engaging yielded little benefit, as they seemed to just add complexity to an already prohibitively complex product, driving ‘no choice’.

It is advised that, while awareness and comprehension of annuities builds, communications should focus on simplicity and be shared in text format so that complex information can be read multiple times and digested at the individual’s own pace to aid in comprehension. information overload.

Consideration should be given to any strategies that might aid in simplifying communication and enhancing comprehension without reaching

## 4. The role of targeting and education

The different cohorts explored in this report highlight potential benefits of broadening consumer targeting and education in Australia beyond those currently nearing/in retirement.

The *US sample* findings imply that repeated exposure and familiarity with annuities could help drive choice in the long run. In Australia where we are less familiar and comfortable with the annuity concept, we still have that initial barrier to overcome.

The *younger (35-49) Australian sample* were also more open to annuity choice; In contrast to those near/in retirement who have already made up their minds and have deeply established perceptions and expectations around retirement income strategies and products, the younger cohort seem to approach the decision with

‘less baggage’ in terms of attachment to other retirement income products (e.g. account-based pensions). They appear more open minded to the idea of annuities, and are therefore a crucial target group as they age and progress along the retirement planning journey, acquiring knowledge on the various retirement income product options available to them.

# Conclusion

In conclusion, this report has explored various factors and interventions to extend our understanding of why Australians 'choose not to choose' when it comes to annuities.

Across 4 studies, this report unveiled continued hesitancy towards annuities despite the introduction of various messaging frames and information formats. Loss aversion was highlighted as a major driver influencing behaviours towards annuities.

Those seeking to effectively communicate the benefits of annuities are encouraged to consider;

- How to reduce fears around perceived losses
- Exercising caution with emotional messaging
- Focusing on simplicity, despite product complexity
- The role of targeting and education

## Further information about the Orford Initiative

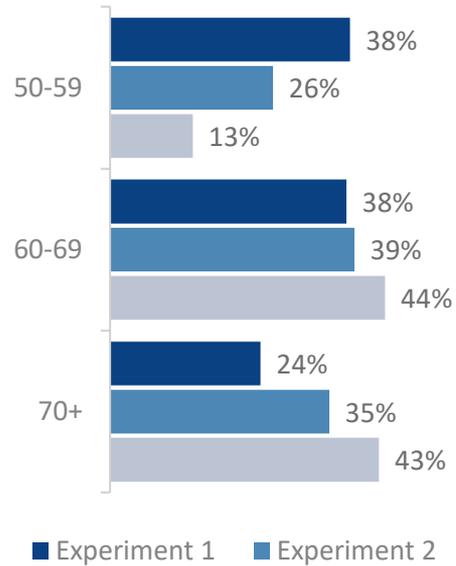
To find out more about our previous research, please visit the Orford Initiative webpage:

<https://go.mbs.edu/orford/>

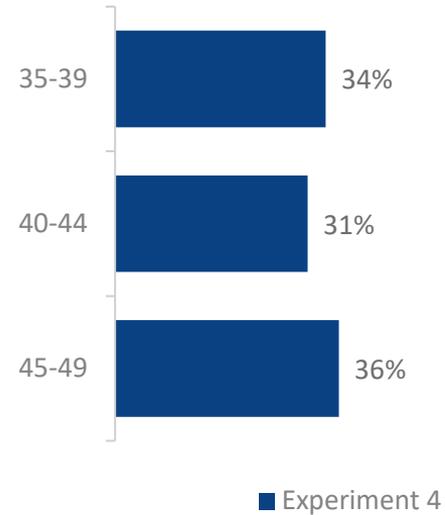
# Appendices

## A1: Respondent Characteristics

AGE (EXPERIMENTS 1, 2, AND 3)

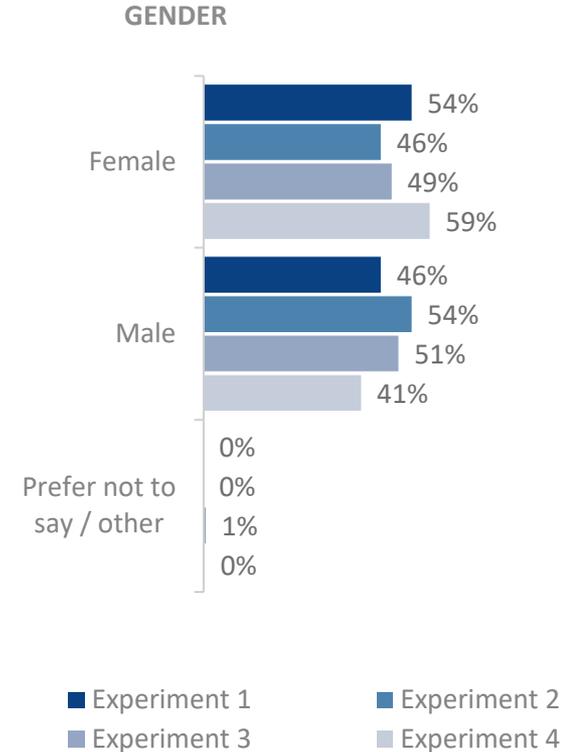
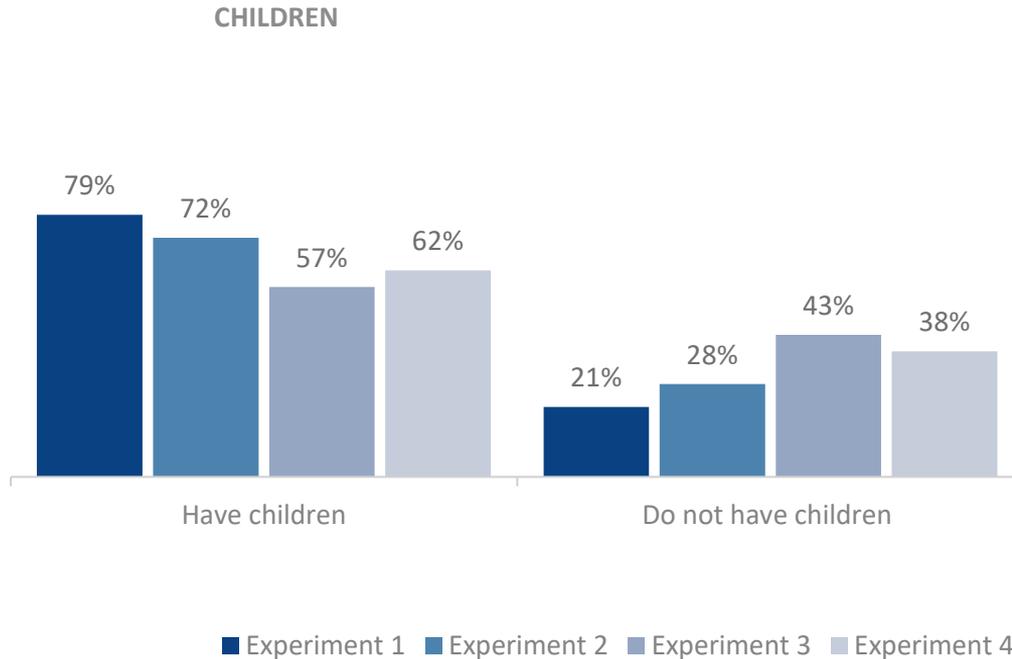


