Study Instructions Appendix
Failures of Contingent Reasoning in Annuitzation Decisions

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1 Overview
In this appendix, we present screenshots of the experiment. The section organization follows the order in which screens were presented to participants. Section 2 shows the introductory screens of our experiment. Section 3 shows how the experiment was explained to participants, including an explanation of how the annuity worked and how to compute the bonus pay. It also includes detailed step-by-step examples of how to read the diagrams and how to compute the bonus pay. Section 4 presents seven comprehension questions. Section 5 presents examples of each type of decision that participants faced. Section 6 shows an example screen of how the bonus pay was computed and communicated to participants.

Given the richness of the experimental design, the screenshots focus on versions of the study that use the “annuity” wording and that had “regular” correlation between the marginal value of a token and the absolute payout. In the final section, we discuss alternative wordings and the Reverse-Correlation condition. In subsection 7.1, we show examples of the two alternative wordings, “Social Security” and “insurance,” and discuss the main differences relative to the “annuity” wording. In subsection 7.2, we present examples of screens from the Reverse-Correlation condition, discussing the main changes relative to the other conditions.

2 Introduction
Participants were shown an introductory screen that gave them the expected duration of the study and informed them that participation was voluntary. It also provided them with contact information of one of the researchers.
Hello,

We are researchers from Dartmouth College and UC Berkeley, and we study how people make decisions.

This study lasts approximately 15–20 minutes. Your participation is voluntary and you are not required to complete it. The information collected will be maintained anonymously.

Questions about this study may be directed to:
Professor Erzo Luttmer
Dartmouth College, HB6106
Hanover, NH 03755
Phone: 603–646–6479
Email: Luttmer@Dartmouth.edu.

Participants were then told how to convert their bonus pay from dollars to AmeriPoints, the unit in which they get paid in AmeriSpeak panel.

**Figure 2: Dollar to AmeriPoint conversion**

In this study, the bonus pay and all monetary values will be displayed in United States dollars.

Your final pay will be in AmeriPoints, according to the following conversion:

\[
1 \text{ dollar} = 1,000 \text{ AmeriPoints}
\]
3 Instructions and Examples

After the short introduction, the study began by explaining the type of choices participants would be asked to make and that the bonus pay would ultimately depend on the choices they made.

Figure 3: Instructions - Screen 1

**Life Planning Game**

In this study, you will play a Life Planning Game. The game has two stages: **stage 1** (when you’re young) and **stage 2** (when you’re old).

In the game, you **get tokens in stage 1** and you **may get additional tokens in stage 2**.

You will make choices about how many tokens from stage 1 you want to save for stage 2. You will also make choices about whether you want an annuity. We will explain later how an annuity works and why you may want to save from stage 1 for stage 2.

Figure 4: Instructions - Screen 2

**The Goal of the Game**

As we will explain below, the choices you make about savings and about an annuity affect how many tokens you end up with in stage 1 and how many you end up with in stage 2.

The bonus pay for stage 1 depends on the tokens you end up with in stage 1. Similarly, the bonus pay for stage 2 depends on the tokens you end up with in stage 2. We will explain later how exactly the bonus pay depends on the tokens.

**By making better choices about savings and the annuity, you can get a higher bonus pay for stages 1 and 2 combined.**
How the annuity works

What happens during stage 2 (when you’re old) depends on chance.

In stage 2, one of two possible outcomes can happen, each equally likely (like a coin toss):

- You survive in stage 2
- You do not survive in stage 2

When you have an annuity, you get tokens from the annuity in stage 2 only if you survive. If you don’t survive, you don’t get any tokens from the annuity.
How tokens in a stage determine the bonus pay for that stage

You must make sure that you end up with at least 40 tokens for each stage when you are alive. Think of these 40 tokens as what you need to stay alive.

This means that you must choose your savings and annuity such that you end up with at least 40 tokens in each stage when you are alive. The computer will not allow you to continue if you make a savings decision that gives you fewer than 40 tokens in either stage when you are alive.

Bonus pay in each stage:

- You do not get any bonus pay for the first 40 tokens in a stage.
- You get $0.25 for each token between 41 and 80 in a stage.
- You get $10.00 if you end up with 80 tokens or more. You do not get more bonus pay for tokens beyond 80 in a stage.

