

Stories, Statistics, and Memory:

Experimental Instructions

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Baseline Experiment: Wave 1

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_77mVWggW7kMJCIu

Attention check

Welcome!

This study is designed for **computer (PC or Mac) users only** (desktop, laptop, etc.). If you are accessing this study on a smartphone, a tablet or any other non-PC devices, please switch to PC and enter the study again, or return the submission on Prolific.

Please write **at least 15 words** describing your opinion about **daylight savings in the United States**. Whether you are in favor or against daylight savings does not affect your eligibility to participate in this study. However, we ask that you write at least 15 words on your thoughts about this topic.



Introduction

Welcome!

Thank you for participating in this study. This study will take **approximately 7 minutes** to complete. You will earn a **reward of \$1.30** for participating.

To earn your reward, you have to read all instructions carefully and correctly answer the comprehension questions.
This study consists of two parts. Part 1 will take place now and part 2 will take place tomorrow at around the same time as today. In case your responses in part 1 of the survey reveal that you did not carefully read the instructions, you will not be invited to part 2.

You have a chance to **win an additional bonus of \$30 if you complete all two parts of the study**. One out of ten participants will be eligible for a bonus. In case you are eligible for a bonus, one of the two parts will be randomly selected by the computer and will determine your bonus.



Description of tasks and comprehension

Part 1 - Instructions

In this study you will make a number of guesses. The better your guesses, the higher the likelihood that you will win a bonus.

Each guess is about reviews for one of 3 different hypothetical products. All questions are constructed for the purpose of this study only and are unrelated to any real-life products. In all questions, we will ask you about the probability that a review for a given product is positive. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. One review was randomly chosen, where each of the 15 reviews was equally likely to be selected. What do you think is the likelihood that this review is positive?

For each of the 3 products, the actual fraction of reviews that are positive is randomly determined by the computer. In the example above, this means that each possible fraction of reviews that are positive is equally likely to be determined as the true fraction. For each product, the relevant fraction of positive reviews will be determined independently from all other products.

This means: If you do not receive any additional information for a scenario, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%. A guess of 50% would reflect that you don't yet have any more specific information on the likelihood that the review is positive.

For some products, you might receive additional information that will help you make a more informed guess about the randomly chosen review than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for part 2 (tomorrow).

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.

Comprehension questions

You have to answer all comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many products will be presented to you in this survey?

2

3

15

20

2. Which one of the following statements is true?

For each product, the computer will randomly draw the actual fraction of positive reviews. The actual fraction of positive reviews for a given product is determined independently of all other products.

The computer will determine the correct answer to all products by randomly drawing the actual fraction of positive reviews once. This means that all products have the same actual fraction of positive reviews.

3. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical

4. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff?" Please enter your estimate (a number between 0 and 100) here:

5. Is the following statement correct or wrong?

"For some products I will receive additional information that will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

6. For some products, you will receive additional information on the fraction of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in part 2 (tomorrow).



Timeline

Timeline

You will now be presented with the products.

The timeline for each product is as follows:

1. We will inform you about the product and its reviews.
2. You may receive an additional piece of information that will be relevant for your estimate. It is also possible that you do not receive an additional piece of information.
3. After having shown you additional information (if you receive any), the computer will randomly select a review out of all of the reviews about the product. Each review will be equally likely to be drawn. We will then ask you what you think is the likelihood that this randomly selected review is positive.

Please pay careful attention to the information.



Product Scenarios

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 19 reviews, a review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. 4 of the 11 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It was provided by Rufus, who is a passionate hobby cyclist. His experience with the bike, a large blue trekking model called "Suburban Racer", could not have been any better. The bike was delivered after just 4 days. It didn't require any assembly. The bike is extremely light; riding up his first little hill Rufus felt like he was flying. Rufus mentions that the bike is of exceptional quality. He wrote the report almost 5 years after purchasing it and still hasn't experienced any problems that required repair. "If you want a worry-free cycling experience, this is the one", Rufus states.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Additional questions

Did you write down or take pictures/screenshots of any of the information provided to you on the previous screens? Your answer will not affect your bonus payment for this study. Please answer truthfully.

Yes

No



Final questionnaire

To complete, please fill out the following questionnaire.

Your sex:

Male

Female

Other

Your age:

What is the highest level of school you have completed or the highest degree you have received?

Less than high school degree

High school graduate (high school diploma or equivalent including GED)

Some college but no degree

Associate degree in college (2-year)

Bachelor's degree in college (4-year)

Master's degree

Doctoral degree

Professional degree (JD, MD)

Which statement best describes your current employment status?

Working (paid employee)

Working (self-employed)

Prefer not to answer

Not working



Part 1 of this study is now completed. Part 2 will take place tomorrow. You will be invited to part 2 via your Prolific account.

You only have a chance to win the additional bonus of \$30 if you also complete part 2.

If you have any comments on the survey, please let us know.



Baseline Experiment: Wave 2

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_4I8kvCDcejXXKiG

Introduction

Welcome!

Thank you for participating in this study. This study will take **approximately 6 minutes** to complete. You will earn a **reward of \$1.05 for participating**. To complete the study, you will need to read all instructions carefully. You have a chance to **win an additional bonus of up to \$30**. Your bonus amount depends on your estimates in this study! One out of ten participants will be eligible for a bonus.



This study consists of two parts. Part 1 took place yesterday and part 2 takes place now. In case you are eligible for a bonus, one of the two parts will be randomly selected by the computer and will determine your bonus.



Part 2

Next, we will ask you to make a guess about reviews for **3 different hypothetical products**. In all questions, we will ask you about the probability that **a review for a given product is positive**.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.



The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Please tell us anything you remember about this product scenario. Include as much detail as you can. Most Importantly, please describe things in the order they come to mind, i.e. the first thought first, then the next one etc.



The video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Please tell us anything you remember about this product scenario. Include as much detail as you can. Most Importantly, please describe things in the order they come to mind, i.e. the first thought first, then the next one etc.



The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Please tell us anything you remember about this product scenario. Include as much detail as you can. Most importantly, please describe things in the order they come to mind, i.e. the first thought first, then the next one etc.



Mechanism Experiment 1: The role of associations: Wave 1

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_b0um5HYNICeSy34

Welcome!