AGE (EXPERIMENT 4)



# Appendices

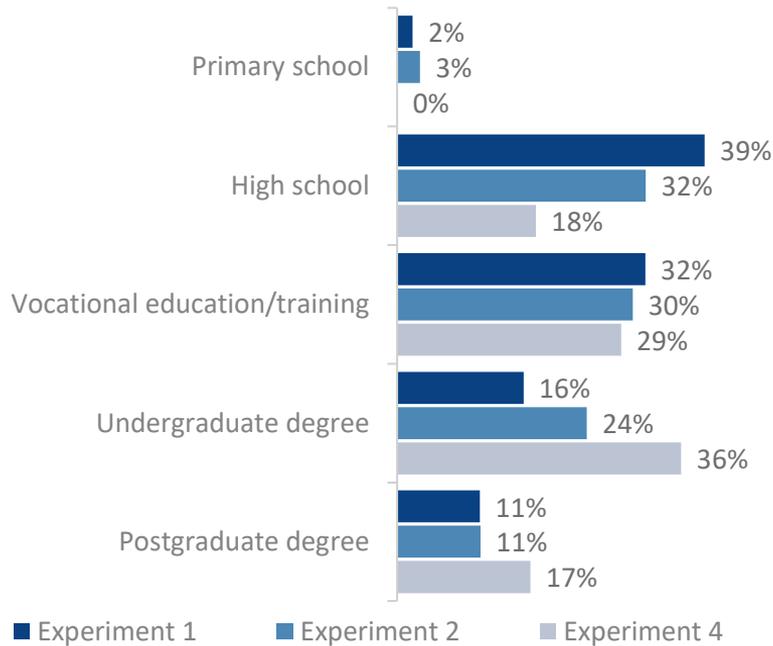
## A1: Respondent Characteristics



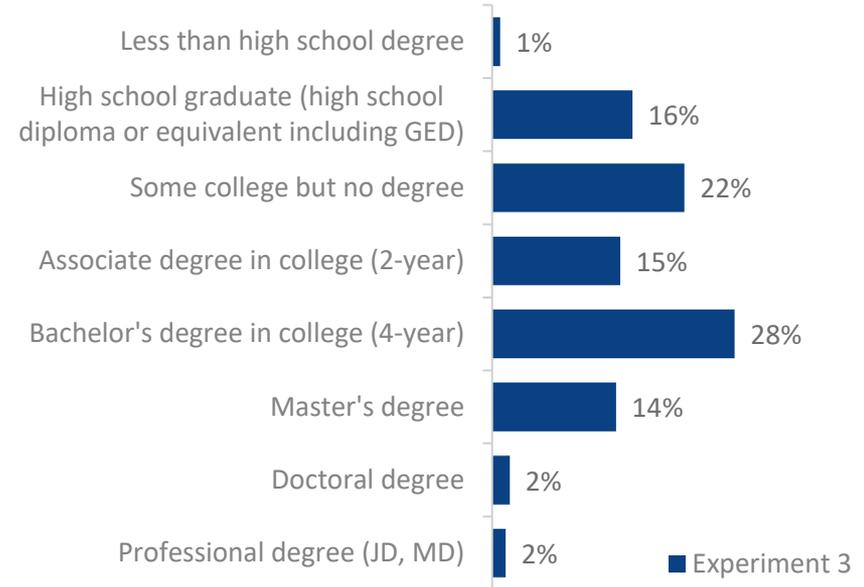
# Appendices

## A1: Respondent Characteristics

HIGHEST LEVEL OF EDUCATION COMPLETED (AUS STUDIES)



HIGHEST LEVEL OF EDUCATION COMPLETED (US STUDY)