For example, you get $0 if you have 40 tokens, $0.25 if you have 41 tokens, $0.50 if you have 42 tokens, $2.50 if you have 50 tokens, $10.00 if you have 80 tokens, and $10.00 if you have 100 tokens in a stage.

We first calculate your bonus pay for stage 1 based on the tokens you end up with in stage 1. Next, we calculate your bonus pay for stage 2 based on the tokens you end up with in stage 2. Finally, we add the bonus pay for stage 1 and 2 together.

These rules are always the same, and we will remind you of them with a diagram:
After the four screens with instructions, participants were presented with two examples, where they were guided through a step-by-step explanation of the diagrams and the game.

Figure 7: Example 1 - Screen 1

In this particular example, you get 75 tokens of income in stage 1.

Some of these tokens can be saved for stage 2. The tokens that you end up with in stage 1 (that is, 75 minus your saved tokens) will determine your bonus pay for stage 1.
In this particular example, you have an annuity (you won't have one in all of your decisions). You get 30 tokens from the annuity only if you survive in stage 2 of the game. If you don’t survive in stage 2, you get no tokens from the annuity in stage 2.

In **stage 2**, one of two possible outcomes can happen, each equally likely (like a coin toss):

1. **You survive in stage 2**: You get 30 tokens from your annuity and the tokens you saved from stage 1 for stage 2. These tokens determine your bonus pay for stage 2.
2. **You do not survive in stage 2**: You get 0 tokens. You get no bonus pay for stage 2.

Because you need to end up with at least 40 tokens in stage 2 when you survive, you **must save at least 10 tokens** to make up the difference between the 40 tokens you need in stage 2 and the 30 tokens you get from the annuity if you survive in stage 2.
A second example was then presented, focusing on the bonus pay computation.

Figure 9: Example 2 - Screen 3

Let’s now do a **new** example with a **different** number of tokens. This example shows how your bonus pay is determined in each stage.

![Reminder: Bonus pay in each stage](image)

$0$ for each token

First 40 tokens

You must end up with at least 40 tokens in each stage when you’re alive

$0.25$ for each token

Tokens 41 to 80

You get $0.25$ for 41 tokens, $0.50$ for 42 tokens etc.

$0$ for each token over 80

Tokens above 80

You get $10.00$ if you have 80 tokens or more

Imagine that you end up with 105 tokens in **stage 1**. Because you end up with more than 80 tokens in stage 1, your bonus pay for stage 1 is $10.00.
Next, imagine that you survive in stage 2 and you end up with 60 tokens in **stage 2**. This gives you the following bonus pay for **stage 2**:

- **First 40 tokens**: 40 tokens at $0 per token = $0
- **Tokens 41 to 60**: 20 tokens at $0.25 per token = $5.00

So, your bonus pay for **stage 2** is $5.00.

In this example, your total bonus pay is $15.00 ($10.00 bonus pay from **stage 1** and $5.00 bonus pay from **stage 2**).

4 Comprehension questions

After the examples, participants faced seven comprehension questions. They were also told that doing well on these questions was a condition to be eligible for the bonus pay, and that they could always see a concise version of the explanation of the diagram and of the bonus pay computation by clicking on a link.
Now, to make sure you understand how everything works, please answer the questions that follow.

**You must do well on these questions to remain eligible for the bonus pay.**

You can always use the [Click Here to Review Explanation](#) link to see a summary of the explanation that we just went over.

When relevant, a calculator icon like the one below will be available (when you click on it, a calculator pops up):

![Calculator Icon](#)

If participants clicked on the link “Click Here to Review Explanation,” the following screen opened in a new tab of their browser window:
If participants clicked on the link “Click here to see how much money you get from your tokens,” the following screen opened in a new tab of their browser window:

In comprehension questions 1-6, participants were shown an additional screen if they chose an incorrect answer. This screen told them that their answer was incorrect. It also explained what
the correct answer was and, if applicable, why. In comprehension questions 2-6, this explanation was immediately followed by a retake of the same question that was answered incorrectly, but with the order of the alternatives re-randomized.