Thank you for participating in this study. This study will take approximately 9 minutes to complete. You will earn a reward of \$1.55 for participating.

To earn your reward, you have to read all instructions carefully and correctly answer the comprehension questions. This study consists of three parts. Part 1 will take place now and parts 2 and 3 will take place tomorrow at around the same time as today. In case your responses in part 1 of the survey reveal that you did not carefully read the instructions, you will not be invited to parts 2 and 3.

You have a chance to win an additional bonus of \$30 if you complete all three parts of the study. One out of ten participants will be eligible for a bonus. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.

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Part 1 - Instructions

In this study you will make a number of guesses. The better your guesses, the higher the likelihood that you will win a bonus.

Each guess is about reviews for one of 3 different hypothetical products. All questions are constructed for the purpose of this study only and are unrelated to any real-life products. In all questions, we will ask you about the probability that a review for a given product is positive. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. One review was randomly chosen, where each of the 15 reviews was equally likely to be selected. What do you think is the likelihood that this review is positive?

For each of the 3 products, the actual fraction of reviews that are positive is randomly determined by the computer. In the example above, this means that each possible fraction of reviews that are positive is equally likely to be determined as the true fraction. For each product, the relevant fraction of positive reviews will be determined independently from all other products.

This means: If you do not receive any additional information for a scenario, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%. A guess of 50% would reflect that you don't yet have any more specific information on the likelihood that the review is positive.

For some products, you might receive additional information that will help you make a more informed guess about the randomly chosen review than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for parts 2 and 3 (tomorrow).

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.

Comprehension questions

You have to answer *all* comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many products will be presented to you in this survey?

2

3

15

20

2. Which one of the following statements is true?

For each product, the computer will randomly draw the actual fraction of positive reviews. The actual fraction of positive reviews for a given product is determined independently of all other products.

The computer will determine the correct answer to all products by randomly drawing the actual fraction of positive reviews once. This means that all products have the same actual fraction of positive reviews.

3. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical

4. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff?" Please enter your estimate (a number between 0 and 100) here:

5. Is the following statement correct or wrong?

"For some products I will receive additional information that will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

6. For some products, you will receive additional information on the fraction of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in part 2 and 3 (tomorrow).



Timeline

You will now be presented with the products.

The timeline for each product is as follows:

1. We will inform you about the product and its reviews.
2. You may receive an additional piece of information that will be relevant for your estimate. It is also possible that you do not receive an additional piece of information.
3. After having shown you additional information (if you receive any), the computer will randomly select a review out of all of the reviews about the product. Each review will be equally likely to be drawn. We will then ask you what you think is the likelihood that this randomly selected review is positive.

Please pay careful attention to the information.



Product Scenarios in statistics prompt treatment

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. 6 of the 11 selected reviews are positive, the others are all negative.

Before providing your estimate, please imagine what a typical review based on the additional information above would look like. Please summarize your thoughts in 2 to 3 sentences.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 14 reviews, a review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Rufus, who is a passionate hobby cyclist. His experience with the bike, a large blue trekking model called "Suburban Racer", could not have been any worse. The bike was delivered more than 7 months late. It required 13 hours of assembly work. The bike is extremely heavy; riding up his first little hill Rufus felt like he was crawling. Rufus mentions that the bike is of awful quality. He wrote the report no more than 3 months after purchasing it and has already experienced a number of problems that required expensive repair. "If you want a worry-free cycling experience, definitely go for something else", Rufus states.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Example screens of other conditions

No story

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



No story with prompt

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative.

Before providing your estimate, please imagine what the above review would look like. Please summarize your thoughts in 2 to 3 sentences.

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Statistic: baseline

A video game has received 12 reviews.

► Click on the triangle to repeat the background information.

Additional information

7 of the reviews were randomly selected. 1 of the 7 selected reviews is positive, the others are all negative.

Your Estimate

Out of all the 12 reviews, another review was randomly chosen, where each of the 12 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Mechanism Experiment 1: The role of associations: Wave 2

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_cur7DsQUwmcUcfA?treatment=2

Welcome!

Thank you for participating in this study. This study will take **approximately 5 minutes** to complete. You will earn a **reward of \$0.90 for participating**. To complete the study, you will need to read all instructions carefully. You have a chance to **win an additional bonus of up to \$30**. Your bonus amount depends on your estimates in this study! One out of ten participants will be eligible for a bonus.



This study consists of three parts. Part 1 took place yesterday and parts 2 and 3 take place now. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 2

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.
Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**.

We will randomly select one of your answers about one of the 3 products at the end of this survey. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the restaurant**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the restaurant** yesterday.

I don't remember.

Information on **multiple** reviews

No additional information

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the single review you received about **the restaurant** was positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the video game**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the video game** yesterday.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

No additional information

Information on **multiple** reviews

I don't remember.



Do you recall whether the majority of reviews you received about **the video game** were positive or negative?

Negative

Positive

I don't remember.



Do you recall what information you received about **the bicycle**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the bicycle** yesterday.

Information on **multiple** reviews

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

I don't remember.

No additional information



Do you recall whether the single review you received about **the bicycle** was positive or negative?

Positive

I don't remember.

Negative



Part 3

Next, we will ask you to make a guess about reviews for **3 different hypothetical products**. In all questions, we will ask you about the probability that a review for a given product is positive.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.
► Click on the triangle to see the formula.



The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Mechanism Experiment 4: Cue similarity: Wave 1

Study link:¹ https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_d4pWCu2tLqWnRPw

Baseline condition

Restaurant A has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. 10 of the 11 selected reviews are positive, the other review is negative.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It is written by 23-year-old Julia, who says she absolutely hates the game. The game called "Planet of Conflict" is an outdated concept of a multiplayer role-playing game based on World of Warcraft. Julia was disappointed by the pixelated graphics. This is the first time she ever got totally bored by a video game. Julia mentions that she almost fell asleep after the first 30 minutes of playing Planet of Conflict because nothing really happened. "I don't communicate at all with people through this game, which I hate", Julia says. "Planet of Conflict is just something else entirely. I don't think I like gaming anymore after this!"

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



¹The link randomly redirects to one of the two conditions.

