To see if you are eligible to participate, please enter your Mechanical Turk Worker ID into the box below and then click Next.

Please see below for where you can find your Worker ID. Your WorkerID starts with the letter A and has 12-14 letters or numbers. It must be all CAPITAL letters and no spaces. It is NOT your email address.

→

[Next page]

Technical Check

927355

Enter the number you see above (to make sure your computer can display this study correctly).

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[Next page]

WELCOME

This study will take between 60 and 90 minutes to complete. You will be able to continue with the study only once you pass two **comprehension checks** about the instructions. Hence, please pay attention.

You will receive the HIT payment of $1 for completing this study.

In addition, you receive an allowance of $12. Depending on the decisions you make in this study and on luck, that allowance will be increased, reduced, or remain unchanged.

We will pay your resulting earnings to you as a bonus payment no more than 2 days after you complete this study.

*This study involves **NO DECEPTION**. Whenever we tell you that something will happen if you make some decision, then that thing will happen if you make that decision. If we tell you something will happen with an X% chance, then that thing will happen with an exactly X% chance.*

By clicking the "continue" button below, you consent to participating in this decision making study.

Parts and Choices

This study has two parts. The first part has 16 rounds. The second part has 28 rounds.

*One part and **one single decision** from that part, determined randomly, will **entirely determine your payment** from this study.*

Hence, you should make each decision as if it is the one that counts - because it might be!

At the end of this study you will learn exactly how much money you will receive at what time.

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The ventures

In each round of part A you will decide whether to participate in a venture. Ventures can be successes or failures. You will want to participate in successful ventures, and you will want to avoid participating in failures. We'll explain details on the next page.

At the beginning of each stage, you will randomly draw one of 20 ventures, pictured like this:

= venture that will succeed
= venture that will fail

As you see, in each round, 20% of the ventures are successes, the remaining 80% are failures.

You will first click a button that will hide whether a given venture is a success or a failure. After clicking, each venture will look grey. Then you will shuffle the ventures three times and pick one at random. That venture will be yours for the round. If you participate in that venture and it is a success, you will gain money. If you participate in it but it is a failure, you will lose money.

Click to see how this will work.

[Next page]

Randomly draw the venture for this round

= venture that will succeed
= venture that will fail

Shuffle the ventures three times. Then click the button to randomly select one of the ventures.

Hide success / failure information

[After click, screen changes to this:]

Randomly draw the venture for this round

= venture that will succeed
= venture that will fail

Shuffle the ventures three times. Then click the button to randomly select one of the ventures.

Shuffle all ventures

[After three clicks, on each of which all the grey balls are visually shuffled simultaneously in less than 1 second, the screen changes to this:]

Randomly draw the venture for this round

= venture that will succeed
= venture that will fail

Shuffle the ventures three times. Then click the button to randomly select one of the ventures.

The venture in the rectangle is yours in this round

→

[Next page]

How much money will I gain or lose from a venture?

If you decide not to participate in the venture, your study payment will neither grow nor shrink.

If you decide to participate, the following will happen.

First, you will **receive a payment $X** for participating in the venture (the amount X will vary across the rounds). We call this the ***venture participation payment***.

Second, the venture will either succeed or fail.

- If the venture succeeds, nothing else will happen.
- If the venture fails, you have to **pay damages of $6.**

Different ventures in different rounds

In some rounds, *if the venture fails, you can keep the venture participation payment* and use it to pay towards the damages. For instance, if the venture participation payment is $3, and the venture succeeds, you get to keep the $3. If the venture fails, you'll have to pay the damages of $6. Using the venture-participation payment of $3, you will be left with a total loss of $(6 - 3) = $3.

In other rounds, *if the venture fails, you will lose the venture participation payment, and you will still have to pay the damages*. In the example above, if the venture fails, you would then be left with a total loss of $6.

We will tell you in each round, whether you will keep the venture participation payment or lose it in the event that you participate in a failing venture.

The amount of damages, $6, will be the same in every round.