Figure 14: Comprehension question 1

**Question 1**
True or False: In the Life Planning Game, it is equally likely that you do or don’t survive in stage 2.

**Click Here to Review Explanation**

☐ False

☐ True

Figure 15: Explanation of the correct answer to comprehension question 1 (shown if answered incorrectly)

That is the incorrect answer.

**Click Here to Review Explanation**

The correct answer is True. Whether you do or don’t survive in stage 2 depends on chance. It is equally likely that you do or don’t survive (like a coin toss).
Figure 16: Comprehension question 2

Question 2

Imagine you get 100 tokens of income in stage 1. You can save some of these tokens. You have an annuity. If you survive in stage 2, you get 30 tokens from the annuity plus your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

What is the **lowest** number of tokens that you **must** save from stage 1 for stage 2?

*Hint: Remember, you must end up with **at least 40 tokens** in each stage when you are alive.*

- 0 tokens (because $30 + 0 = 30$ tokens if you survive in stage 2)
- 5 tokens (because $30 + 5 = 35$ tokens if you survive in stage 2)
- 10 tokens (because $30 + 10 = 40$ tokens if you survive in stage 2)
- 15 tokens (because $30 + 15 = 45$ tokens if you survive in stage 2)
Figure 17: Explanation of the correct answer to comprehension question 2 (shown if answered incorrectly)

That is the incorrect answer.

Click Here to Review Explanation

The correct answer is 10 tokens, because you must end up with at least 40 tokens in each stage when you are alive, and 30 + 10 = 40.

Because you get 30 tokens from the annuity if you survive in stage 2, your savings must make up the difference between 30 and 40.
Figure 18: Comprehension question 3

**Question 3**

**Reminder: Bonus pay in each stage**

<table>
<thead>
<tr>
<th>Token Range</th>
<th>Bonus Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 40 tokens</td>
<td>$0 for each token</td>
</tr>
<tr>
<td>Tokens 41 to 80</td>
<td>$0.25 for each token</td>
</tr>
<tr>
<td>Tokens above 80</td>
<td>$0 for each token over 80</td>
</tr>
</tbody>
</table>

You must end up with at least 40 tokens in each stage when you're alive.
You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.
You get $10.00 if you have 80 tokens or more.

**Click Here to Review Explanation**

Imagine you end up with 60 tokens in stage 1 and 50 tokens in stage 2. If you got 10 extra tokens in stage 1 (so 70 instead of 60 tokens), how much additional bonus pay would you get from these 10 extra tokens?

- $0
- $0.25
- $2.50
- $17.50
Figure 19: Explanation of the correct answer to comprehension question 3 (shown if answered incorrectly)

<table>
<thead>
<tr>
<th>Reminder: Bonus pay in each stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First 40 tokens</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Tokens 41 to 80</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Tokens above 80</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Click Here to Review Explanation

That is the incorrect answer.

The correct answer is $2.50.

If you had 10 extra tokens, you would end up with 70 tokens in stage 1.

Because you get $0.25 for each token between 41 and 80 in each stage, these 10 extra tokens would give you $2.50 extra in stage 1.
Question 4

**Reminder: Bonus pay in each stage**

<table>
<thead>
<tr>
<th>Tokens</th>
<th>Payment Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 40 tokens</td>
<td><strong>$0 for each token</strong> You must end up with at least 40 tokens in each stage when you're alive</td>
</tr>
<tr>
<td>Tokens 41 to 80</td>
<td><strong>$0.25 for each token</strong> You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.</td>
</tr>
<tr>
<td>Tokens above 80</td>
<td><strong>$0 for each token over 80</strong> You get $10.00 if you have 80 tokens or more</td>
</tr>
</tbody>
</table>

**Click Here to Review Explanation**

Imagine you end up with 50 tokens in stage 1 and 90 tokens in stage 2. If you got 10 extra tokens in **stage 2** (so 100 instead of 90 tokens), how much additional bonus pay would you get from these 10 extra tokens?

- $0
- $0.25
- $2.50
- $25.00
Figure 21: Explanation of the correct answer to comprehension question 4 (shown if answered incorrectly)

<table>
<thead>
<tr>
<th></th>
<th>Bonus Pay in Each Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First 40 tokens</strong></td>
<td>You must end up with at least 40 tokens in each stage when you're alive</td>
</tr>
<tr>
<td><strong>Tokens 41 to 80</strong></td>
<td>You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.</td>
</tr>
<tr>
<td><strong>Tokens above 80</strong></td>
<td>You get $10.00 if you have 60 tokens or more</td>
</tr>
</tbody>
</table>

**Reminder: Bonus pay in each stage**

Click Here to Review Explanation

That is the incorrect answer.