A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 17 reviews, a review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Cue similarity condition

Restaurant C has received 17 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 17 reviews, a review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Restaurant B has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. The service was poor: his waiter was rude, not attentive and the food was served after a long wait. After Justin had paid, the waiter insisted on them leaving their table immediately. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Restaurant A has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

10 of the reviews were randomly selected. 6 of the 10 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Mechanism Experiment 4: Cue similarity: Wave 2

Baseline condition

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_5n14HkPPGfi4FD0? treatment=1

Welcome!

Thank you for participating in this study. This study will take **approximately 5 minutes** to complete. You will earn a **reward of \$0.87 for participating**. To complete the study, you will need to read all instructions carefully. You have a chance to **win an additional bonus of up to \$30**. Your bonus amount depends on your estimates in this study! One out of ten participants will be eligible for a bonus.



This study consists of three parts. Part 1 took place yesterday and parts 2 and 3 take place now. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 2

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.
Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**.

We will randomly select one of your answers about one of the 3 products at the end of this survey. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the bicycle**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the bicycle** yesterday.

Information on a single review plus some additional anecdotal details about the reviewer and their experience with the product

No additional information

I don't remember.

Information on multiple reviews



Do you recall whether the single review you received about **the bicycle** was positive or negative?

I don't remember.

Negative

Positive



Do you recall what information you received about **restaurant A**?

Pick the type of information that you think is most likely to be the one you received on reviews about **restaurant A** yesterday.

No additional information

Information on **multiple** reviews

I don't remember.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the majority of reviews you received about **restaurant A** were positive or negative?

Positive

I don't remember.

Negative



Do you recall what information you received about **the video game**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the video game** yesterday.

Information on **multiple** reviews

I don't remember.

No additional information

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the information you received about **the video game** was positive or negative?

- I don't remember.
- Positive
- Negative



Part 3

Next, we will ask you to make a guess about reviews for **3 different hypothetical products**. In all questions, we will ask you about the probability that a review for a given product is positive.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.



A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Restaurant A has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Cue similarity condition

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_5n14HkPPGfi4FD0? treatment=2

Part 2

Next, we will ask you to make a guess about reviews for **3 different hypothetical products**. In all questions, we will ask you about the probability that a review for a given product is positive.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.



Restaurant B has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Restaurant A has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Restaurant C has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Part 3

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.

Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**.

We will randomly select one of your answers about one of the 3 products at the end of this survey. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **restaurant A**?

Pick the type of information that you think is most likely to be the one you received on reviews about **restaurant A** yesterday.

No additional information

I don't remember.

Information on **multiple** reviews

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the majority of reviews you received about **restaurant A** were positive or negative?

I don't remember.

Negative

Positive



Do you recall what information you received about **restaurant B**?

Pick the type of information that you think is most likely to be the one you received on reviews about **restaurant B** yesterday.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

No additional information

Information on **multiple** reviews

I don't remember.



Do you recall whether the single review you received about **restaurant B** was positive or negative?

Positive

I don't remember.

Negative



Do you recall what information you received about **restaurant C**?

Pick the type of information that you think is most likely to be the one you received on reviews about **restaurant C** yesterday.

I don't remember.

No additional information

Information on **multiple** reviews

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the single review you received about **restaurant C** was positive or negative?

Negative

Positive

I don't remember.



Mechanism Experiment 2: Number of product scenarios: Wave 1

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_2t2raiyydcq04hb8

1-product design

Part 1 - Instructions

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus.

1 of the 6 guesses is about a review for a hypothetical product, while the 5 other guesses are about the correct number of dots displayed on the screen.

The question about the product is constructed for the purpose of this study only and **unrelated to any real-life products**. In this question, we will ask you about the probability **that a review for a given product is positive**. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. One review was randomly chosen, where each of the 15 reviews was equally likely to be selected. What do you think is the likelihood that this review is positive?

For the product, the actual fraction of reviews that are positive is **randomly determined by the computer**. In the example above, this means that each possible fraction of reviews that are positive is equally likely to be determined as the true fraction.

This means: **If you do not receive any additional information for the product, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%**. A guess of 50% would reflect that you don't yet have any more specific information on the likelihood that the review is positive.

For the product, you might receive additional information that will help you make a more informed guess about the randomly chosen review than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for parts 2 and 3 (tomorrow).

We will randomly select 1 of your 6 guesses. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.

Comprehension questions

You have to answer **all** comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many guesses will you have to make in Part 1 of this survey?

2

6

15

20

2. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical

3. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff?" Please enter your estimate (a number between 0 and 100) here:

4. Is the following statement correct or wrong?

"In case I will receive additional information about a product, it will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

5. For some products, you will receive additional information on the fraction of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in part 2 and 3 (tomorrow).



A **bicycle** has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

9 of the reviews were randomly selected. 6 of the 9 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

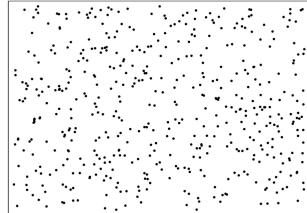
Instructions for remaining tasks

On each of the following pages, you will see a rectangle that contain dots, and your task is to estimate the total number of dots displayed in a given rectangle. You only have **15 seconds to submit a guess**.

If you do not submit your guess in time, you will not earn a bonus if this task is selected for your payment. If your guess lies within a window of 25 above to 25 below the right number, you will earn \$30 if this task is selected to determine your bonus.



Please give your best estimate of the number of dots in the picture below.



11



(and 4 more dot estimation tasks)

3-product design

Part 1 - Instructions

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus.

3 of the 6 guesses are about reviews for a hypothetical product, while the 3 other guesses are about the correct number of dots displayed on the screen.

All **questions about products** are constructed for the purpose of this study only and are **unrelated to any real-life products**. In these questions, we will ask you about the probability that a **review for a given product is positive**. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. One review was randomly chosen, where each of the 15 reviews was equally likely to be selected. What do you think is the likelihood that this review is positive?

For each of the 3 products, the actual fraction of reviews that are positive is **randomly determined by the computer**. In the example above, this means that each possible fraction of reviews that are positive is equally likely to be determined as the true fraction. For each product, the relevant fraction of positive reviews will be determined independently from all other products.

This means: **If you do not receive any additional information for a product, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%**. A guess of 50% would reflect that you don't yet have any more specific information on the likelihood that the review is positive.

For some products, you might receive additional information that will help you make a more informed guess about the randomly chosen review than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for parts 2 and 3 (tomorrow).