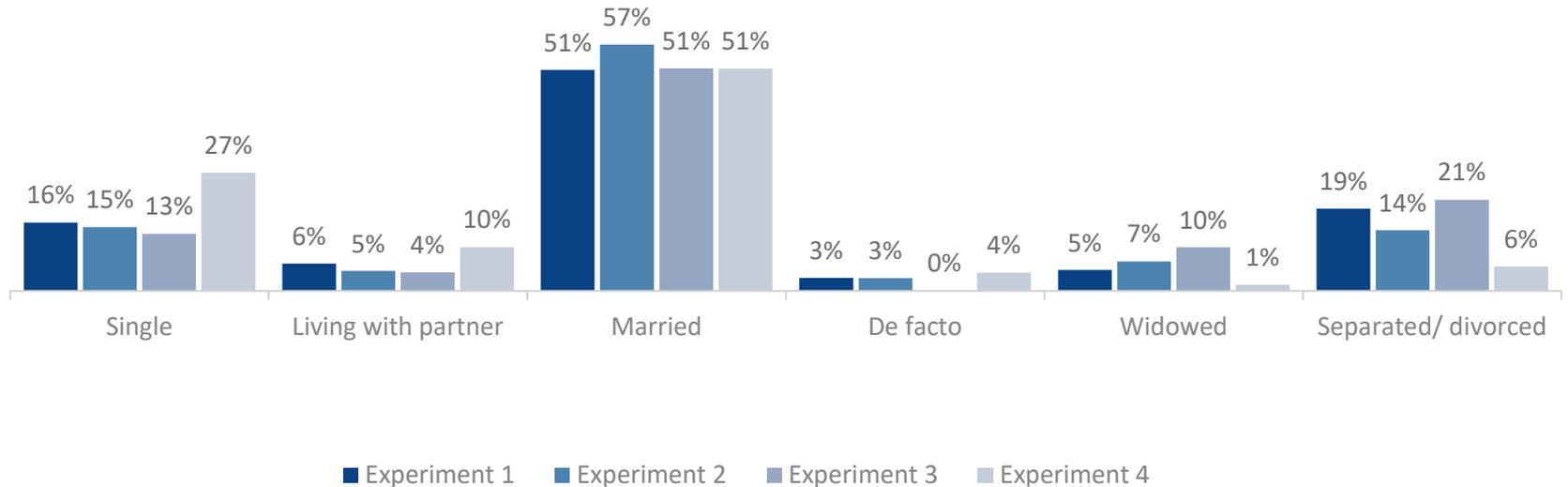
**Note:**

Given the differences in the Australian versus US school systems, experiment 3 included a modified set of options for the education question

# Appendices

## A1: Respondent Characteristics

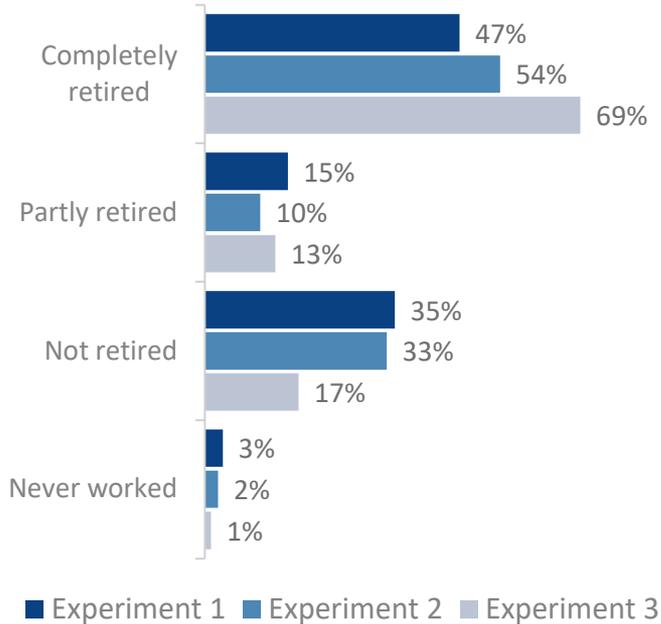
### RELATIONSHIP STATUS



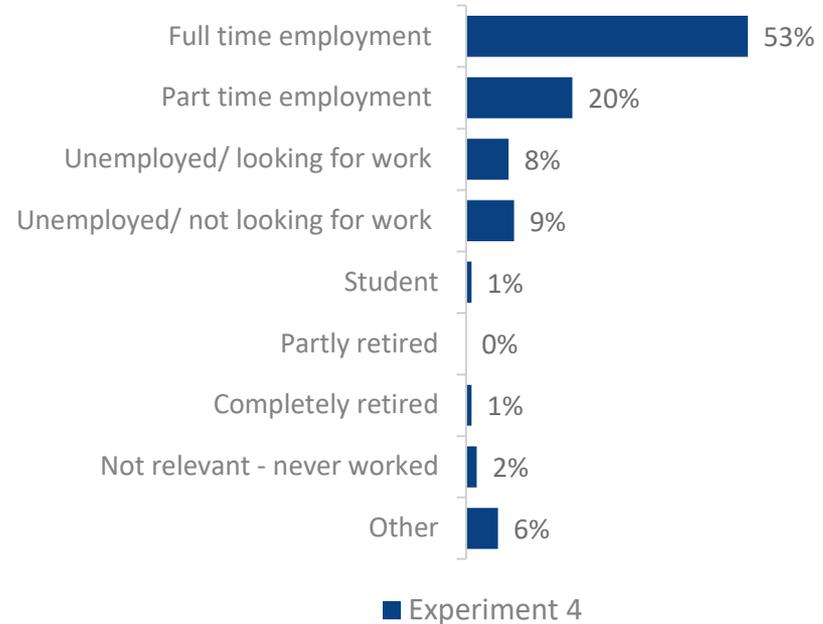
# Appendices

## A1: Respondent Characteristics

RETIREMENT STATUS (EXPERIMENTS 1, 2, 3)