Chance that the venture will succeed

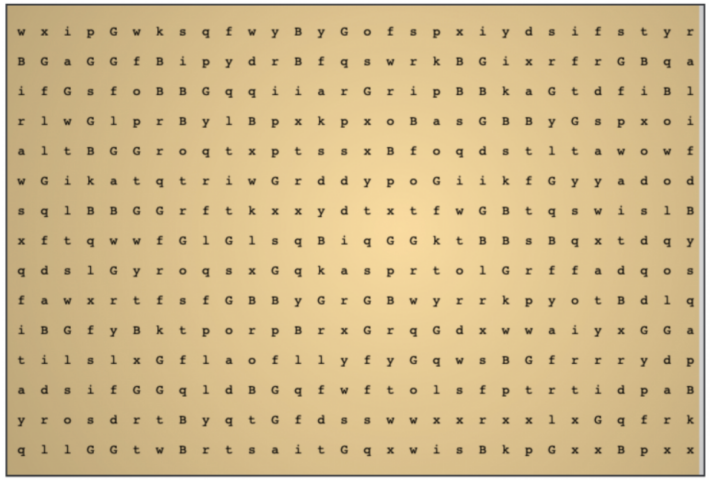
In each round, you will decide about a new venture.

The chance that a **successful** venture is drawn is **20%**,
the chance that a **failing** venture is drawn is **80%.**

Hence, failing ventures are four times as likely as successful ventures.

Whether the venture in a given round will succeed or fail does not depend on anything that happened in any other round.

In each round, before you decide whether to participate in the venture, you will be able to examine a picture such as this one. That picture tells you whether the venture in the current round will succeed or fail.



If the venture will succeed, the picture contains more letters *G* (for "good") than letters *B* (for "bad").
If the venture will fail, it contains more letters *B* than *G*.

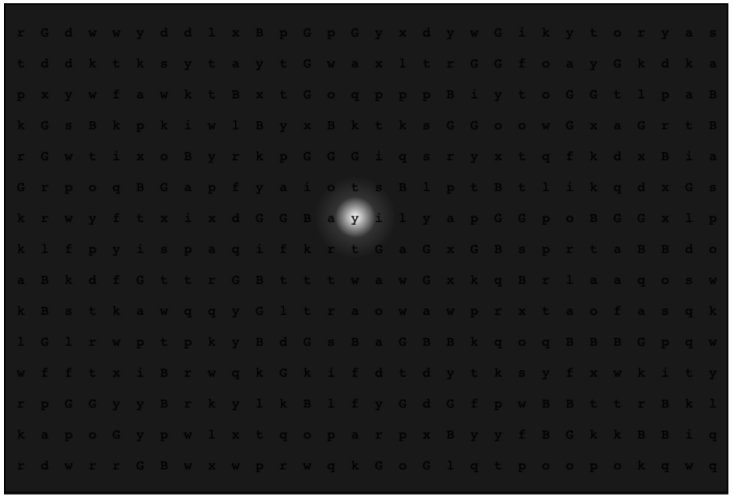
Specifically,

- if the venture will SUCCEED, the picture has 50 letters G and 40 letters B
- if the venture will FAIL, the picture has 50 letters B and 40 letters G

Hence, by studying the picture, you can get information whether the venture will succeed or fail.

You will examine the picture as follows. The computer displays the whole picture, and you can use your mouse as a flashlight to examine it, in as much or as little detail as you see fit.

Move your mouse across the picture below to give it a try:



Recall: in each round,

- if the venture will SUCCEED, the picture has 50 letters G (for "good") and 40 letters B (for "bad")
- if the venture will FAIL, the picture has 50 letters B (for "bad") and 40 letters G (for "good")

[Next page]

IMPORTANT

1. Whether you will win or lose money from betting on the picture depends on whether there are **more Gs than Bs IN TOTAL**, and NOT on how many Gs and Bs you happen to have seen.
2. You may study a picture in as much or as little detail as you see fit.

In some rounds, you will know how the magnitude of the venture participation payment **before** you study the picture. In other rounds, you will learn that number only **after** studying the picture. (In each round, the venture participation payment will lie between $0.5 and $5.5, determined randomly by the computer, drawn without replacement.)

