

*Dotted line divides pages.

*The single dotted lined allow subjects to move back and forth, the double lines are not.

Welcome to our decision-making study! Thank you for your participation.

Please turn off and put away your cell phones, put away any books or other things you've brought with you, and please refrain from talking to other participants during the study.

This study will take approximately 120 minutes.

You have already earned \$10 for showing up on time. In addition to this "show up payment," you may earn additional money throughout the study. Your earnings may depend on your decisions and on elements of chance.

There are two separate "parts" to this experiment, and each part has 4 sections.

For each section, you are asked to choose the most preferred option(s).

After you finish all sections in Part 1, you will be asked to move on to Part 2.

Your decisions in one part will not in any way affect your decisions or payoffs in the other part.

Order 1 and 2: Risk Resolution Task First

Instruction for Part 1

This is an instruction for Part 1. There is no time limit for reading. So, please take your time and read carefully. You can go to the previous or next page at any time if you want. However, if you enter the decision stage after this instruction, you cannot come back. So, please read these instructions carefully.

Your earnings will be determined by the outcome of a lottery. At the beginning of the experiment, the computer will draw a random number between 1 and 100.

Each number is equally likely to be drawn.

If the computer draws 1-50, you will win the “low prize.” If the computer draws 51-100, you will win the “high prize.”

This means there’s a 50% chance you will win the high prize and a 50% chance you will win the low prize.

If you win the high prize, you’ll earn \$22. If you win the low prize, you’ll earn \$4.

The computer won’t reveal the number drawn immediately, so that you won’t learn the outcome of the lottery immediately. However, you may receive some earlier information about the outcome, which we’ll call a “signal.”

You will know the outcome of the lottery in two steps. In the first step, you will receive a signal about the outcome. In the second step, you’ll learn the outcome. Between these two steps, you will participate in a 30-minute task.

This means even after you see the signal, we will not tell you whether you’ve won the high or low prize until the very end of this part.

You’ll be waiting for those 30 minutes to learn the outcome of the lottery.

There are two types of signals you can receive: good news and bad news.

If you receive good news, the chance of winning the high prize may be higher. If you receive bad news, the chance of winning the high prize may be lower. How informative the good/bad news is in learning the lottery’s outcome depends on the signal structure that you choose.

Here are three factors you need to consider in a signal structure.

p: the probability to receive good news.

q: the chance to win the high prize, given that you receive good news.

r: the chance to win the high prize, given that you receive bad news.

Each of the five options corresponds to a signal structure under which you learn the lottery's outcome. Choose the one that you prefer most.

One-Shot Early $p=0.5, q=1, r=0$

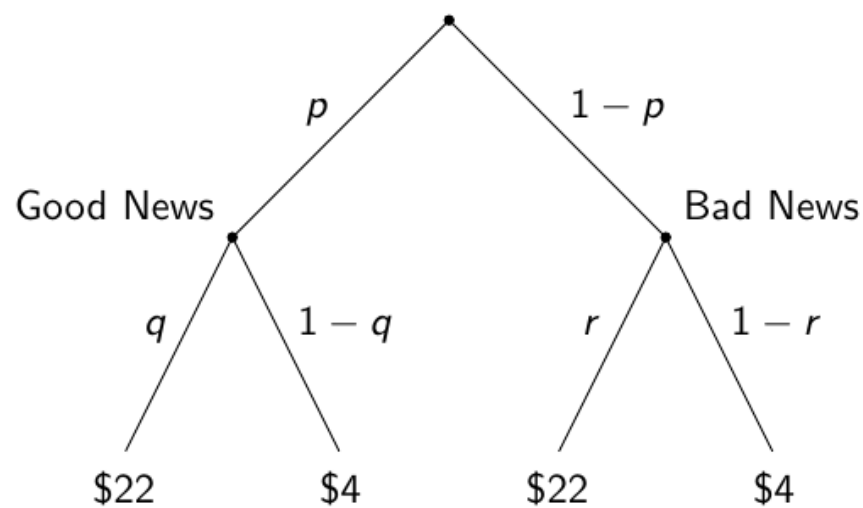
One-Shot Late $p=0.5, q=0.5, r=0.5$

Gradual (A) $p=0.5, q=0.75, r=0.25$

Gradual (B) $p=0.2, q=0.9, r=0.4$

Gradual (C) $p=0.8, q=0.6, r=0.1$

Please note that your choice does not change the overall odds of winning the high prize (50%), but your choice affects the speed at which you learn the lottery's outcome.