The correct answer is $0.

If you had 10 extra tokens, you would end up with 100 tokens in stage 2.

Because tokens above 80 in each stage **do not** give you any extra bonus pay, these 10 extra tokens would give you **$0 extra in stage 2**.
If you end up with 100 tokens in stage 1 and with 50 tokens in stage 2, what is your total bonus pay from both stages of the Life Planning Game?

- **In total:** More than 80 tokens = $10.00
- Stage 1: More than 80 tokens = $10.00
- Stage 2: 10 tokens above 40 = $2.50
- In total: $12.50

- Stage 1: 60 tokens above 40 = $15.00
- Stage 2: 50 tokens = $12.50
- In total: $27.50

- In total: 150 tokens = $37.50
Figure 23: Explanation of the correct answer to comprehension question 5 (shown if answered incorrectly)

That is the incorrect answer.

The correct answer is:
Stage 1: More than 80 tokens = $10.00
Stage 2: 10 tokens above 40 = $2.50
In total: $12.50

If you end up with 100 tokens in stage 1, then

• The first 40 tokens give you $0.
• Tokens 41 to 80 give you $0.25 each.
• Tokens above 80 give you $0 extra.

So, you get $10.00 in stage 1.

If you end up with 50 tokens in stage 2, then

• The first 40 tokens give you $0.
• Tokens 41 to 80 give you $0.25 each, so you get $0.25 from each token from 41 to 50.

So, you get 40 x $0 + 10 x $0.25 = $2.50 in stage 2.

And you get $10.00 from stage 1 + $2.50 from stage 2 = $12.50 in total.
Question 6

**Reminder: Bonus pay in each stage**

<table>
<thead>
<tr>
<th>Tokens</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 40 tokens</td>
<td>You must end up with at least 40 tokens in each stage when you're alive</td>
</tr>
<tr>
<td>Tokens 41 to 80</td>
<td>You get $0.25 for 41 tokens, $0.50 for 42 tokens, etc.</td>
</tr>
<tr>
<td>Tokens above 80</td>
<td>$0 for each token over 80 You get $10.00 if you have 90 tokens or more</td>
</tr>
</tbody>
</table>

**Click Here to Review Explanation**

Imagine you end up with 70 tokens in **stage 1** after you have saved 60 tokens for **stage 2**.

If you don’t survive in **stage 2**, what is your total bonus pay from both stages of the Life Planning Game?

<table>
<thead>
<tr>
<th>Description</th>
<th>Stage 1: 30 tokens above 40 = $7.50</th>
<th>Stage 2: 20 tokens above 40 = $5.00</th>
<th>In total: $12.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>In total:</td>
<td>130 tokens</td>
<td></td>
<td>$32.50</td>
</tr>
</tbody>
</table>

| In total:   | More than 80 tokens = $10.00        |                                     | $10.00           |
Figure 25: Explanation of the correct answer to comprehension question 6 (shown if answered incorrectly)

That is the incorrect answer.

The correct answer is:
Stage 1: 30 tokens above 40 = $7.50
Stage 2: 0 tokens = $0
In total: $7.50

If you end up with 70 tokens in stage 1, then

- The first 40 tokens give you $0.
- Tokens 41 to 80 give you $0.25 each, so you get $0.25 from each token from 41 to 70.

So, you get 40 x $0 + 30 x $0.25 = $7.50 in stage 1.

Because you do not survive in stage 2, you do not get any tokens in that stage.

So, you get $0 in stage 2.

In total, you get $7.50 from stage 1 + $0 from stage 2 = $7.50.
5 Annuity and savings decisions

Participants who passed the comprehension questions were then guided to the savings and annuity decisions. Participants faced a block of three savings decisions, a block with two annuity decisions, and a block with one annuity decision. The order of these three blocks was determined by our experimental design, as described in Section 2 of the paper. After collecting data on 1,049 of the 3,038 participants, we added a fourth block with one annuity decision. This block was always asked last. Participants thus faced a total of 3 savings decisions and 3 or 4 annuity decisions.