Summary

Here's how each round proceeds:

1. You learn how much money you will get as venture-participation payment if you decide to participate in the venture.
2. You examine the picture that is tied to the venture in this round. (In some rounds you'll do that before step 1.)
3. You decide whether or not to participate in the venture.

Recall:
In each round, the chance that the venture will succeed is 20%.

← →

[Next page]

Comprehension check 1 of 2

Please mark all the correct statements, and only the correct statements. If you do not succeed, please review the instructions until you can correctly mark all the statements (click the back button).

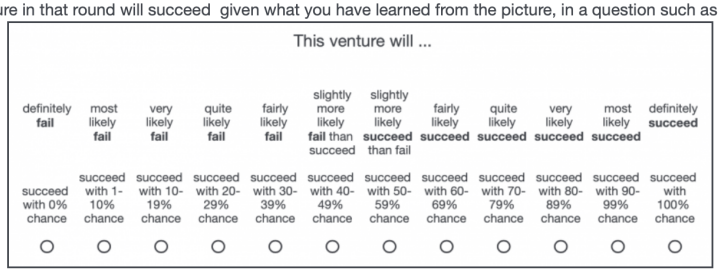
If you feel you have understood the instructions, but still cannot continue, send an email to sandro.ambuehl@econ.uzh.ch.

- ☐ Whether the venture will succeed or fail ONLY depends on the parts of the picture that I have looked at, not on those that I have not looked at.
- ☐ I can study the picture in as much or as little detail as I like before I make a decision
- ☐ A picture for a venture that will succeed has both Bs and Gs (but more Gs)
- ☐ Whatever I gain or lose will be added to or discounted from the study payment that I would otherwise get
- ☐ A venture will fail ONLY if ALL the letters in the picture for that venture are Bs
- ☐ The chance that venture will succeed is 20% in each round.
- ☐ A picture for a venture that will fail has both Bs and Gs (but more Bs)
- ☐ Whether the venture will succeed or fail depends on the ENTIRE picture, including the parts that I have not looked at.
- ☐ A venture will succeed ONLY if ALL the letters in the picture for that venture are Gs

← →

Your confidence about the venture

In each round, after you have decided whether to participate in the venture or not, we will ask you how certain you are that the venture in that round will succeed given what you have learned from the picture, in a question such as this:



Your answer to this question may fully determine your payment (see below). In this case, depending on your answer and on luck, your payment will rise by $4 or fall by $4.

The payment procedure is designed such that it in your best interest select the answer you genuinely believe is true.

For example, suppose that based on what you have seen of the picture, you believe that it is about 75% likely that the venture will succeed. Then it is in your best interest to select “quite likely succeed (70 - 80%)”. As another example, suppose that based on what you have seen about the picture, you believe that it is about 25% likely that the venture will succeed (that is, you believe it is about 75% likely that the venture will fail). Then it is in your best interest to select “quite likely fail (20 - 30%)".

If this part determines your payment, then you will be paid for **EITHER** for your decision whether or not to participate in the venture in a random round (with a 4 in 5 chance), **OR** for the answer you give to the question above in a random round (with a 1 in 5 chance), but **never for both**.

[The text on this page is shown only if the subject clicks on the button on top]

Click here for further details about the payment mechanism

Here are the details about the payment mechanism and about WHY it is in your best interest to answer this questions according to you true beliefs.

In case you are interested, here are the details about the payment mechanism and about WHY it is in your best interest to answer this questions according to you true beliefs.

The payment procedure works like this. (This procedure is known as the "probabilistic quadratic scoring rule." The first version of it was introduced by Glenn W. Brier in 1950.)

For most choices you can select, there is a range of chances (for example 50 - 60%). Your payment is determined by the number in middle of the range you select (for example 55%, if you select the range 50 - 60 %).Suppose you select a choice for which the middle of the range is some number X. The computer will randomly and secretly draw another number Y between 0 and 100. If the number the computer randomly draws is the larger one, that is if Y > X, then you will win $4 with chance Y in 100 (and lose $4 if you don't win). If the number you stated is the larger one, that is, if X > Y, then you will win if the venture will succeed. So if X is your genuine belief that the venture will succeed, you will win with chance X or with chance Y, whichever of the two is larger.