The graph of signal structure

If you choose **One-Shot Early**, good news guarantees the high prize, and bad news guarantees the low prize because $q=1, r=0$. So, you essentially learn the lottery's outcome at the end of Step 1 by choosing this option.

If you choose **One-Shot Late**, the signal is not informative. No matter what news you receive, the chance of the high prize is the same, which is 0.5 ($q=0.5, r=0.5$). So, you do not learn any information about the outcome of the lottery at the end of Step 1 by choosing this option.

Gradual options are between those two. You get partial information about the lottery's outcome at the end of Step 1 by choosing a gradual option.

If you choose **Gradual (A)**, you are equally likely to receive good news and bad news. Receiving good news indicates a higher probability of receiving the high prize ($q=0.75$), and receiving bad news indicates a lower probability of receiving the high prize ($r=0.25$).

If you choose **Gradual (B)**, it is very likely that you will receive bad news ($p=0.2$). However, if you receive good news, you have a very high chance ($q=0.9$) to win the high prize. **Gradual (C)** is the opposite.

Again, the overall odds of winning the high prize are **FIXED** (50%) no matter which option you choose.

In this part, there are 4 sections.

In the first 3 sections, you will be asked one question per section.

During these sections, you will choose the most preferred signal structure out of the four or five options.

In the last section, there is an ordered list of questions, one per row, with two options; "One-Shot Early + \$x" and "One-Shot Late + \$y" with different values of x and y.

For each question, you will choose between "One-Shot Early + \$x" and "One-Shot Late + \$y" with different values of x and y.

For example, in Question "One-Shot Early+\$0.50 vs. One-Shot Late+\$0.00", if you choose "One-Shot Early+\$0.50" instead of "One-Shot Late+\$0.00", you will receive the following two things: (1) the lottery described in the previous pages with signal structure One-Shot Early and (2) an additional \$0.50. Namely, you will receive either \$22.50 ($=22+0.50$) or \$4.50 ($=4+0.50$), and you will know your realized earning before the 30-minute task. If you choose "One-Shot Late+\$0.00", you will receive the following two things: (1) the lottery described in the previous pages with signal structure One-Shot Late, and (2) additional \$0.00. Namely, you will receive either \$22 or \$4, and you will know your realized earning after the 30-minute task.

As another example, in Question "One-Shot Early+\$0.00 vs One-Shot Late+\$0.50", if you choose "One-Shot Early+\$0.00", you will receive either \$22 or \$4, and you will know your realized earning before the 30-minute task. If you choose "One-Shot Late+\$0.50", you will receive either \$22.50 ($=22+0.50$) or \$4.50 ($=4+0.50$), and you will know your realized earning after the 30-minute task.

Your decisions are

| | | | |
|-----------------------|-----------------------|-----------------------|----------------------|
| One-Shot Early+\$0.50 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.45 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.40 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.35 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.30 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.25 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.20 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.15 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.10 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.05 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.05 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.10 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.15 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.20 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.25 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.30 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.35 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.40 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.45 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.50 |

These are options in section 4.



After you make all your decisions, we will determine which of the 4 sections will actually transpire.

The computer will randomly draw a number 1-4. Each number is equally likely to be drawn.

The number chosen will correspond to the sections that will transpire.

If the last section is chosen, we will do another draw to determine which answer in your last section will transpire.

Lastly, after the experiment, the computer will randomly choose between 0 or 1 with the same probability. If 0 is chosen, we will give you your earnings in Part 1. Otherwise, we will give you your earnings in Part 2.

While this randomization procedure may seem complicated, your strategy need not be. Rather than worry about the “right” answer –there isn’t one–consider how you would like to be paid and select your options accordingly.



There are no right or wrong answers in any of these scenarios.

We are simply interested in your preferences, so please consider the options carefully and choose the one lottery you most prefer in each scenario.

In fact, you should answer each question as if it will directly determine your earnings, since one of the scenarios will.

If you don't answer according to your actual preferences, you might end up with something you prefer less than another available option.

If you click the OK button on this page, you will enter the decision stage. You cannot come back to this page after you click the button. If there is anything confusing in these instructions, please read them again carefully, or ask experiment assistants for help.