Before being asked to make annuity or savings decisions, participants were given information on the types of choices they would be presented with and that one of these choices would be randomly selected for payout.
5.1 Savings decisions

Before presenting the block with three savings decision, there was an introductory text specific to these decisions.
Each participant had to make three savings decisions, similar to the one below. The token amounts shown in these decisions varied according to our experimental decisions. Participants had to type their chosen level of savings in the box.
Figure 30: Example of a savings decision

In this Life Planning Game, you get 80 tokens of income in stage 1. You can save some of these tokens. You have an annuity. If you survive in stage 2, you get 30 tokens from the annuity plus your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

Stage 1
- 80 - saved tokens

Stage 2
- 1. You survive (50% chance)
  - 30 + saved tokens
- 2. You don't survive (50% chance)
  - 0 tokens

Reminder: Bonus pay in each stage

| First 40 tokens | $0 for each token |
| Tokens 41 to 80 | $0.25 for each token |
| Tokens above 80 | $0 for each token over 80 |

How many tokens would you like to save from stage 1 for stage 2?

Click Here to Review Explanation

If participants typed a level of savings that resulted in them having fewer than 40 tokens in stage 1 or stage 2, they were presented with the exact same question in the next screen, but with a red text added explaining the bounds of the level of savings they could choose from.
Figure 31: Message explaining savings range

In this Life Planning Game, you get 80 tokens of income in stage 1. You can save some of these tokens. You have an annuity. If you survive in stage 2, you get 30 tokens from the annuity plus your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

**Reminder: Bonus pay in each stage**

<table>
<thead>
<tr>
<th>Tokens</th>
<th>Bonus Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 40 tokens</td>
<td>$0 for each token (You must end up with at least 40 tokens in each stage when you're alive)</td>
</tr>
<tr>
<td>Tokens 41 to 80</td>
<td>$0.25 for each token (You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.)</td>
</tr>
<tr>
<td>Tokens above 80</td>
<td>$0 for each token over 80 (You get $10.00 if you have 80 tokens or more)</td>
</tr>
</tbody>
</table>

**Click Here to Review Explanation**

How many tokens would you like to save from stage 1 for stage 2?

Please save at least 10 tokens (so you have at least 40 tokens to satisfy the minimum required for stage 2) and at most 40 tokens (so you keep at least 40 tokens to satisfy the minimum required for stage 1).
5.2 Annuity decisions

5.2.1 Block with two annuity decisions (Benchmark condition, No-Status-Quo condition, or Salient Contingencies I condition)

The block with two annuity decisions always showed two annuity decisions that were of the same experimental condition but differ in price: one involving a low price (better than actuarially fair) and one with a high price (worse than actuarially fair) annuity. The experimental condition could be the Benchmark condition, the No-Status-Quo condition, or the Salient Contingencies I condition.

The following introductory text was displayed before the block with two annuity decisions:

Figure 32: Introduction to the block with two annuity decisions

In the next two versions of the Life Planning Game, you will choose whether or not you want an annuity. You only get tokens from the annuity in stage 2 if you survive in stage 2.

Your income, your saved tokens, and whether you have an annuity may vary.

The method for calculating the bonus pay for each stage never changes.

Annuity decisions in the Benchmark condition had two screens, as shown below. In the first one, participants were shown what they had. Only in the second screen they were asked if they would like to buy an annuity. In this second screen, the price of the annuity was either 10 (low price) or 20 (high price).
Life Planning Game 1 - Part 1

Currently, you get 90 tokens of income in stage 1. You can save some of these tokens. You do not have an annuity. If you survive in stage 2, you get your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

Reminder: Bonus pay in each stage

| First 40 tokens | $0 for each token | You must end up with at least 40 tokens in each stage when you’re alive |
| Tokens 41 to 80 | $0.25 for each token | You get $0.25 for 41 tokens, $0.50 for 42 tokens etc. |
| Tokens above 80 | $0 for each token over 80 | You get $10.00 if you have 80 tokens or more |