Why is it in my best interest to answer this question according to my genuine beliefs?

Simply, the reason is that you lower your chance of winning if you state a chance that is lower than you genuinely believe, and you also lower your chance of winning if you state something that is higher than you genuinely believe. So the best you can do is state what you genuinely believe.

To see why, it's best to go through an example.

Here's why you lose from stating a chance that is higher than you genuinely think is true. For example, suppose you genuinely believe the chance that the venture will succeed is 60%, but in the survey question you select something higher, say 90%. Suppose the number Y that the computer draws is between 60% and 90%, let's say it is 80%. This is lower than what you've indicated in the survey question (you've indicated 90%), so you will not play the computers' bet. Instead, you will win if the venture succeeds, which you genuinely think is true with only a 60% chance. The computers' bet would have given you a higher, 80%, chance instead. Hence, you hurt your chance of winning by stating the venture will more likely succeed than you genuinely think.

And here's why you lose from stating a lower chance than you genuinely think is true. For example, suppose again you genuinely believe the chance that the venture will succeed is 60%, but in the survey question you select a lower chance, say 10%. Suppose the number Y that the computer draws is between 10% and 60%, let's say it is 30%. That is higher than what you told us (which is 10%), so you will play the computers' bet and win with chance 30%. That is lower than if you had instead won depending on whether the venture will succeed, which, according to your genuine belief, has a 60% chance. Hence, you hurt your chance of winning by indicating a lower chance than you genuinely think.

Therefore, the best you can possibly do is to select exactly the answer that corresponds to your genuine beliefs.

If you have any questions about this payment mechanism, please send an email to sandro.ambuehl@econ.uzh.ch.

Recall:
Your payment is determined by **one single decision from one single round** of this study, determined at random.

Hence, you should make each decision as if it is the one that counts - because it might be!

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Chance that the venture will succeed

In each round, you will decide about a new venture.

The chance that a **successful** venture is drawn is **20%**,
the chance that a **failing** venture is drawn is **80%.**

Hence, failing ventures are four times as likely as successful ventures.

Whether the venture in a given round will succeed or fail does not depend on anything that happened in any other round.

[Next page]

Part A of this study starts now.

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[Next page]

A new round starts

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Round 1 of 16

In this round, you will learn the magnitude of the venture participation payment after examining the picture.

You will not get the venture participation payment if you take the venture and it fails in this round!

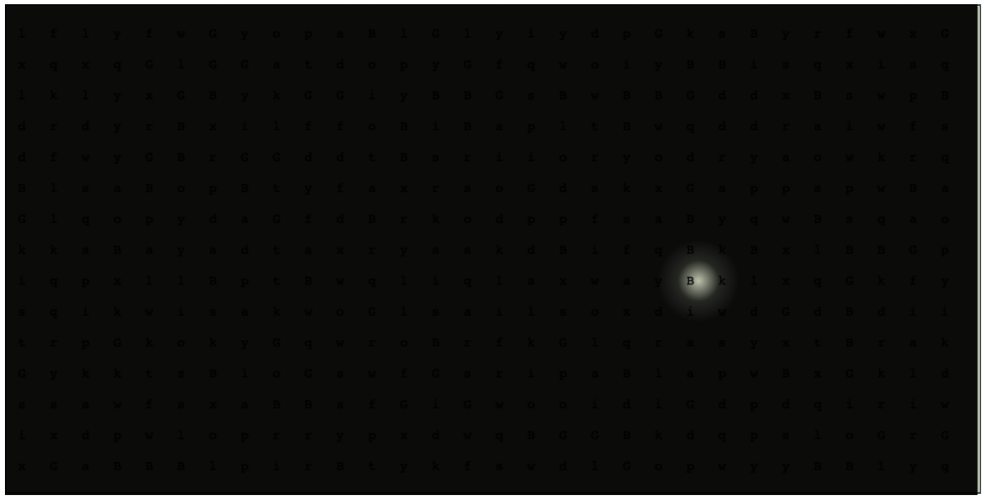
Moreover, you will have to pay **damages** of $6.