Instruction for Part 2

This is an instruction for Part 2. There is no time limit for reading. So, please take your time and read carefully. You can go to the previous or next page at any time if you want. However, if you enter the decision stage after this instruction, you cannot come back. So, please read these instructions carefully.

You will draw a ping pong ball out of a bag.

The bag contains 60 ping pong balls, and each ball is either red or yellow.

If you draw a red ping pong ball, then you will receive a high prize (\$22).

If you draw a yellow ball, then you will receive a low prize (\$4).

However, the precise composition of red ping pong balls versus yellow ones in the bag is unknown, although already determined. The only information now is that the proportion of red ping pong balls in the bag, denoted by p , can only be one of the following numbers: 10%, 40%, 60%, and 90%. So the probability for you to win the high prize is one of the following four numbers: 0.1, 0.4, 0.6, or 0.9.

The computer won't reveal the proportion of red ping pong balls in the bag p immediately. However, by choosing one of the following message structures, you may have earlier information on the proportion of red ping pong balls in the bag.

You will know the outcome in two steps.

In the first step in learning the outcome of the draw, you may receive message about p . In the second step, you'll learn the final outcome.

Between these two steps, you will participate in a 30-minute task.

This means even after you see the message about p , we will not tell you whether you've won the high or low prize until the end of the task.

You'll be waiting for those 30 minutes to learn the outcome of the draw.

Now, you will choose the message structure under which you learn the value of p .

Here are options you can choose from. Each bracket represents a message you might receive. To be specific, $\{X\}\{Y\}\{Z\}$ means you will receive one of the messages: X or Y or Z.

One-Shot Early $\{0.1\}\{0.4\}\{0.6\}\{0.9\}$

One-Shot Late $\{0.1, 0.4, 0.6, 0.9\}$

Gradual (A) $\{0.1, 0.4\}\{0.6, 0.9\}$

Gradual (B) $\{0.1, 0.4, 0.6\}\{0.9\}$

Gradual (C) $\{0.1\}\{0.4, 0.6, 0.9\}$

If you choose **One-Shot Early** ($\{0.1\}\{0.4\}\{0.6\}\{0.9\}$), you will receive one of four messages: $\{0.1\}$, $\{0.4\}$, $\{0.6\}$ or $\{0.9\}$. That means you will know the exact value of p , i.e., the precise proportion of red balls, or the probability to win the high prize, at the end of step 1.

If you choose **One-Shot Late** ($\{0.1, 0.4, 0.6, 0.9\}$), you could only receive one message. So, you don't have any additional information about the value of p , i.e., the proportion of red balls, except that it is one of the four numbers, at the end of step 1.

Gradual options are between those two. If choosing one gradual option, you will learn partial information about the probability p at the end of Step 1.

Gradual (A) ($\{0.1, 0.4\}\{0.6, 0.9\}$) sends you the message $\{0.1, 0.4\}$ or $\{0.6, 0.9\}$. If p is 0.1 or 0.4, you will receive the message $\{0.1, 0.4\}$. If p is 0.6 or 0.9, you will receive $\{0.6, 0.9\}$.

If you choose **Gradual (B)** ($\{0.1, 0.4, 0.6\}\{0.9\}$), you will be informed whether p is 0.9 or not.

Gradual (C) ($\{0.1\}\{0.4, 0.6, 0.9\}$) tells you whether p is 0.1 or not.

For example, suppose the value of p is 0.1. In this case, each option will give you the following messages. If you choose **One-Shot Early**, you will receive the message $\{0.1\}$. **One-Shot Late** will send you the message $\{0.1, 0.4, 0.6, 0.9\}$. If you choose **Gradual A**, you will receive $\{0.1, 0.4\}$. Similarly, **Gradual B** and **Gradual C** will give you $\{0.1, 0.4, 0.6\}$ and $\{0.1\}$ respectively.

Please note that the pre-determined proportion of red balls p , i.e., the probability for you to win the high prize, does not change no matter which message structure you choose. By choosing one of the options, the computer gives you full information, no information, or partial information about the value of p before the 30-minutes task.

In this part, there are 4 sections.

In the first 3 sections, you will be asked one question per section.

During these sections, you will choose the most preferred message structure out of the four or five options.

In the last section, there is an ordered list of questions, one per row, with two options; “One-Shot Early + \$x” and “One-Shot Late +\$y” with different values of x and y.