We will randomly select 1 of your 6 guesses. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.

Comprehension questions

You have to answer *all* comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many guesses will you have to make in Part 1 of this survey?

2

6

15

20

2. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical

3. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff? Please enter your estimate (a number between 0 and 100) here:

4. Is the following statement correct or wrong?

"In case I will receive additional information about a product, it will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

5. For some products, you will receive additional information on the fraction of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in part 2 and 3 (tomorrow).



A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 14 reviews, a review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

8 of the reviews were randomly selected. 6 of the 8 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. The service was poor: his waiter was rude, not attentive and the food was served after a long wait. After Justin had paid, the waiter insisted on them leaving their table immediately. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



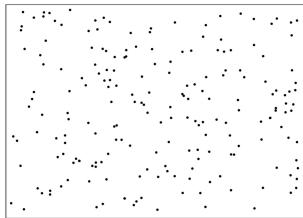
Instructions for remaining tasks

On each of the following pages, you will see a rectangle that contain dots, and your task is to estimate the total number of dots displayed in a given rectangle. You only have **15 seconds to submit a guess**.

If you do not submit your guess in time, you will not earn a bonus if this task is selected for your payment. If your guess lies within a window of 25 above to 25 below the right number, you will earn \$30 if this task is selected to determine your bonus.



Please give your best estimate of the number of dots in the picture below.



(two more dot estimation tasks)

6-product design

Part 1 - Instructions

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus.

All 6 guesses are about reviews for different hypothetical products.

All questions about products are constructed for the purpose of this study only and are unrelated to any real-life products. In these questions, we will ask you about the probability that a review for a given product is positive. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. One review was randomly chosen, where each of the 15 reviews was equally likely to be selected. What do you think is the likelihood that this review is positive?

For each of the 6 products, the actual fraction of reviews that are positive is **randomly determined by the computer**. In the example above, this means that each possible fraction of reviews that are positive is equally likely to be determined as the true fraction. For each product, the relevant fraction of positive reviews will be determined independently from all other products.

This means: If you do not receive any additional information for a product, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%. A guess of 50% would reflect that you don't yet have any more specific information on the likelihood that the review is positive.

For some products, you might receive additional information that will help you make a more informed guess about the randomly chosen review than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for parts 2 and 3 (tomorrow).

We will randomly select 1 of your 6 guesses. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.

Comprehension questions

You have to answer *all* comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many guesses will you have to make in Part 1 of this survey?

2

6

15

20

2. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical

3. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff? Please enter your estimate (a number between 0 and 100) here:

4. Is the following statement correct or wrong?

"In case I will receive additional information about a product, it will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

5. For some products, you will receive additional information on the fraction of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in part 2 and 3 (tomorrow).



A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It is written by 23-year-old Julia, who says she absolutely hates the game. The game called "Planet of Conflict" is an outdated concept of a multiplayer role-playing game based on World of Warcraft. Julia was disappointed by the pixelated graphics. This is the first time she ever got totally bored by a video game. Julia mentions that she almost fell asleep after the first 30 minutes of playing Planet of Conflict because nothing really happened. "I don't communicate at all with people through this game, which I hate", Julia says. "Planet of Conflict is just something else entirely. I don't think I like gaming anymore after this!"

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

8 of the reviews were randomly selected. 6 of the 8 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 17 reviews, a review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A club has received 12 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 12 reviews, a review was randomly chosen, where each of the 12 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A book has received 11 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 11 reviews, a review was randomly chosen, where each of the 11 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A brand of soda has received 16 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 16 reviews, a review was randomly chosen, where each of the 16 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Mechanism Experiment 2: Number of product scenarios: Wave 2

1-product design

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_0Vuu4Bua1Hsq1P8? treatment=2

This study consists of three parts. Part 1 took place yesterday and parts 2 and 3 take place now. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 2

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus.

1 of the 6 guesses is about reviews for a hypothetical product, while the 5 other guesses are about the correct number of dots displayed on the screen. In the question about the product, we will ask you about the probability that a review for a given product is positive.

Yesterday, you may have received additional information on the product. This means: all the information you may have received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for the product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 6 guesses. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. For the product, by "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.
► Click on the triangle to see the formula.



The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

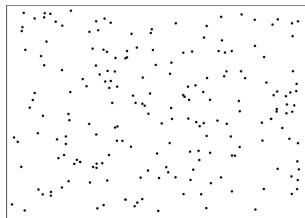
Instructions for remaining tasks

On each of the following pages, you will see a rectangle that contain dots, and your task is to estimate the total number of dots displayed in a given rectangle. You only have **15 seconds to submit a guess**.

If you do not submit your guess in time, you will not earn a bonus if this task is selected for your payment. If your guess lies within a window of 25 above to 25 below the right number, you will earn \$30 if this task is selected to determine your bonus.



Please give your best estimate of the number of dots in the picture below.



12



Part 3

In this part, you will make a total of **6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus. **3 of the 6 guesses are about reviews for a hypothetical product and are two-part guesses. The 3 other guesses are about the correct number of dots displayed on the screen.**

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.

Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**. Then we will ask you to make guesses about the correct number of dots displayed on the screen.

One of your six guesses will be randomly selected. If one of the following three two-part guesses is selected, we will randomly choose one of your answers. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the restaurant**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the restaurant** yesterday.

I don't remember.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

Information on **multiple** reviews

No additional information



Do you recall whether the majority of reviews you received about **the restaurant** were positive or negative?

Positive

Negative

I don't remember.



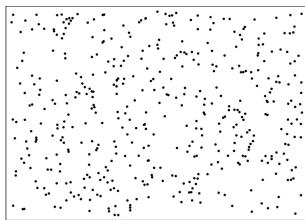
Instructions for remaining tasks

On each of the following pages, you will see a rectangle that contain dots, and your task is to estimate the total number of dots displayed in a given rectangle. You only have **15 seconds to submit a guess**.

If you do not submit your guess in time, you will not earn a bonus if this task is selected for your payment. If your guess lies within a window of 25 above to 25 below the right number, you will earn \$30 if this task is selected to determine your bonus.



Please give your best estimate of the number of dots in the picture below.



12



3-product design

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_0Vuu4Bua1Hsq1P8?

treatment=1

This study consists of three parts. Part 1 took place yesterday and parts 2 and 3 take place now. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 2

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus.