If you do not participate in the venture, your bonus will be unaffected.

Study the olive-green picture to learn whether the venture you have just drawn for this round is a success or a failure

If the venture you have just drawn is:
a **success,** then the olive-green picture has 50 letters G, 40 letters B,
a **failure,** then the olive-green picture has 40 letters G, 50 letters B.

Venture participation payment:
You will learn the amount later



(Once you continue, you cannot return to the olive-green picture)

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If you participate in the venture, you will
get $1

If the venture is a failure, you will **lose the venture-participation payment**. In addition, you will pay **damages of $6**.

Your decision:

Participate in the venture	Do not participate in the venture
○	○

How sure are you about the venture in this round?

The venture in this round is...

definitely bad	most likely bad	very likely bad	quite likely bad	fairly likely bad	slightly likely bad	slightly likely good	fairly likely good	quite likely good	very likely good	most likely good	definitely good
0%	1-10%	10-19%	20-29%	30-39%	40-49%	50-59%	60-69%	70-79%	80-89%	90-99%	100%
○	○	○	○	○	○	○	○	○	○	○	○

(The number below each option is the percentage chance with which you think that the picture is good. Recall that it is your best interest to state your genuine belief, that there's a 1 in 5 chance that you will be paid according to this type of decision, and that depending on your decision, you could win $4 or lose $4)

If you like, you may now go back to change your decision on whether to participate in the venture.

Subjects then proceed through the remaining 15 rounds. Subsequently, part 2 elicits certainty equivalents using the same screens as Experiment 2. Once subjects have completed part 2, they answer the following questions and finally view their payment information, which concludes the experiment.

You have completed the decision making part of this study.

We would now like to ask you some questions. Your answers will not affect your payment.

A bat and a ball cost $5.50 in total. The bat costs $5.00 more than the ball.
How many cents does the ball cost?

If it takes 10 machines 10 minutes to make 10 widgets,
how many minutes would it take 100 machines to make 100 widgets?

In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 24 days for the patch to cover the entire lake, how many days would it take for the patch to cover half of the lake?

If you're running a race and you pass the person in second place, what place are you in?

- First
- Second
- Third

A farmer had 15 sheep and all but 8 died. How many are left?

Emily's father has three daughters. The first two are named April and May. What is the third daughter's name?

How many cubic meters of dirt are there in a hole that is 3 meters deep, 3 meters wide, and 3 meters long?

Questions about yourself

In this last part of this study, we would like to ask you a small number of questions about yourself.

Please answer truthfully.

I see myself as someone who...

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
... Tends to be disorganized	○	○	○	○	○
... Perseveres until the task is finished	○	○	○	○	○
... Is easily distracted	○	○	○	○	○
... Does things efficiently	○	○	○	○	○
... Can be somewhat careless	○	○	○	○	○
... Tends to be lazy	○	○	○	○	○
... Is a reliable worker	○	○	○	○	○
... Makes plans and follows through with them	○	○	○	○	○
... Does a thorough job	○	○	○	○	○

What is your gender?

- Male
- Female
- Other (e.g. genderqueer)

What is your age?

What is your ethnicity?

- Black
- American Indian or Alaska Native
- White
- Asian or Asian American
- Other
- Hispanic or Latino
- Native Hawaiian or Pacific Islander

What is the highest level of education you have completed?

- Less than high school
- High school
- Some college (no degree)
- College (2 year degree)
- College (4 year degree)
- Graduate (Masters)
- Graduate (Professional Doctorate or PhD)

Have you ever taken a course in statistics?

- ○ Yes
- ○ No

Have you ever taken a course in probability theory?

- ○ Yes
- ○ No

If you know it, please enter the name of the following mathematical formula (i.e. the last name of the person after whom the result is named). If you do not know it, leave blank:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$

[The final page displays payment information.]