For each question, you will choose between “One-Shot Early + \$x” and “One-Shot Late + \$y” with different values of x and y.

For example, in Question “One-Shot Early+\$0.50 vs One-Shot Late+\$0.00”, if you choose “One-Shot Early+\$0.50” instead of “One-Shot Late+\$0.00”, you will receive the following two things: (1) the lottery described in the previous pages with message structure One-Shot Early and (2) additional \$0.50. Namely, you will receive either \$22.50 (=22+0.50) or \$4.50 (=4+0.50), and you will know the probability of winning \$22.50 versus \$4.50 before the 30-minute task. If you choose “One-Shot Late+\$0.00”, you will receive the following two things: (1) the lottery described in the previous pages with message structure One-Shot Late, and (2) additional \$0.00. Namely, you will receive either \$22 or \$4, and you will know the probability of winning \$22 versus \$4 after the 30-minute task.

As another example, in Question “One-Shot Early+\$0.00 vs One-Shot Late+\$0.50”, if you choose “One-Shot Early+\$0.00”, you will receive either \$22 or \$4, and you will know the probability of winning \$22 versus \$4 before the 30-minute task. If you choose “One-Shot Late+\$0.50”, you will receive either \$22.50 (=22+0.50) or \$4.50 (=4+0.50), and you will know the probability of winning \$22.50 versus \$4.5 after the 30-minute task.

Your decisions are

| | | | |
|-----------------------|-----------------------|-----------------------|----------------------|
| One-Shot Early+\$0.50 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.45 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.40 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.35 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.30 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.25 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.20 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.15 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.10 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.05 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.05 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.10 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.15 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.20 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.25 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.30 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.35 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.40 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.45 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.50 |

These are options in section 4.

After you make all your decisions, we will determine which of the 4 sections will actually transpire.

The computer will randomly draw a number 1-4. Each number is equally likely to be drawn.

The number chosen will correspond to the sections that will transpire.

If the last section is chosen, we will do another draw to determine which answer in your last section will transpire.

Lastly, after the experiment, the computer will randomly choose between 0 or 1 with the same probability. If 0 is chosen, we will give you your earnings in Part 1. Otherwise, we will give you your earnings in Part 2.

While this randomization procedure may seem complicated, your strategy need not be. Rather than worry about the “right” answer –there isn’t one–consider how you would like to be paid and select your options accordingly.

If you click the OK button on this page, you will enter the decision stage. You cannot come back to this page after you click the button. If there is anything confusing in these instructions, please read them again carefully, or ask experiment assistants for help.

Order 3 and 4: Ambiguity Resolution Task First

Instruction for Part 1

This is an instruction for Part 1. There is no time limit for reading. So, please take your time and read carefully. You can go to the previous or next page at any time if you want. However, if you enter the decision stage after this instruction, you cannot come back. So, please read these instructions carefully.

You will draw a ping pong ball out of a bag.

The bag contains 60 ping pong balls, and each ball is either red or yellow.

If you draw a red ping pong ball, then you will receive a high prize (\$22).

If you draw a yellow ball, then you will receive a low prize (\$4).

However, the precise composition of red ping pong balls versus yellow ones in the bag is unknown, although already determined. The only information now is that the proportion of red ping pong balls in the bag, denoted by p , can only be one of the following numbers: 10%, 40%, 60%, and 90%. So the probability for you to win the high prize is one of the following four numbers: 0.1, 0.4, 0.6, or 0.9.

The computer won't reveal the proportion of red ping pong balls in the bag p immediately. However, by choosing one of the following message structures, you may have earlier information on the proportion of red ping pong balls in the bag.

You will know the outcome in two steps.

In the first step in learning the outcome of the draw, you may receive message about p . In the second step, you'll learn the final outcome.

Between these two steps, you will participate in a 30-minute task.

This means even after you see the message about p , we will not tell you whether you've won the high or low prize until the end of the task.

You'll be waiting for those 30 minutes to learn the outcome of the draw.

Now, you will choose the message structure under which you learn the value of p .

Here are options you can choose from. Each bracket represents a message you might receive. To be specific, $\{X\}\{Y\}\{Z\}$ means you will receive one of the messages: X or Y or Z.