3 of the 6 guesses are about reviews for hypothetical products, while the 3 other guesses are about the correct number of dots displayed on the screen. In all questions about the products, we will ask you about the probability that a review for a given product is positive.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 6 guesses. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. For the products, by "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.



The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The videogame has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

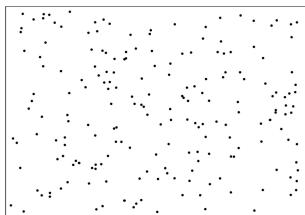
Instructions for remaining tasks

On each of the following pages, you will see a rectangle that contain dots, and your task is to estimate the total number of dots displayed in a given rectangle. You only have **15 seconds to submit a guess**.

If you do not submit your guess in time, you will not earn a bonus if this task is selected for your payment. If your guess lies within a window of 25 above to 25 below the right number, you will earn \$30 if this task is selected to determine your bonus.



Please give your best estimate of the number of dots in the picture below.



1|2



Part 3

In this part, you will make a total of **6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus. **3 of the 6 guesses are about reviews for a hypothetical product and are two-part guesses. The 3 other guesses are about the correct number of dots displayed on the screen.**

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.

Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**. Then we will ask you to make guesses about the correct number of dots displayed on the screen.

One of your six guesses will be randomly selected. If one of the following three two-part guesses is selected, we will randomly choose one of your answers. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the videogame**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the videogame** yesterday.

No additional information

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

Information on **multiple** reviews

I don't remember.



Do you recall whether the majority of reviews you received about **the videogame** were positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the bicycle**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the bicycle** yesterday.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

Information on **multiple** reviews

I don't remember.

No additional information



Do you recall whether the single review you received about **the bicycle** was positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the restaurant**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the restaurant** yesterday.

I don't remember.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

Information on **multiple** reviews

No additional information



Do you recall whether the majority of reviews you received about **the restaurant** were positive or negative?

Positive

Negative

I don't remember.



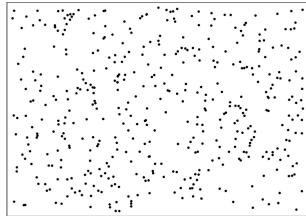
Instructions for remaining tasks

On each of the following pages, you will see a rectangle that contain dots, and your task is to estimate the total number of dots displayed in a given rectangle. You only have **15 seconds to submit a guess**.

If you do not submit your guess in time, you will not earn a bonus if this task is selected for your payment. If your guess lies within a window of 25 above to 25 below the right number, you will earn \$30 if this task is selected to determine your bonus.



Please give your best estimate of the number of dots in the picture below.



12



6-product design

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_0Vuu4Bua1Hsq1P8? treatment=3

This study consists of three parts. Part 1 took place yesterday and parts 2 and 3 take place now. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 2

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus. **All of your guesses are about reviews for a hypothetical product and are two-part guesses.**

Yesterday, you received additional information on some of 6 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.

Next, we will ask you some questions about the type and valence of information you received about the **6 different hypothetical products**.

One of your six two-part guesses will be randomly selected and we will then randomly choose one of your answers. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the brand of soda**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the brand of soda** yesterday.

- Information on **multiple** reviews
- No additional information
- Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product
- I don't remember.



Do you recall whether the majority of reviews you received about **the brand of soda** were positive or negative?

- Positive
- Negative
- I don't remember.



Do you recall what information you received about **the video game**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the video game** yesterday.

- Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product
- No additional information
- Information on **multiple** reviews
- I don't remember.



Do you recall whether the single review you received about **the video game** was positive or negative?

- Positive
- Negative
- I don't remember.



Do you recall what information you received about **the restaurant**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the restaurant** yesterday.

No additional information

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

Information on **multiple** reviews

I don't remember.



Do you recall whether the information you received about **the restaurant** was positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the club**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the club** yesterday.

No additional information

I don't remember.

Information on **multiple** reviews

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the majority of reviews you received about **the club** were positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the bicycle**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the bicycle** yesterday.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

I don't remember.

No additional information

Information on **multiple** reviews



Do you recall whether the majority of reviews you received about **the bicycle** were positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the book**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the book** yesterday.

I don't remember.

No additional information

Information on **multiple** reviews

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the majority of reviews you received about **the book** were positive or negative?

Positive

Negative

I don't remember.



Part 3

In this part, you will make a **total of 6 guesses**. The better your guesses, the higher the likelihood that you will win a bonus.

All of your guesses are about reviews for hypothetical products. In all questions, we will ask you about the probability **that a review for a given product is positive**.

Yesterday, you received additional information on some of the 6 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 6 guesses. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. For the products, by "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.



The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The book has received 11 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 11 reviews, one review was randomly chosen, where each of the 11 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The brand of soda has received 16 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 16 reviews, one review was randomly chosen, where each of the 16 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The club has received 12 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 12 reviews, one review was randomly chosen, where each of the 12 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Robustness Experiment: The role of Decoy Information: Wave 1

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_bf2T3Jv9Z8nI0a0

Target: Statistic; Decoy: 2 statistics

A **restaurant** has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

10 of the reviews were randomly selected. 9 of the 10 selected reviews are positive, the other review is negative.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A **bicycle** has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. 6 of the 11 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A **video game** has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

7 of the reviews were randomly selected. 2 of the 7 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Target: Statistic; Decoy: 2 stories

A **restaurant** has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. The service was poor: his waiter was rude, not attentive and the food was served after a long wait. After Justin had paid, the waiter insisted on them leaving their table immediately. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A **video game** has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. 1 of the 11 selected reviews is positive, the others are all negative.

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A **bicycle** has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It was provided by Rufus, who is a passionate hobby cyclist. His experience with the bike, a large blue trekking model called "Suburban Racer", could not have been any better. The bike was delivered after just 4 days. It didn't require any assembly. The bike is extremely light; riding up his first little hill Rufus felt like he was flying. Rufus mentions that the bike is of exceptional quality. He wrote the report almost 5 years after purchasing it and still hasn't experienced any problems that required repair. "If you want a worry-free cycling experience, this is the one", Rufus states.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Target: Statistic; Decoy: 2 times no info

A **restaurant** has received 19 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 19 reviews, a review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A **video game** has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

7 of the reviews were randomly selected. 2 of the 7 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A **bicycle** has received 17 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 17 reviews, a review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Target: Story; Decoy: 2 stories

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It is written by 23-year-old Julia, who says she absolutely hates the game. The game called "Planet of Conflict" is an outdated concept of a multiplayer role-playing game based on World of Warcraft. Julia was disappointed by the pixelated graphics. This is the first time she ever got totally bored by a video game. Julia mentions that she almost fell asleep after the first 30 minutes of playing Planet of Conflict because nothing really happened. "I don't communicate at all with people through this game, which I hate", Julia says. "Planet of Conflict is just something else entirely. I don't think I like gaming anymore after this!"