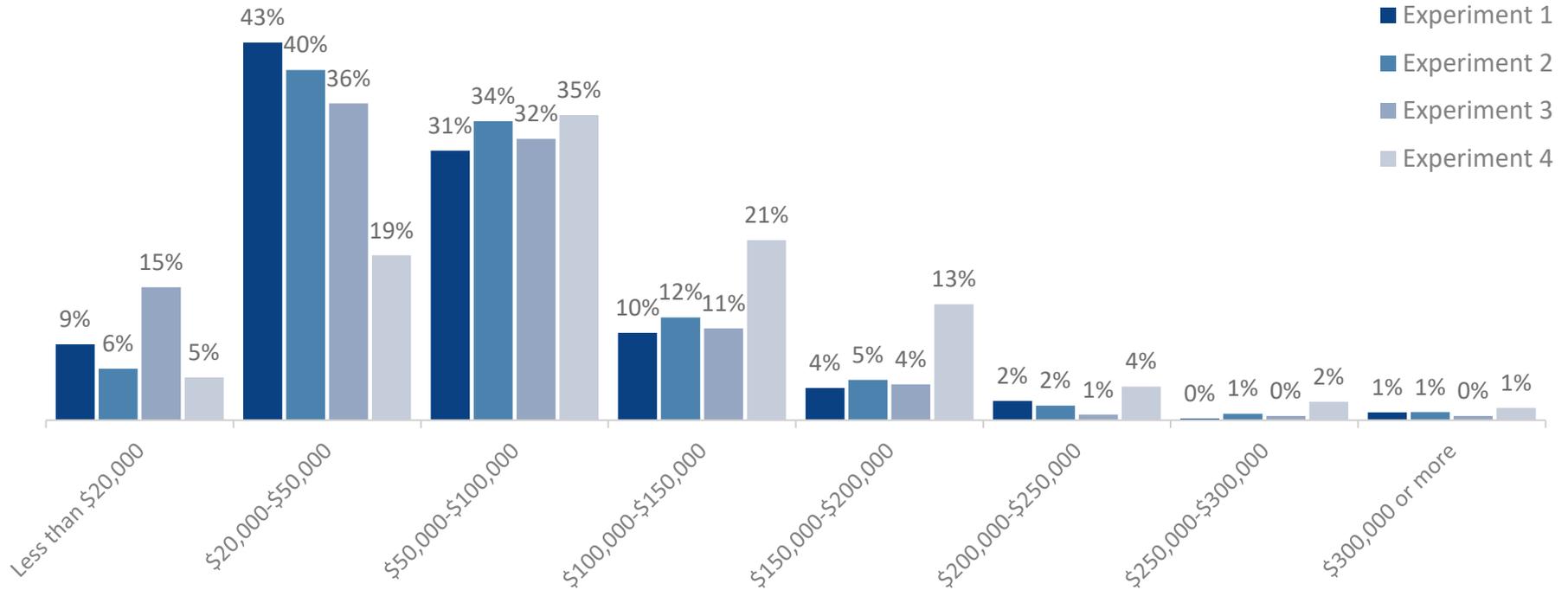
WORK STATUS (EXPERIMENT 4)



# Appendices

## A1: Respondent Characteristics

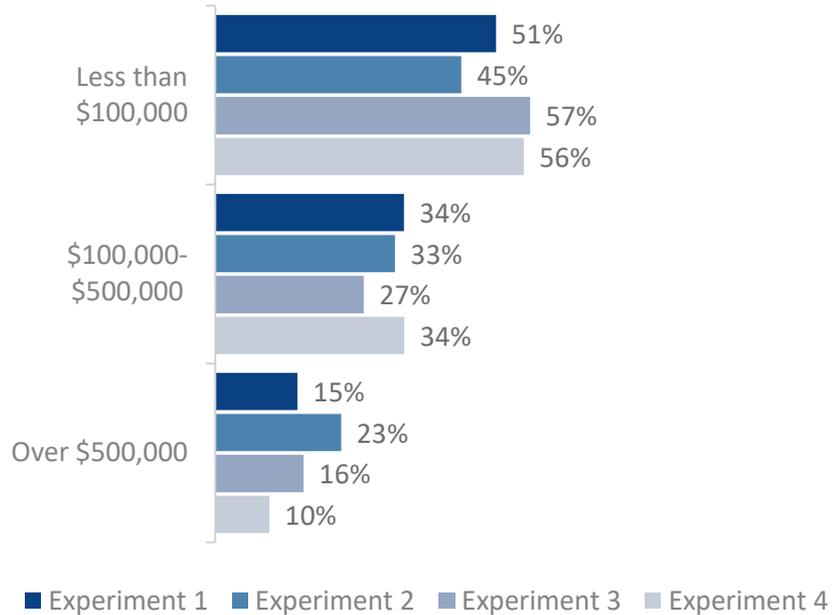
### HOUSEHOLD ANNUAL INCOME



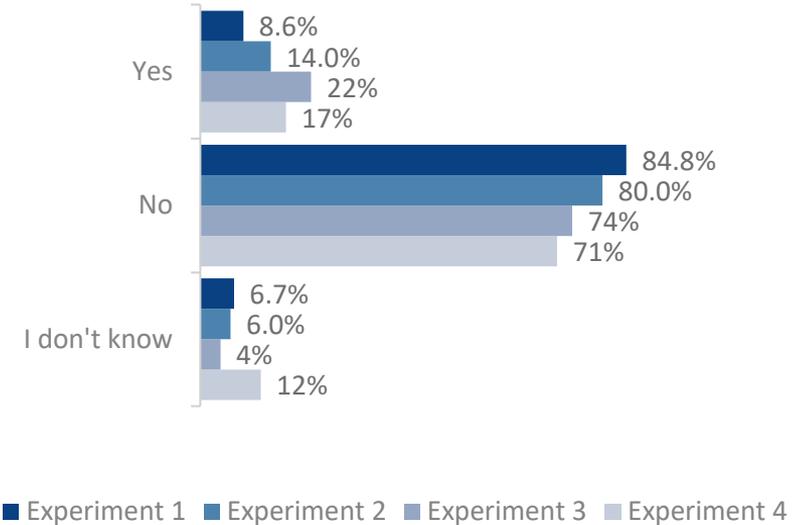
# Appendices

## A1: Respondent Characteristics

### TOTAL RETIREMENT SAVINGS



### ANNUITY POSSESSION



# Appendices

## A2: Survey measures

Each question begins with ‘Please indicate how much you agree or disagree with each of the following statements’, rated on a 7-point Likert scale (where 1=strongly disagree, 7=strongly agree), unless indicated otherwise.