One-Shot Early $\{0.1\}\{0.4\}\{0.6\}\{0.9\}$

One-Shot Late $\{0.1, 0.4, 0.6, 0.9\}$

Gradual (A) $\{0.1, 0.4\}\{0.6, 0.9\}$

Gradual (B) $\{0.1, 0.4, 0.6\}\{0.9\}$

Gradual (C) $\{0.1\}\{0.4, 0.6, 0.9\}$

If you choose **One-Shot Early** ($\{0.1\}\{0.4\}\{0.6\}\{0.9\}$), you will receive one of four messages: $\{0.1\}$, $\{0.4\}$, $\{0.6\}$ or $\{0.9\}$. That means you will know the exact value of p , i.e., the precise proportion of red balls, or the probability to win the high prize, at the end of step 1.

If you choose **One-Shot Late** ($\{0.1, 0.4, 0.6, 0.9\}$), you could only receive one message. So, you don't have any additional information about the value of p , i.e., the proportion of red balls, except that it is one of the four numbers, at the end of step 1.

Gradual options are between those two. If choosing one gradual option, you will learn partial information about the probability p at the end of Step 1.

Gradual (A) ($\{0.1, 0.4\}\{0.6, 0.9\}$) sends you the message $\{0.1, 0.4\}$ or $\{0.6, 0.9\}$. If p is 0.1 or 0.4, you will receive the message $\{0.1, 0.4\}$. If p is 0.6 or 0.9, you will receive $\{0.6, 0.9\}$.

If you choose **Gradual (B)** ($\{0.1, 0.4, 0.6\}\{0.9\}$), you will be informed whether p is 0.9 or not.

Gradual (C) ($\{0.1\}\{0.4, 0.6, 0.9\}$) tells you whether p is 0.1 or not.

For example, suppose the value of p is 0.1. In this case, each option will give you the following messages. If you choose **One-Shot Early**, you will receive the message $\{0.1\}$. **One-Shot Late** will send you the message $\{0.1, 0.4, 0.6, 0.9\}$. If you choose **Gradual A**, you will receive $\{0.1, 0.4\}$. Similarly, **Gradual B** and **Gradual C** will give you $\{0.1, 0.4, 0.6\}$ and $\{0.1\}$ respectively.

Please note that the pre-determined proportion of red balls p , i.e., the probability for you to win the high prize, does not change no matter which message structure you choose. By choosing one of the options, the computer gives you full information, no information, or partial information about the value of p before the 30-minutes task.

In this part, there are 4 sections.

In the first 3 sections, you will be asked one question per section.

During these sections, you will choose the most preferred message structure out of the four or five options.

In the last section, there is an ordered list of questions, one per row, with two options; “One-Shot Early + \$x” and “One-Shot Late + \$y” with different values of x and y.

For each question, you will choose between “One-Shot Early + \$x” and “One-Shot Late + \$y” with different values of x and y.

For example, in Question “One-Shot Early+\$0.50 vs One-Shot Late+\$0.00”, if you choose “One-Shot Early+\$0.50” instead of “One-Shot Late+\$0.00”, you will receive the following two things: (1) the lottery described in the previous pages with message structure One-Shot Early and (2) additional \$0.50. Namely, you will receive either \$22.50 ($=22+0.50$) or \$4.50 ($=4+0.50$), and you will know the probability of winning \$22.50 versus \$4.50 before the 30-minute task. If you choose “One-Shot Late+\$0.00”, you will receive the following two things: (1) the lottery described in the previous pages with message structure One-Shot Late, and (2) additional \$0.00. Namely, you will receive either \$22 or \$4, and you will know the probability of winning \$22 versus \$4 after the 30-minute task.

As another example, in Question “One-Shot Early+\$0.00 vs One-Shot Late+\$0.50”, if you choose “One-Shot Early+\$0.00”, you will receive either \$22 or \$4, and you will know the probability of winning \$22 versus \$4 before the 30-minute task. If you choose “One-Shot Late+\$0.50”, you will receive either \$22.50 ($=22+0.50$) or \$4.50 ($=4+0.50$), and you will know the probability of winning \$22.50 versus \$4.5 after the 30-minute task.

Your decisions are

| | | | |
|-----------------------|-----------------------|-----------------------|----------------------|
| One-Shot Early+\$0.50 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.45 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.40 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.35 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.30 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.25 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.20 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.15 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.10 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.05 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.05 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.10 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.15 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.20 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.25 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.30 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.35 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.40 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.45 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.50 |

These are options in section 4.

After you make all your decisions, we will determine which of the 4 sections will actually transpire.