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It was provided by Rufus, who is a passionate hobby cyclist. His experience with the bike, a large blue trekking model called "Suburban Racer", could not have been any better. The bike was delivered after just 4 days. It didn't require any assembly. The bike is extremely light; riding up his first little hill Rufus felt like he was flying. Rufus mentions that the bike is of exceptional quality. He wrote the report almost 5 years after purchasing it and still hasn't experienced any problems that required repair. "If you want a worry-free cycling experience, this is the one", Rufus states.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. The service was poor: his waiter was rude, not attentive and the food was served after a long wait. After Justin had paid, the waiter insisted on them leaving their table immediately. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Target: Story; Decoy: 2 statistics

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It is written by 23-year-old Julia, who says she absolutely hates the game. The game called "Planet of Conflict" is an outdated concept of a multiplayer role-playing game based on World of Warcraft. Julia was disappointed by the pixelated graphics. This is the first time she ever got totally bored by a video game. Julia mentions that she almost fell asleep after the first 30 minutes of playing Planet of Conflict because nothing really happened. "I don't communicate at all with people through this game, which I hate", Julia says. "Planet of Conflict is just something else entirely. I don't think I like gaming anymore after this!"

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

10 of the reviews were randomly selected. 9 of the 10 selected reviews are positive, the other review is negative.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. 6 of the 11 selected reviews are positive, the others are all negative.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Target: Story; Decoy: 2 times no info

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 19 reviews, a review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It is written by 23-year-old Julia, who says she absolutely fell in love with the game. The game called "Planet of Conflict", is a novel concept of a multiplayer role-playing game based on World of Warcraft. Julia was blown away by the realistic graphics. This is the very first time she got totally hooked on a game. Julia mentions that she once played Planet of Conflict for 13 straight hours on a weekend because it was so entertaining. "I communicate with a lot of people online through this game, which I love", Julia says. "Planet of Conflict is just something else entirely. I think I'm a gamer now!"

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 17 reviews, a review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Robustness Experiment: The role of Decoy Information: Wave 2

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_6YcP1WxV7SQQsYu

This study consists of three parts. Part 1 took place yesterday and parts 2 and 3 take place now. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 2

Next, we will ask you to make a guess about reviews for **3 different hypothetical products**. In all questions, we will ask you about the probability **that a review for a given product is positive**.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.



The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



The video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Part 3

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.

Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**.

We will randomly select one of your answers about one of the 3 products at the end of this survey. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the bicycle**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the bicycle** yesterday.

- I don't remember.
- No additional information
- Information on **multiple** reviews
- Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product



Do you recall whether the majority of reviews you received about **the bicycle** were positive or negative?

- Positive
- Negative
- I don't remember.



Do you recall what information you received about **the video game**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the video game** yesterday.

- I don't remember.
- No additional information
- Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product
- Information on **multiple** reviews



Do you recall whether the information you received about **the video game** was positive or negative?

- Positive
- Negative
- I don't remember.



Do you recall what information you received about **the restaurant**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the restaurant** yesterday.

I don't remember.

No additional information

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience with the product

Information on **multiple** reviews



Do you recall whether the information you received about **the restaurant** was positive or negative?

Positive

Negative

I don't remember.



Mechanism Experiment 3: Story similarity and Cue-story similarity: Wave 1

Study link:² https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_8tSH1fDCicXyduu

Welcome!

Thank you for participating in this study. This study will take **approximately 9 minutes** to complete. You will earn a **reward of \$1.55 for participating**.

To earn your reward, you have to read all instructions carefully and *correctly answer the comprehension questions*.
This study consists of three parts. Part 1 will take place now and parts 2 and 3 will take place tomorrow at around the same time as today. In case your responses in part 1 of the survey reveal that you did not carefully read the instructions, you will not be invited to parts 2 and 3.

You have a chance to **win an additional bonus of \$30 if you complete all three parts of the study**. One out of ten participants will be eligible for a bonus. In case you are eligible for a bonus, one of the three parts will be randomly selected by the computer and will determine your bonus.



Part 1 - Instructions

In this study you will make a number of guesses. The better your guesses, the higher the likelihood that you will win a bonus.

Each guess is about reviews for one of **3 different hypothetical products**. All questions are constructed for the purpose of this study only and are **unrelated to any real-life products**. In all questions, we will ask you about the probability that a review for a given product is positive. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. One review was randomly chosen, where each of the 15 reviews was equally likely to be selected. What do you think is the likelihood that this review is positive?

For each of the 3 products, the actual fraction of reviews that are positive is **randomly determined by the computer**. In the example above, this means that each possible fraction of reviews that are positive is equally likely to be determined as the true fraction. For each product, the relevant fraction of positive reviews will be determined independently from all other products.

This means: If you do not receive any additional information for a scenario, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%. A guess of 50% would reflect that you don't yet have any more specific information on the likelihood that the review is positive.

For some products, you might receive additional information that will help you make a more informed guess about the randomly chosen review than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for parts 2 and 3 (tomorrow).

²The link randomly redirects to one of the three conditions.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

► Click on the triangle to see the formula.

Comprehension questions

You have to answer *all* comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many products will be presented to you in this survey?

2

3

15

20

2. Which one of the following statements is true?

For each product, the computer will determine the correct answer by randomly drawing the actual fraction of positive reviews. The correct answer in a given product is determined independently of all other products.

The computer will determine the correct answer to all products by randomly drawing the actual fraction of positive reviews once. This means that all products have the same correct answer.

3. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical

4. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff? Please enter your estimate (a number between 0 and 100) here:

5. Is the following statement correct or wrong?

"For some products I will receive additional information that will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

6. For some products, you will receive additional information on the fraction of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in part 2 and 3 (tomorrow).