Click Here to Review Explanation
In the No-Status-Quo condition and in the Salient Contingencies I condition, annuity decisions did not have a status quo but the options with and without an annuity were instead displayed side-by-side. Both conditions resulted in an annuity question that looks identical because the only difference between them is whether they were asked before the block with savings decisions (the No-Status-Quo condition) or after it (the Salient Contingencies I condition). In both conditions,
decisions were displayed in a single screen. An example of these conditions is shown below. The exact screen shown varied based on whether the annuity price was high or low, and whether the annuity was shown in option A or option B.
Figure 35: Annuity decision - No-Status-Quo condition or Salient Contingencies I condition

**Life Planning Game 1**

In Option A, you get 70 tokens of income in stage 1. You can save some of these tokens. You have an annuity. If you survive in stage 2, you get 30 tokens from the annuity plus your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

In Option B, you get 90 tokens of income in stage 1. You can save some of these tokens. You do not have an annuity. If you survive in stage 2, you get your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Option A: 70 - saved tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 2</td>
<td>1. You survive (50% chance) 30 + saved tokens</td>
</tr>
<tr>
<td></td>
<td>2. You don't survive (50% chance) 0 tokens</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Option B: 90 - saved tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 2</td>
<td>1. You survive (50% chance) saved tokens</td>
</tr>
<tr>
<td></td>
<td>2. You don't survive (50% chance) 0 tokens</td>
</tr>
</tbody>
</table>

**Reminder: Bonus pay in each stage**

- **First 40 tokens**: $0 for each token
  - You must end up with at least 40 tokens in each stage when you’re alive

- **Tokens 41 to 80**: $0.25 for each token
  - You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.

- **Tokens above 80**: $0 for each token over 80
  - You get $10.00 if you have 80 tokens or more

**Click Here to Review Explanation**

Please choose one of the two options shown above:

- Option A
- Option B
5.2.2 Block with single annuity decision (Salient Contingencies II, III or IV condition)

An introductory text was displayed before the block with the single annuity decisions. Since this decision could either have context (Salient Contingencies II) or not (Salient Contingencies III or IV), we present both versions.

Figure 36: Introduction to the block with a single annuity decision - With context

In the next version of the Life Planning Game, you will choose whether or not you want an annuity. You only get tokens from the annuity in stage 2 if you survive in stage 2.

Your income, your saved tokens, and whether you have an annuity may vary.

The method for calculating the bonus pay for each stage never changes.

Figure 37: Introduction to the block with a single annuity decision - Without context

In the next version of the Life Planning Game, you will choose between two alternatives that differ in the tokens you get in stage 1 and in stage 2.

The method for calculating the bonus pay for each stage never changes.

All Salient Contingencies annuity decisions were presented without a status quo: the annuity and the no annuity options were shown side-by-side. Below, we show examples of each type of salient contingency decisions. The exact screen shown varied based on whether the annuity price was high or low, and whether the annuity was shown in option A or option B.
Life Planning Game 6

In Option A, you get 70 tokens of income in stage 1. You must save exactly 12 of these tokens. You have an annuity. If you survive in stage 2, you get 30 tokens from the annuity plus your 12 saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2. The resulting tokens are shown in the diagram below.

In Option B, you get 90 tokens of income in stage 1. You must save exactly 45 of these tokens. You do not have an annuity. If you survive in stage 2, you get your 45 saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2. The resulting tokens are shown in the diagram below.

**Reminder: Bonus pay in each stage**

- **First 40 tokens**: You must end up with at least 40 tokens in each stage when you’re alive
- **Tokens 41 to 80**: You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.
- **Tokens above 80**: You get $10.00 if you have 80 tokens or more

Please choose one of the two options shown above:

- Option A
- Option B
Life Planning Game 6

In Option A, you get 58 tokens in stage 1. You cannot save any of these tokens. If you survive in stage 2, you get 42 tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

In Option B, you get 45 tokens in stage 1. You cannot save any of these tokens. If you survive in stage 2, you get 45 tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

Click Here to Review Explanation

Please choose one of the two options shown above:

- Option A
- Option B
Life Planning Game 6

In Option A, you get 55 tokens in stage 1. You cannot save any of these tokens. If you survive in stage 2, you get 45 tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

In Option B, you get 45 tokens in stage 1. You cannot save any of these tokens. If you survive in stage 2, you get 45 tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