### **Subjective Financial Wellbeing (expected future financial security and current money management stress)** (Netemeyer et al. 2017)

1. I will achieve the financial goals that I have set for myself
2. I have saved (or will be able to save) enough money to last me to the end of my life.
3. I will be financially secure until the end of my life.
4. Because of my money situation, I feel I will never have the things I want in life. (R)
5. I am behind with my finances. (R)
6. My finances control my life. (R)
7. Whenever I feel in control of my finances, something happens that sets me back. (R)
8. I am unable to enjoy life because I obsess too much about money. (R)

### **Financial literacy** (Wilkins & Lass 2018)

1. Suppose you put \$100 into a no-fee savings account with a guaranteed interest rate of 2% per year. You don’t make any further payments into this account and you don’t withdraw any money. How much would be in the account at the end of the first year, once the interest payment is made?
  - More than \$102
  - Exactly \$102 [correct]
  - Less than \$102
  - Don’t know

2. Imagine now that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, would you be able to buy more than today, exactly the same as today, or less than today with the money in this account?

- More than today
- Exactly the same as today
- Less than today [correct]
- Don’t know

3. Do you think that the following statement is true or false? “Buying shares in a single company usually provides a safer return than buying shares in a number of different companies.”

- True
- False [correct]
- Don’t know

4. Again, please tell me whether you think the following statement is true or false: “An investment with a high return is likely to be high risk.”

- True [correct]
- False
- Don’t know

5. Suppose that by the year 2025 your income has doubled, but the prices of all of the things you buy have also doubled. In 2025, will you be able to buy more than today, exactly the same as today, or less than today with your income?

- More than today
- Exactly the same as today [correct]
- Less than today
- Don’t know

### **Annuity possession** (Goedde-Menke et al. 2014)

A lifetime annuity is a retirement income product which pays you a regular income throughout your retirement. To receive these benefits, an initial investment is paid to a provider before the annuity starts. This style of product is designed by large financial firms, like insurance companies and superannuation funds, to cover spending and manage financial risks in retirement.

#### **Do you own a lifetime annuity?**

- Yes
- No
- I don’t know

# Appendices

## A2: Survey measures *continued*

### Comprehension quiz (*developed based on information presented to respondents*)

Based on the information above, please answer the following short quiz to the best of your ability. There is no penalty for getting an answer wrong, and a 'don't know' option is available (please select this if you are genuinely unsure, rather than picking an answer at random). We simply want to know whether the product information was difficult or easy to understand.

1. With a reversionary annuity, your monthly income is paid (in part or in full) to your spouse/dependents after you pass away.

- True [correct]
- False
- I don't know

2. What is the difference between a payout at death and period certain guarantee?

- There is no difference between a payout at death and a period certain guarantee.
- A payout at death only pays a very small fixed amount (e.g. \$10,000), while the period certain guarantee pays the total remaining balance of your annuity (initial investment minus what income has already been paid)
- A period certain guarantee pays the total remaining balance of your annuity if you pass away within a certain time period (e.g. 10 years, 20 years), while a payout at death pays the total remaining balance regardless of when you pass away. [correct]
- I don't know

3. \_\_\_\_ is likely to pay you a higher income over the life of the product, however you might experience payment fluctuations depending on the market conditions at the time. What type of investment option is this?

- A capital guaranteed annuity
- An investment linked annuity [correct]
- Account based pension
- I don't know

4. Which of the following statements do you believe best reflects the video information on lifetime annuities? (Which is most consistent with the 'tone' of the video you saw)

[Each statement corresponds with the language used in one of the messaging frames – this question is used as a manipulation check to see if participants could correctly identify the type of message they were exposed to. In experiment 4, a reduced set of questions were used corresponding with the reduced set of messaging frames. In experiment 3 (text information format), 'information' is referred to instead of 'video'.]

- [Simple] The video portrayed lifetime annuities as retirement income products that guarantee you an income for life
- [Emotional] The video portrayed lifetime annuities as guaranteed income to give you peace of mind that you will never run out of money regardless of how long you live.
- [Investment] The video portrayed lifetime annuities as investment products designed to provide you with guaranteed earnings
- [Consumption] The video portrayed lifetime annuities as financial products designed to cover your spending and consumption needs in retirement
- [Portfolio] The video portrayed lifetime annuities as retirement income products that guarantees part of you an income for life, in addition to income from your account-based pension, and the Aged Pension if that applies.
- [Storytelling] The video portrayed how two clients, Archie and Grace, made decisions about features of a lifetime annuity, a retirement income product that guarantees them an income for life
- I do not know

# Appendices

## A2: Survey measures *continued*

**Attitude towards annuities** (Nosi et al. 2014).

Please evaluate your view on purchasing a pension/annuity according to the following attributes. (7pt semantic differential)

Purchasing a lifetime annuity is...

1. 1= Harmful; 7= Beneficial
2. 1=Foolish; 7=Wise
3. 1=Unnecessary; 7=Essential
4. 1=Difficult; 7=Easy

**Behavioural intention (shown to respondents who did *not* report having an annuity)** (Nosi et al. 2014).

Please indicate how likely or unlikely it is that you will engage in the following behaviours: (7pt Likert)

1. I intend to buy a lifetime annuity in the future
2. I will make an effort to buy a lifetime annuity in the future
3. I want to buy a lifetime annuity in the future

**Net Promotor Score (shown to respondents who *did* report having an annuity)**

On a scale from 0-10, how likely are you to recommend a lifetime annuity to a friend or colleague? (0 = not at all likely, 10 = extremely likely)

**Loss Aversion** (Mrkva et al 2019)

Suppose you were offered an opportunity to make an investment where you had a 50% chance of winning \$100 and a 50% chance of losing various set amounts. Would you make any of the investments? (please answer yes or no to each of the following):