Timeline

You will now be presented with the products.

The timeline for each product is as follows:

1. We will inform you about the product and its reviews.
2. You may receive an additional piece of information that will be relevant for your estimate.
3. After having shown you additional information (if you receive any), the computer will randomly select a review out of all of the reviews about the product. Each review will be equally likely to be drawn. We will then ask you what you think is the likelihood that this randomly selected review is positive.

Please pay careful attention to the information.



Baseline

A Bar has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It was provided by David, who most of all cares about the interior. He mentions that the interior of the place was outstanding. He describes a luxurious, spacious layout with a modern feel yet cozy atmosphere. "Entering this place will improve your mood immediately!" The second thing David really cares about is the view. According to David, the cherry on the cake is a breath-taking view from this rooftop location on the 51st floor. A majestic look over the entire city completes this phenomenal place that David describes as offering the "best overall vibe of the city".

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A Restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin, who most of all cares about the quality of the food. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. The second thing Justin really cares about is how authentic the food is. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A cafe has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Linda, who most of all cares about the service quality. She complained that the service quality was incredibly poor. Nobody initially showed her to a table so she stood in the entrance for a full 10 minutes. Even though there were few customers, the waiters all seemed stressed and were rude to her. The waiter spilled hot coffee over Linda's pants. The second thing Linda really cares about are waiting times. Because the waiter brought the wrong food, Linda had to wait another half hour. The waiter did not apologize. Linda describes the service in the cafe as the disappointment of a lifetime and was fuming with rage as she left the cafe.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Story Similarity

A cafe has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Linda, who most of all cares about the interior. She mentions that the interior of the place was disappointing. She mentions a time-worn, carelessly put together furnishing that did not look clean and was slightly smelly. "Coming here will make you want to leave immediately!" The second thing Linda really cares about is the view. According to Linda, what made matters worse is the absence of any windows and the glaring fluorescent lighting. The absence of natural light completes this frustrating venue that Linda describes as the "most dismal vibe in the area".

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A Bar has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It was provided by David, who most of all cares about the interior. He mentions that the interior of the place was outstanding. He describes a luxurious, spacious layout with a modern feel yet cozy atmosphere. "Entering this place will improve your mood immediately!" The second thing David really cares about is the view. According to David, the cherry on the cake is a breath-taking view from this rooftop location on the 51st floor. A majestic look over the entire city completes this phenomenal place that David describes as offering the "best overall vibe of the city".

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

A Restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin, who most of all cares about the interior. He mentions that the interior of the place was poor. He describes a worn-down, claustrophobic space with an outdated feel and depressing atmosphere. "Entering this place will kill your mood immediately!" The second thing Justin really cares about is the view. According to Justin, what adds insult to injury is the practically non-existent view from this basement location. The lack of daylight completes this disappointing place that Justin describes as the "worst vibe you can possibly get in this city".

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Cue-Story Similarity

A cafe has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Linda, who most of all cares about the service quality. She complained that the service quality was incredibly poor. Nobody initially showed her to a table so she stood in the entrance for a full 10 minutes. Even though there were few customers, the waiters all seemed stressed and were rude to her. The waiter spilled hot coffee over Linda's pants. The second thing Linda really cares about are waiting times. Because the waiter brought the wrong food, Linda had to wait another half hour. The waiter did not apologize. Linda describes the service in the cafe as the disappointment of a lifetime and was fuming with rage as she left the cafe.

Your Estimate

Out of all the 17 reviews, another review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A Restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin, who most of all cares about the quality of the food. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. The second thing Justin really cares about is how authentic the food is. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



A Bar has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is positive. It is written by 34-year-old John. John had a fantastic experience going shopping for clothes on a Saturday a few weeks ago. He intended to buy only a new pair of shoes but ended up buying also a pair of pants and a sweater, all of which have since become his favorite pieces. The store he wanted to go to was closed so he went to a different store that he had not previously been to, and the clothes they had blew him away. He tried on a number of different styles and sizes because he directly fell in love with various outfits sold in the store. He spent about one hour in the store, but would have loved to stay even longer. Afterwards, he celebrated this wonderful shopping experience at the new store, wandering around in the area all afternoon.

Your Estimate

Out of all the 14 reviews, another review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%



Mechanism Experiment 3: Story similarity and Cue-story similarity: Wave 2

Study link:

Part 2

Yesterday, you received additional information on some of 3 hypothetical products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! You may have received different types of information for different products.

Next, we will ask you some questions about the type and valence of the information you received about the **3 different hypothetical products**.

We will randomly select one of your answers about one of the 3 products at the end of this survey. You will receive an additional bonus of \$5 if your answer is correct. If you choose "I don't remember", one of the other options will be randomly chosen to determine whether your answer is correct.



Do you recall what information you received about **the restaurant**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the restaurant** yesterday.

I don't remember.

No additional information

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience

Information on **multiple** reviews



Do you recall whether the majority of reviews you received about **the restaurant** were positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the bar**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the bar** yesterday.

Information on **multiple** reviews

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience

No additional information

I don't remember.



Do you recall whether the majority of reviews you received about **the bar** were positive or negative?

Positive

Negative

I don't remember.



Do you recall what information you received about **the cafe**?

Pick the type of information that you think is most likely to be the one you received on reviews about **the cafe** yesterday.

Information on a **single** review plus some additional anecdotal details about the reviewer and their experience

No additional information

I don't remember.

Information on **multiple** reviews



Do you recall whether the single review you received about **the cafe** was positive or negative?

Positive
Negative
I don't remember.



Part 3

Next, we will ask you to make a guess about reviews for **3 different hypothetical products**. In all questions, we will ask you about the probability that a review for a given product is positive.

Yesterday, you received additional information on some of the 3 products. This means: all the information you received yesterday is relevant for making your guesses on the following screens! If you did not receive any additional information for a product yesterday, the guess that maximizes your likelihood of receiving a bonus is to state a probability of 50%.

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean:

- The higher the probability you state if the randomly selected review IS positive.
- The lower the probability you state if the randomly selected review IS NOT positive.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the truth, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.
► Click on the triangle to see the formula.