The computer will randomly draw a number 1-4. Each number is equally likely to be drawn.

The number chosen will correspond to the sections that will transpire.

If the last section is chosen, we will do another draw to determine which answer in your last section will transpire.

Lastly, after the experiment, the computer will randomly choose between 0 or 1 with the same probability. If 0 is chosen, we will give you your earnings in Part 1. Otherwise, we will give you your earnings in Part 2.

While this randomization procedure may seem complicated, your strategy need not be. Rather than worry about the “right” answer –there isn’t one–consider how you would like to be paid and select your options accordingly.

If you click the OK button on this page, you will enter the decision stage. You cannot come back to this page after you click the button. If there is anything confusing in these instructions, please read them again carefully, or ask experiment assistants for help.

Instruction for Part 2

This is an instruction for Part 2. There is no time limit for reading. So, please take your time and read carefully. You can go to the previous or next page at any time if you want. However, if you enter the decision stage after this instruction, you cannot come back. So, please read these instructions carefully.

Your earnings will be determined by the outcome of a lottery. At the beginning of the experiment, the computer will draw a random number between 1 and 100.

Each number is equally likely to be drawn.

If the computer draws 1-50, you will win the “low prize.” If the computer draws 51-100, you will win the “high prize.”

This means there’s a 50% chance you will win the high prize and a 50% chance you will win the low prize.

If you win the high prize, you’ll earn \$22. If you win the low prize, you’ll earn \$4.

The computer won’t reveal the number drawn immediately, so that you won’t learn the outcome of the lottery immediately. However, you may receive some earlier information about the outcome, which we’ll call a “signal.”

You will know the outcome of the lottery in two steps. In the first step, you will receive a signal about the outcome. In the second step, you’ll learn the outcome. Between these two steps, you will participate in a 30-minute task.

This means even after you see the signal, we will not tell you whether you’ve won the high or low prize until the very end of this part.

You’ll be waiting for those 30 minutes to learn the outcome of the lottery.

There are two types of signals you can receive: good news and bad news.

If you receive good news, the chance of winning the high prize may be higher. If you receive bad news, the chance of winning the high prize may be lower. How informative the good/bad news is in learning the lottery’s outcome depends on the signal structure that you choose.

Here are three factors you need to consider in a signal structure.

p: the probability to receive good news.

q: the chance to win the high prize, given that you receive good news.

r: the chance to win the high prize, given that you receive bad news.

Each of the five options corresponds to a signal structure under which you learn the lottery's outcome. Choose the one that you prefer most.

One-Shot Early $p=0.5, q=1, r=0$

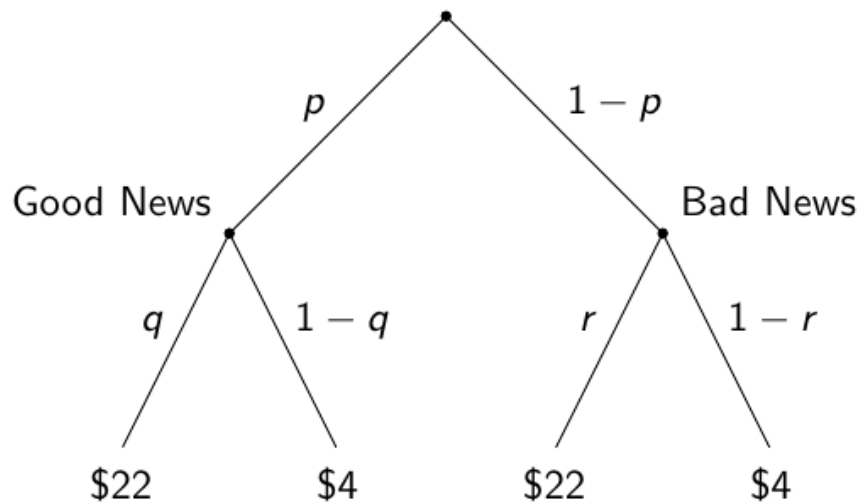
One-Shot Late $p=0.5, q=0.5, r=0.5$

Gradual (A) $p=0.5, q=0.75, r=0.25$

Gradual (B) $p=0.2, q=0.9, r=0.4$

Gradual (C) $p=0.8, q=0.6, r=0.1$

Please note that your choice does not change the overall odds of winning the high prize (50%), but your choice affects the speed at which you learn the lottery's outcome.