Reminder: Bonus pay in each stage

- First 40 tokens: $0 for each token
  You must end up with at least 40 tokens in each stage when you're alive
- Tokens 41 to 80: $0.25 for each token
  You get $0.25 for 41 tokens, $0.30 for 42 tokens etc.
- Tokens above 80: $0 for each token over 80
  You get $10.00 if you have 80 tokens or more

Click Here to Review Explanation

Please choose one of the two options shown above:

- [ ] Option A
- [ ] Option B
6 Bonus pay

After making all of the savings and annuity decisions, participants were shown which decision was selected for payout and how their bonus pay was calculated.

Figure 41: Introduction - Bonus pay

In the next screens, we will tell you the bonus pay you earned for this study.

Figure 42: Selected decision for payout

Now we need to determine your bonus pay.

The computer randomly selected the following Life Planning Game and the following outcome for your bonus pay:

Life Planning Game 6
Outcome: 1. You survive

Click the Next button to see the selected Life Planning Game, the choice you made, and the resulting bonus pay.

After showing which decision was randomly selected for payout, a screen showed them what choice they made in the selected decision, with a detailed computation of the earned bonus.
You chose: Option A

This means you end up with 60 tokens in stage 1. Because you survived, you end up with 40 tokens in stage 2.

This gives you $5.00 in stage 1:

First 40 tokens: $0 per token = $0
Tokens 41 to 80: $0.25 per token = $5.00
Tokens above 80: $0 per token = $0

This gives you $0.00 in stage 2:

First 40 tokens: $0 per token = $0
Tokens 41 to 80: $0.25 per token = $0.00
Tokens above 80: $0 per token = $0

So, your total bonus pay is $5.00 + $0.00 = $5.00.
When clicking on the “next” button, the Qualtrics survey ended and participants were redirected to the AmeriSpeak platform.

7 Alternative wording and Reverse-Correlation condition

7.1 Wording

The experimental design comprised three different wording conditions: “annuity,” “Social Security,” and “insurance.” Each participant was randomized to one of these three wording conditions. The previous figures showed the “annuity” version of the experiment. Below we show an instruction screen (corresponding to instruction screen 3) for the other wording conditions. The only change is that the term “annuity” is replaced with “Social Security” or “insurance” in all questions.

Figure 44: Instruction - Screen 3 (Social Security wording)

**How Social Security works**

What happens during stage 2 (when you’re old) depends on chance.

In stage 2, one of two possible outcomes can happen, each equally likely (like a coin toss):

- You survive in stage 2
- You do not survive in stage 2

When you have Social Security, you get tokens from Social Security in stage 2 only if you survive. If you don’t survive, you don’t get any tokens from Social Security.
The wording for the annuity decision in the Benchmark condition had to be slightly rephrased in the Social Security condition: we used “buying into” rather than “buying” as the verb for acquiring the annuity from Social Security, as shown below.
Life Planning Game 5 – Part 1

Currently, you get 90 tokens of income in stage 1. You can save some of these tokens. You do not have Social Security. If you survive in stage 2, you get your saved tokens in stage 2. If you do not survive in stage 2, you get 0 tokens in stage 2.

Reminder: Bonus pay in each stage

- **First 40 tokens**: You must end up with at least 40 tokens in each stage when you’re alive.
- **Tokens 41 to 80**: You get $0.25 for each token.
- **Tokens above 80**: You get $0 for each token over 80.

Click Here to Review Explanation
Life Planning Game 5 - Part 2

Here is what you currently have:

Stage 1

90 - saved tokens

Stage 2

1. You survive (50% chance)
   saved tokens

2. You don't survive (50% chance)
   0 tokens

Reminder: Bonus pay in each stage

First 40 tokens
$0 for each token
You must end up with at least 40 tokens in each stage when you're alive

Tokens 41 to 80
$0.25 for each token
You get $0.25 for 41 tokens, $0.50 for 42 tokens etc.

Tokens above 80
$0 for each token over 80
You get $10.00 if you have 80 tokens or more

Click Here to Review Explanation

Would you like to pay 10 tokens in stage 1 to buy into Social Security, which then pays out 30 tokens in stage 2 if you survive (and 0 tokens if you do not survive)?