- 50% chance you could earn \$100; 50% change you could lose \$10
- 50% chance you could earn \$100; 50% change you could lose \$25
- 50% chance you could earn \$100; 50% change you could lose \$50
- 50% chance you could earn \$100; 50% change you could lose \$100

# Appendices

## A3: Annuity attributes information

There are various features to choose from when purchasing a lifetime annuity to suit different people's needs and preferences. However, each of these options generally means trade-off in terms of your monthly income (i.e. a lifetime annuity with less features will generally pay you more per month. A lifetime annuity with more features will pay you less per month, but will include added assurances that some people may find valuable). Here is a brief overview of what these features are:

<b>Starting monthly income</b>	The amount of money paid to you each month (income per year is also included for your reference). This payment amount is accurate for the first 1 year of payments, and will then increase according to the specified terms of the annuity.
<b>Reversionary annuity</b>	A reversionary annuity means that when you pass away, your annuity payment is transferred to your spouse/ dependents. The payment amount can be transferred in full (100% of payments are maintained), or a partial payment (2/3 or ¾ of payments are maintained).
<b>Period certain guarantee</b>	This feature guarantees that if you pass away within a designated time period (e.g. 10, 20 or 30 years), your spouse/ dependents will receive the total remaining balance of your annuity investment (the initial investment minus what income the company has already paid to you).  e.g. You invested \$100,000 in an annuity with a 5-year guarantee. You passed away after 2 years, and had received \$7,000 of income in this time. Your partner/dependents would receive \$93,000.
<b>Payout at death</b>	This is a similar feature to the period certain guarantee, however there is no time period condition. This means that, regardless of when you pass away, your spouse/dependents receive the total remaining balance of your annuity investment (the initial investment minus what income the company has already paid to you).
<b>Investment option/type</b>	There are 2 main types of annuity investment options:  Capital guaranteed annuity – you have little control over how your money is invested, and the company guarantees a consistent (but modest) annual increase in payments (usually consistent with CPI). There are little/no fluctuations in payments.  Investment linked annuity – you have more control over investment decisions, and your payments are likely to be higher over the life of the annuity. However, you may experience greater payment fluctuations depending on the market conditions at the time.
<b>Access to capital</b>	This feature gives you the ability to take out a lump sum if your circumstances change or you are facing an unforeseen event.

# Appendices

## A4: Annuity attributes information – Differences across message frames.

6 message frames were tested in this study: simple, emotional, consumption, investment, portfolio, and storytelling. The simple (control) version of the information was simply the original lifetime annuity content utilised in experiment 1; each message frame was created using the control version as a template, so that key information was maintained throughout all message frames. Key words were modified throughout to emphasise the different message frames (examples of working modifications are included in the table below). Consumption and investment message frames have been explored in an annuity context in previous research (Brown et al., 2013), therefore key wording changes were replicated in this study. The remaining frames have not been tested previously to our knowledge, and therefore were developed for this study. Each of the messaging frames were sent Australian financial advisers (who had been involved in previous Orford Initiative research) for comment and feedback prior to data collection.

Message frame	Explanation	Example of wording modifications in each frame (example text from 'Starting Monthly Income' section) <i>*Bold text denotes wording modifications</i>
Simple/ Control frame	The <b>control frame</b> provides the <b>base level of information</b> replicated throughout all the scripts. Each frame will have slight modifications to this original script to elicit emotion, emphasise certain perspectives of the product, or provide further context to better understand annuities (portfolio frame and storytelling frame). Research suggests that even very simple modifications in framing can get readers to consider information in different ways, leading to different product perceptions.	This is the amount of money paid to you each month. This starting amount increases after the first year according to the specific terms of the annuity.
Emotional frame	In the <b>emotional frame</b> , we aim to use more emotive language to emphasise the emotional benefits of the product. Research suggests that the use of emotion can be helpful in increasing perceived relevance of content, make the information more engaging and relatable, and get people more emotionally invested in the decision.	This is the <b>guaranteed income you will receive</b> each month <b>to support you for as long as you live</b> . This starting amount increases after the first year according to the specific terms of the annuity <b>to ensure you get to live the life you want for as long as you can</b> .

# Appendices

## A4: Annuity attributes information – Differences across message frames *continued*.

Message frame	Explanation	Example of wording modifications in each frame (example text from 'Starting Monthly Income' section) <i>*Bold text denotes wording modifications</i>
<b>Consumption frame</b>	In the <b>consumption frame</b> , we aim to use more 'consumption-based language' (e.g. spending, buying) to emphasise the buying-power and consumption needs that are fulfilled over time by the product. Research suggests that (compared to thinking about annuities as an <i>investment</i> ) under the consumption frame, annuities are seen as more attractive as they are perceived as a form of 'consumption insurance'.	This is the amount of money <b>for you to spend</b> each month. This starting amount increases after the first year according to the specific terms of the annuity.
<b>Investment frame</b>	In the <b>investment frame</b> , we aim to use more 'investment-based language' (e.g. earnings, investments) to emphasise the annuity as an investment option like bonds, term deposits or shares. Research suggests that (compared to the <i>consumption</i> frame) under the consumption frame, annuities are seen as less attractive as they are perceived as yielding lower returns to other investment options, and also in a sense being 'riskier' than a bond because its overall return depends on an unknown variable, time (i.e. for how long you keep receive payments/ how long you will live).	This is the amount of money paid to you <b>from investment earnings</b> each month. This starting amount increases after the first year according to the specific terms of the annuity.