The graph of signal structure

If you choose **One-Shot Early**, good news guarantees the high prize, and bad news guarantees the low prize because $q=1, r=0$. So, you essentially learn the lottery's outcome at the end of Step 1 by choosing this option.

If you choose **One-Shot Late**, the signal is not informative. No matter what news you receive, the chance of the high prize is the same, which is 0.5 ($q=0.5, r=0.5$). So, you do not learn any information about the outcome of the lottery at the end of Step 1 by choosing this option.

Gradual options are between those two. You get partial information about the lottery's outcome at the end of Step 1 by choosing a gradual option.

If you choose **Gradual (A)**, you are equally likely to receive good news and bad news. Receiving good news indicates a higher probability of receiving the high prize ($q=0.75$), and receiving bad news indicates a lower probability of receiving the high prize ($r=0.25$).

If you choose **Gradual (B)**, it is very likely that you will receive bad news ($p=0.2$). However, if you receive good news, you have a very high chance ($q=0.9$) to win the high prize. **Gradual (C)** is the opposite.

Again, the overall odds of winning the high prize are **FIXED** (50%) no matter which option you choose.

In this part, there are 4 sections.

In the first 3 sections, you will be asked one question per section.

During these sections, you will choose the most preferred signal structure out of the four or five options.

In the last section, there is an ordered list of questions, one per row, with two options; "One-Shot Early + \$x" and "One-Shot Late + \$y" with different values of x and y.

For each question, you will choose between "One-Shot Early + \$x" and "One-Shot Late + \$y" with different values of x and y.

For example, in Question "One-Shot Early+\$0.50 vs. One-Shot Late+\$0.00", if you choose "One-Shot Early+\$0.50" instead of "One-Shot Late+\$0.00", you will receive the following two things: (1) the lottery described in the previous pages with signal structure One-Shot Early and (2) an additional \$0.50. Namely, you will receive either \$22.50 ($=22+0.50$) or \$4.50 ($=4+0.50$), and you will know your realized earning before the 30-minute task. If you choose "One-Shot Late+\$0.00", you will receive the following two things: (1) the lottery described in the previous pages with signal structure One-Shot Late, and (2) additional \$0.00. Namely, you will receive either \$22 or \$4, and you will know your realized earning after the 30-minute task.

As another example, in Question “One-Shot Early+\$0.00 vs One-Shot Late+\$0.50”, if you choose “One-Shot Early+\$0.00”, you will receive either \$22 or \$4, and you will know your realized earning before the 30-minute task. If you choose “One-Shot Late+\$0.50”, you will receive either \$22.50 (=22+0.50) or \$4.50 (=4+0.50), and you will know your realized earning after the 30-minute task.

Your decisions are

| | | | |
|-----------------------|-----------------------|-----------------------|----------------------|
| One-Shot Early+\$0.50 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.45 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.40 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.35 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.30 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.25 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.20 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.15 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.10 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.05 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.00 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.05 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.10 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.15 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.20 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.25 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.30 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.35 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.40 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.45 |
| One-Shot Early+\$0.00 | <input type="radio"/> | <input type="radio"/> | One-Shot Late+\$0.50 |

These are options in section 4.

After you make all your decisions, we will determine which of the 4 sections will actually transpire.

The computer will randomly draw a number 1-4. Each number is equally likely to be drawn.

The number chosen will correspond to the sections that will transpire.

If the last section is chosen, we will do another draw to determine which answer in your last section will transpire.

Lastly, after the experiment, the computer will randomly choose between 0 or 1 with the same probability. If 0 is chosen, we will give you your earnings in Part 1. Otherwise, we will give you your earnings in Part 2.

While this randomization procedure may seem complicated, your strategy need not be. Rather than worry about the “right” answer –there isn’t one–consider how you would like to be paid and select your options accordingly.

There are no right or wrong answers in any of these scenarios.

We are simply interested in your preferences, so please consider the options carefully and choose the one lottery you most prefer in each scenario.

In fact, you should answer each question as if it will directly determine your earnings, since one of the scenarios will.

If you don’t answer according to your actual preferences, you might end up with something you prefer less than another available option.

If you click the OK button on this page, you will enter the decision stage. You cannot come back to this page after you click the button. If there is anything confusing in these instructions, please read them again carefully, or ask experiment assistants for help.