The bar has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The cafe has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all the 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

 %

Mechanism Experiment 5: Question Format and statistic display:

Wave 1

Study link:³ https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_8BXmj6svHWpmsN8

Incentives: Percentage Format

Part 1 - Instructions

In this study you will make a number of guesses. The better your guesses, the higher the likelihood that you will win a bonus.

Each guess is about reviews for one of **3 different hypothetical products**. All questions are constructed for the purpose of this study only and are **unrelated to any real-life products**. In all questions, we will ask you about the **percentage of positive reviews**. Your response needs to lie between 0 and 100. Here is an example of how such a question might look like:

A hotel has received 15 reviews. Out of the 15 reviews, what do you think is the percentage of reviews that is positive?

For each of the 3 products, the actual percentage of reviews that are positive is **randomly determined by the computer**. In the example above, this means that each possible percentage of positive reviews is equally likely to be determined as the true fraction. For each product, the relevant percentage of positive reviews will be determined independently from all other products.

This means: If you do not receive any additional information for a scenario, the guess that maximizes your likelihood of receiving a bonus is to state a percentage of 50%. A guess of 50% would reflect that you don't yet have any more specific information on the percentage of positive reviews.

For some products, you might receive additional information that will help you make a more informed guess about the percentage of positive reviews than stating 50%. This information is relevant for your guesses in part 1 (now) as well as for parts 2 and 3 (tomorrow).

We will randomly select 1 of your 3 answers. The closer your guess is to the truth, the higher the likelihood that you receive the bonus of \$30. By "closer to the truth" we mean the closer the difference between your guess and the actual fraction of positive reviews is to zero.

If you click on the below triangle, the precise formula will be displayed. While this formula might seem complicated, the underlying principle is very simple: the smaller the difference between your estimate and the true percentage, the higher the likelihood that you win the \$30. It is hence in your best interest to simply state your best guess.

▼ Click on the triangle to see the formula.
Probability of winning \$30 (in percent) = $100 - 1/100(\text{Estimate} - \text{Truth})^2$, where truth is the true percentage of positive reviews.

Comprehension questions

You have to answer **all** comprehension questions correctly in order to receive your completion bonus and keep your chance of receiving the \$30 bonus.

1. How many products will be presented to you in this survey?

2

3

15

20

³The link randomly redirects to one of the conditions.

2. Which one of the following statements is true?

For each product, the computer will randomly draw the actual fraction of positive reviews. The actual fraction of positive reviews for a given product is determined independently of all other products.

The computer will determine the correct answer to all products by randomly drawing the actual fraction of positive reviews once. This means that all products have the same actual fraction of positive reviews.

3. Which one of the following statements is true?

The guesses I make in this study might affect my payoffs. The study involves real stakes.

The guesses I make in this study will not affect my payoffs. The study is purely hypothetical.

4. Assume a hypothetical product is a pair of running shoes. There is a total of 13 reviews about the shoes. You receive **no additional information** about the shoes. What is the estimate you should state to maximize your expected payoff? Please enter your estimate (a number between 0 and 100) here:

5. Is the following statement correct or wrong?

"For some products I will receive additional information that will help me learn about the correct answer about a given product. I should take this additional information into account when making my guess."

Correct.

Wrong.

6. For some products, you will receive additional information on the share of positive reviews. For which part of the study does this additional information matter?

Only for my guesses in part 1 (today).

Both for my guesses in part 1 (today) and for my guesses in parts 2 and 3 (tomorrow).



Elicitation: Percentage Format

A **bicycle** has received 17 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of the 17 reviews, what do you think is the percentage of reviews that are positive?

 %

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

One of the reviews was randomly selected. The selected review is negative. It was provided by Justin. He and his friend had an awful experience at the Japanese restaurant called "Sushi4Ever". They ordered the sushi taster. The raw fish looked stale and the sushi rolls were falling apart on the plate. Justin was disappointed by the Western taste that was very different from what he remembered from his holiday in Japan. The service was poor; his waiter was rude, not attentive and the food was served after a long wait. After Justin had paid, the waiter insisted on them leaving their table immediately. As they left the restaurant, Justin was very annoyed and thought to himself "I definitely won't be back!"

Your Estimate

Out of the 19 reviews, what do you think is the percentage of reviews that are positive?

 %

Statistic: Count Format

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

9 of the reviews were randomly selected. 6 of the 9 selected reviews are positive, the others are all negative.

Your Estimate

Out of the 14 reviews, what do you think is the percentage of reviews that are positive?

 %

Statistic: Percent Format

A bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. Out of the 11 randomly selected reviews, 64 percent of reviews are positive.

Your Estimate

Out of the 17 reviews, what do you think is the percentage of reviews that are positive?

 %

Elicitation: Likelihood

A video game has received 14 reviews.

► Click on the triangle to repeat the background information.

No additional information

Your Estimate

Out of all the 14 reviews, a review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%

Statistic: Percent Format

A restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

11 of the reviews were randomly selected. Out of the 11 randomly selected reviews, 27 percent of reviews are positive.

Your Estimate

Out of all the 19 reviews, another review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%

Mechanism Experiment 5: Question Format and statistic display: Wave 2

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_c0Yu7d8oEsiGCdE

Introduction screen

As in main experiment.

Elicitation: Likelihood

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_bDzFMUWkVwzEx26?PROLIFIC_PID=11111111111111111111111111111111

The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all 17 reviews, one review was randomly chosen, where each of the 17 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%
 [Next]

The video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all 14 reviews, one review was randomly chosen, where each of the 14 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%
 [Next]

The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all 19 reviews, one review was randomly chosen, where each of the 19 reviews was equally likely to be selected.

What do you think is the likelihood (in %) that this review is positive?

%
 [Next]

Elicitation: Fraction

Study link: https://unikoelnwiso.eu.qualtrics.com/jfe/form/SV_bDzFMUWkVwzEx26?PROLIFIC_PID=333333333333333333333333

The video game has received 14 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all 14 reviews, what percentage of reviews do you think are positive?

%

→

The bicycle has received 17 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all 17 reviews, what percentage of reviews do you think are positive?

%

→

The restaurant has received 19 reviews.

► Click on the triangle to repeat the background information.

Additional information

Yesterday, you may have received additional information on one or several reviews of this product.

Your Estimate

Out of all 19 reviews, what percentage of reviews do you think are positive?

%

→

Recall task

As in the previous experiments.