# Appendices

## A4: Annuity attributes information – Differences across message frames *continued*.

Message frame	Explanation	Example of wording modifications in each frame (example text from 'Starting Monthly Income' section) <i>*Bold text denotes wording modifications</i>
<b>Portfolio frame</b>	In the <b>portfolio frame</b> , we aim to elaborate the idea of <i>partial annuitisation</i> , i.e. annuities being used as part of a portfolio <i>in addition to</i> other sources of retirement income (e.g. APB, the Age Pension etc.). Research suggests that if people consider annuities as an 'all or nothing' option where <i>all or majority</i> of their retirement income is allocated, annuities appear less favourable as they limit access to capital, lack flexibility, and limit inheritance capabilities. In contrast, if people understand annuities are only <i>one</i> source of various incomes they receive in retirement (with those other income sources providing greater liquidity, flexibility, and control), annuities appear more favourable.	This is the amount of money paid to you each month. This starting amount increases after the first year according to the specific terms of the annuity. <b>You would also receive income from your account-based pension, and the Aged Pension if that applies.</b>
<b>Storytelling frame</b>	In the <b>storytelling frame</b> , we aim to integrate annuity information <i>within a story</i> . Research suggests that stories are powerful methods of communication as they are more relatable, engaging, they elicit empathy for the story characters, and they demonstrate the use of the product in a 'real life' setting.	<b>First, we worked out a reasonable</b> Starting monthly income, which is the amount of money paid to them each month. This amount would increase after the first year according to the specific terms of the annuity. <b>Archie and Grace felt that \$600 per month would help to cover groceries and some bills.</b>

# Appendices

## A5: Annuity attributes information – video information format.

In experiments 2 and 4, lifetime annuity information was provided to survey respondents in video format. 6 versions of the video were created to reflect each of the message frames (simple, emotional, consumption, investment, portfolio, and storytelling). The content in the videos were very similar to their text format equivalents, with minor wording modifications made throughout to better suit the verbal communication context. The content was delivered by a trained actress, who played the role of a financial planner. Visual cues were overlaid on the video to highlight key terms and help explain complex concepts.



# Appendices

## A6: Discrete choice design – attributes and levels

ATTRIBUTES	LEVELS			
1. Starting monthly income	\$250	\$350	\$450	\$550
2. Reversionary pension	No reversionary pension (payments do not transfer to spouse/dependents)	Partial reversionary pension (2/3 of payments transfer to spouse /dependents)	Full reversionary pension (100% payments transfer to spouse/ dependents)	
3. Period certain guarantee	No period certain	10-year period certain guarantee	20-year period certain guarantee	30-year period certain guarantee
4. Payout at death	No payout at death	Payout at death to spouse/ dependents (80% of initial investment less what has already been paid)		
5. Investment type	Capital guaranteed annuity (less control over investment decisions, annual payment increases are fixed)	Investment linked annuity (more control over investment decisions, annual payments fluctuate with market conditions)		
6. Access to capital	No access to capital (you cannot withdraw a lump sum)	Access to capital (you have the option to withdraw a lump sum)		

# Appendices

## A7: Discrete choice design

Task	Concept	Att 1 - starting monthly income	Att 2 - reversionary pension	Att 3 - period certain guarantee	Att 4 - payout at death	Att 5 - investment type	Att 6 - access to capital
1	1	\$550	full	30 year	yes	capital guaranteed	no
1	2	\$250	none	20 year	no	investment linked	no
2	1	\$450	full	10 year	yes	investment linked	yes
2	2	\$350	full	none	no	capital guaranteed	yes
3	1	\$350	partial	30 year	yes	investment linked	no
3	2	\$250	none	20 year	no	capital guaranteed	yes
4	1	\$450	none	10 year	no	capital guaranteed	no
4	2	\$550	partial	none	yes	investment linked	yes
5	1	\$550	partial	30 year	no	capital guaranteed	no
5	2	\$250	none	10 year	yes	investment linked	yes
6	1	\$350	partial	20 year	yes	capital guaranteed	no
6	2	\$250	none	30 year	no	investment linked	yes
7	1	\$350	full	10 year	yes	capital guaranteed	yes
7	2	\$450	partial	none	no	investment linked	yes
8	1	\$350	none	none	yes	capital guaranteed	no
8	2	\$450	full	20 year	no	investment linked	no
9	1	\$550	full	20 year	yes	capital guaranteed	yes
9	2	\$450	partial	10 year	no	investment linked	no
10	1	\$250	full	20 year	yes	investment linked	no
10	2	\$250	partial	none	no	capital guaranteed	yes
11	1	\$550	none	10 year	no	capital guaranteed	yes
11	2	\$450	none	30 year	yes	investment linked	no
12	1	\$350	full	none	no	investment linked	no
12	2	\$450	partial	30 year	no	capital guaranteed	yes
13	1	\$550	partial	none	yes	investment linked	no
13	2	\$250	partial	30 year	yes	capital guaranteed	yes
14	1	\$550	full	none	yes	capital guaranteed	no
14	2	\$350	none	10 year	no	investment linked	yes
15	1	\$350	none	20 year	yes	capital guaranteed	yes
15	2	\$450	full	30 year	no	investment linked	yes
16	1	\$450	none	none	yes	capital guaranteed	no
16	2	\$250	partial	10 year	no	investment linked	no

# Appendices

## A8: Discrete choice design – example of task presentation

Based on the information in the previous scenario, if you were 65 and considering putting \$100,000 of your retirement savings into a lifetime annuity, which of the following would you choose?