☐ Yes. I would like to buy into Social Security.

☐ No. I want to keep what I currently have, as shown above.
7.2 Reverse-Correlation condition

In the regular-correlation treatment arm, one of two outcomes could happen in stage 2 of the life-planning game: “you survive” or “you don’t survive.” In the Reverse-Correlation condition, the two possible stage-2 outcomes were replaced with “you don’t get income” and “you get income,” respectively. This condition was only displayed with the “insurance” wording.

Figure 48: Instruction - Screen 3 (Reverse-Correlation condition)

How insurance works

What happens during stage 2 (when you’re old) depends on chance.

In stage 2, one of two possible outcomes can happen, each equally likely (like a coin toss):

- You get an income (of tokens) in stage 2
- You do not get an income (of tokens) in stage 2

When you have insurance, you get tokens from insurance in stage 2 only if you do not get any income in stage 2. If you get income in stage 2, you don’t get any tokens from insurance.

Below, we also show how the example was adapted to this setting.
In this particular example, you have insurance (you won’t have it in all of your decisions). You get 30 tokens from insurance only if you don’t get income in stage 2 of the game. If you get income in stage 2, you get no tokens from insurance in stage 2.

In **stage 2**, one of two possible outcomes can happen, each equally likely (like a coin toss):

1. **You don’t get income in stage 2**: You get 30 tokens from your insurance and the tokens you saved from stage 1 for stage 2. These tokens determine your bonus pay for stage 2.
2. **You get income in stage 2**: You get more than 80 tokens from income and savings in stage 2. These tokens determine your bonus pay for stage 2.

Because you need to end up with at least **40** tokens in stage 2, you **must save at least 10 tokens** to make up the difference between the **40** tokens you need in stage 2 and the **30** tokens you get from insurance if you don’t get income in stage 2.

Comprehension questions were also adjusted in the Reverse-Correlation condition when needed,
as can be seen in the example below. All questions still tested the exact same knowledge.

Figure 50: Comprehension question 1 (Reverse-Correlation condition)

Question 1
True or False: In the Life Planning Game, it is equally likely that you do or don’t get income in stage 2.

Click Here to Review Explanation

☐ True
☐ False

Annuity decisions in the Reverse-Correlation condition were also adapted to reflect the change in possible stage-2 outcomes:
Life Planning Game 1 – Part 1

Currently, you get 90 tokens of income in stage 1. You can save some of these tokens. You do not have insurance. If you do not get income in stage 2, you get your saved tokens in stage 2. If you get income in stage 2, you get more than 80 tokens from income and savings in stage 2.

![Diagram]

Reminder: Bonus pay in each stage

<table>
<thead>
<tr>
<th>Tokens</th>
<th>Pay per Token</th>
</tr>
</thead>
<tbody>
<tr>
<td>First 40 tokens</td>
<td>$0 for each token</td>
</tr>
<tr>
<td>Tokens 41 to 80</td>
<td>$0.25 for each token</td>
</tr>
<tr>
<td>Tokens above 80</td>
<td>$0 for each token over 80</td>
</tr>
</tbody>
</table>

You must end up with at least 40 tokens in each stage.

You get $0.25 for 41 tokens, $0.50 for 42 tokens etc. You get $10.00 if you have 80 tokens or more.

Click Here to Review Explanation
Life Planning Game 1 - Part 2

Here is what you currently have:

Stage 1 ➸ 90 - saved tokens
Stage 2

1. You don't get income (50% chance)
   saved tokens

2. You get income (50% chance)
   more than 80 tokens

Reminder: Bonus pay in each stage

<table>
<thead>
<tr>
<th>First 40 tokens</th>
<th>$0 for each token</th>
<th>You must end up with at least 40 tokens in each stage</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Tokens above 80</td>
<td>$0 for each token over 80</td>
<td>You get $10.00 if you have 80 tokens or more</td>
</tr>
</tbody>
</table>

Click Here to Review Explanation

Would you like to pay 10 tokens in stage 1 to buy insurance that pays out 30 tokens in stage 2 if you do not get income in stage 2 (and 0 tokens if you get income in stage 2)?

☐ Yes, I would like to buy insurance.

☐ No, I want to keep what I currently have, as shown above.