Task 1	Product A	Product B
Starting monthly income	Monthly payments start at \$550	Monthly payments start at \$250
Reversionary annuity	Full reversionary annuity (100% of payments are transferred to spouse/ dependents)	No reversionary annuity
Period certain guarantee	30-year period certain guarantee	20-year period certain guarantee
Payout at death	Payout at death	No payout at death
Investment type	Capital guaranteed annuity	Investment linked annuity
Access to capital	No access to capital	No access to capital

**I would select:** Product A / Product B

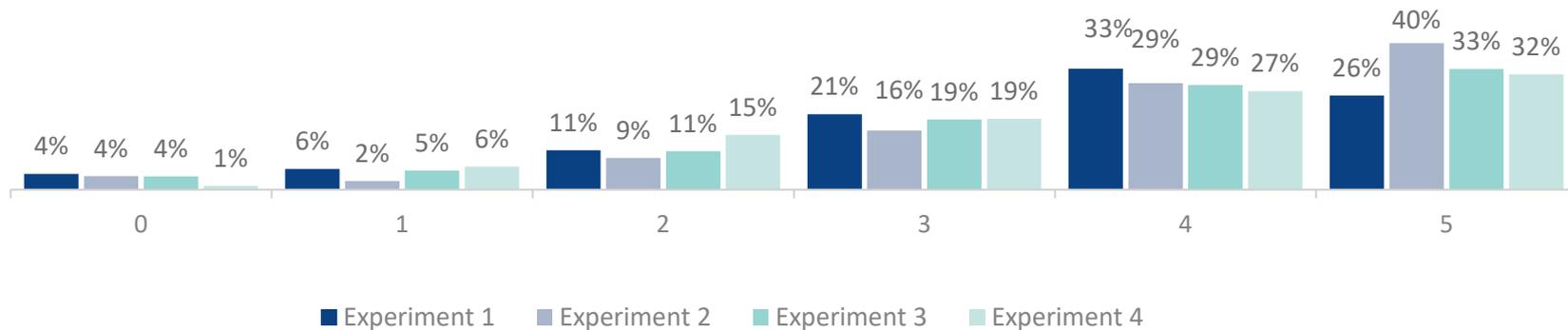
**Given the option, would you really buy the annuity you chose above?**

- Yes
- No: If these were my only options, I would not make a purchase. I would self-manage my retirement savings.

# Appendices

## A9: Financial literacy results

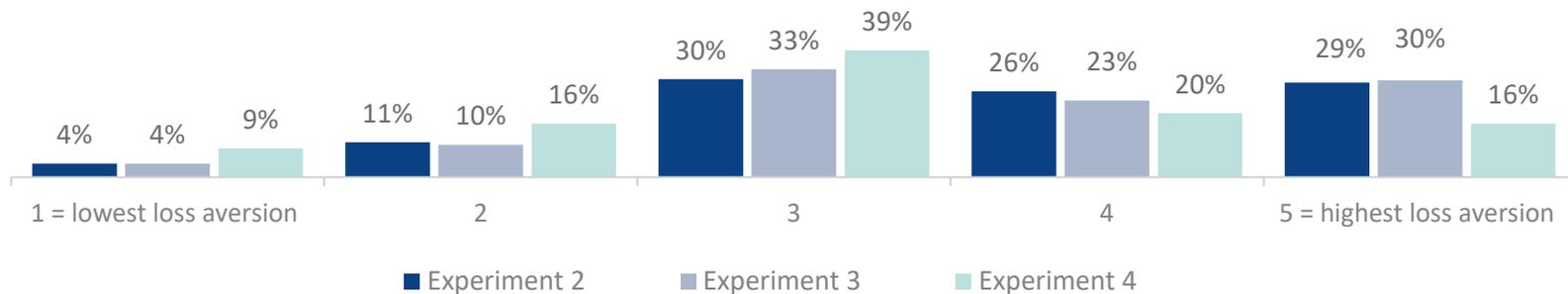
FINANCIAL LITERACY: DISTRIBUTION OF SCORE



# Appendices

## A10: Loss Aversion results

### LOSS AVERSION: DISTRIBUTION OF SCORE



#### Notes:

Loss aversion was not measured in experiment 1

1 = lowest loss aversion = said yes to all investments

2 = said no to '50% chance you could earn \$100; 50% chance you could lose \$100'

3 = said no to '50% chance you could earn \$100; 50% chance you could lose \$50'

4 = said no to '50% chance you could earn \$100; 50% chance you could lose \$25'

5 = highest loss aversion = said no to '50% chance you could earn \$100, 50% chance you could lose \$10'

# Appendices

## A11: Reference list

1. Altschwager, Teagan and Jody Evans (2019a) *The customer journey through retirement planning: mapping the complexity of the retirement planning ecosystem*. The Orford Initiative: Melbourne Business School. Available at: <https://go.mbs.edu/orford/>
2. Altschwager, Teagan and Jody Evans (2019b) *Consumer Survey Report: Australian retirement priorities, perceptions, and products*. The Orford Initiative: Melbourne Business School. Available at: <https://go.mbs.edu/orford/>
3. Altschwager, Teagan and Jody Evans (2020) *Allocating Retirement Funds and Annuity Attribute Preferences; Findings From 2 Choice Experiments*. The Orford Initiative: Melbourne Business School. Available at: <https://go.mbs.edu/orford/>
4. Brown, J.R., Kling, J.R., Mullainathan, S., Wrobel, M. V., 2013. Framing Lifetime Income (No. 19063), NBER Working Paper Series.
5. Goedde-Menke, M., Lehmensiek-Starke, M., & Nolte, S. (2014). An empirical test of competing hypotheses for the annuity puzzle. *Journal of Economic Psychology*, 43, 75-91.
6. Mrkva, K., Johnson, E. J., Gächter, S., & Herrmann, A. (2019). Moderating Loss Aversion: Loss Aversion Has Moderators, But Reports of its Death are Greatly Exaggerated. *Journal of Consumer Psychology*.
7. Netemeyer, R. G., Warmath, D., Fernandes, D., & Lynch Jr, J. G. (2017). How Am I Doing? Perceived Financial Well-Being, Its Potential Antecedents, and Its Relation to Overall Well-Being. *Journal of Consumer Research*, 45(1), 68-89.
8. Nosi, C., D'Agostino, A., Pagliuca, M. M., & Pratesi, C. A. (2014). Saving for old age: Longevity annuity buying intention of Italian young adults. *Journal of Behavioral and Experimental Economics*, 51, 85-98.
9. Wilkins, R. K., & Lass, I. (2018). *The Household Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 16*. Melbourne Institute: Applied Economic and Social Research, University of Melbourne.