

Instructions

Notes:

- **Baselines** / **Treatment 1** / **Treatment 2**
- T1 order 1 is where “theta = 0.3” is presented before “theta = 0.5”, and the example has “theta = 0.3”. Order 2 is the opposite.
- **[Comments]**
- “_____” indicate page break

Information

Upon completing this study, you will receive an initial payment of £1. Your additional bonus depends on decisions in the tasks you will be asked to complete. Details about this will be offered later on.

In order to avoid excessive waiting time, all participants will have a maximum of 10 minutes per screen. This is enough time, you will not have to rush.

If you take more than 10 minutes in any screen, you will be automatically kicked out of the study and you will not be able to continue or re-start it. If that happens, please return your submission.

If you do not have at least 15 minutes to complete this study right now, please abandon it by closing your browser now and return your submission.

Welcome to our Study

After you complete the study, you will receive £1.00 as a participation fee plus your bonus earnings from this experiment.

- **[Baselines]** Your earnings will depend on your own decisions and the decisions of other participants. It is therefore important that you read these instructions carefully.
- **[T1, T2]** Your earnings will depend on your own decisions, the decisions of other participants and chance. It is therefore important that you read these instructions carefully.
- The currency for the experiment will be Taler. At the end, each Taler will be exchanged for £0.10.

Instructions

In this part of the study, you will be part of a group of four participants.

Each participant starts with 10 Taler in their private account. You (as well as all other group members) need to decide how many of those 10 Taler you want to invest into a common project. Everyone will make this decision at the same time.

You and the other group members will decide anonymously. That is, other group members will see each group member's contribution to the common project, but they will not be able to match them with your identity or that of any group member.

The common project will generate income for everyone in your group. For each Taler contributed to the common project, each member of the group will receive $\frac{[baseline_0.4] \cdot 0.4}{[baseline_0.5] \cdot 0.5} \cdot [T1: order1]$ either 0.3 or 0.5 / $[T1: order2]$ either 0.5 or 0.3 / $[T2] \cdot 0.5$ Taler. $[T1]$ Whether you and the other members of your group receive $[T1: order1]$ 0.3 or 0.5 / $[T1: order2]$ 0.5 or 0.3 Taler for each Taler contributed into the common project will depend on chance. It is equally likely that your group will receive $[T1: order1]$ either 0.3 or 0.5 / $[T1: order2]$ either 0.5 or 0.3.

You can think of this as a lottery game where there are 100 balls in an opaque bag: 50 of them (50%) are blue and 50 of them (50%) are purple. One ball is drawn without looking. If the ball is blue, you and the other members of your group will receive $[T1: order1]$ 0.3 Taler for each Taler contributed into the common project; if the ball is purple, the return will be 0.5. $[T1: order2]$ 0.5 Taler for each Taler contributed into the common project; if the ball is green, the return will be 0.3.

You will receive the Taler that you choose not to invest into the common project (i.e., the Taler that are left in your private account).

In summary,

$[T1]$ If your group receives $[T1: order1]$ 0.3 / $[T1: order2]$ 0.5 Taler for each Taler contributed to the common project:

- Each participant's income from the common project will be $\frac{[T1: order1] \cdot 0.3}{[B_0.4] \cdot 0.4} / \frac{[B_0.5, T1: order2] \cdot 0.5}{[T2] \cdot 0.5} \times (\text{total group contribution to the common project})$
- Each participant's total earnings will be $(10 - \text{own investment}) + \frac{[T1: order1] \cdot 0.3}{[B_0.4] \cdot 0.4} / \frac{[B_0.5, T1: order2] \cdot 0.5}{[T2] \cdot 0.5} \times (\text{total group contribution to the common project})$

$[T1]$ If your group receives $[T1: order1]$ 0.5 / $[T1: order2]$ 0.3 Taler for each Taler contributed to the common project:

- Each participant's income from the common project will be $\frac{[T1: order1] \cdot 0.5}{[T1: order2] \cdot 0.3} \times (\text{total group contribution to the common project})$
- Each participant's total earnings will be $(10 - \text{own investment}) + \frac{[T1: order1] \cdot 0.5}{[T1: order2] \cdot 0.3} \times (\text{total group contribution to the common project})$

Comprehension Question

What is the chance that you and the other members of your group receive 0.3 Taler for every Taler invested into the common project?

- No chance
- 20% chance
- 50% chance
- 80% chance

[This is an attention check. Right answer: 50% chance]

Read carefully the following examples as there will be some comprehension questions right after this screen.

[The following box is only shown if they click on 'Show payment info reminder' box]

Remember that,

[T1] If your group receives **[T1: order1] 0.3 / [T1: order2] 0.5** Taler for each Taler contributed to the common project:

- Each participant's income from the common project will be $\frac{[T1: order1] 0.3}{[B_0.4] 0.4 + [B_0.5, T1: order2 \text{ and } T2] 0.5} \times (\text{total group contribution to the common project})$
- Each participant's total earnings will be $(10 - \text{own investment}) + \frac{[T1: order1] 0.3}{[B_0.4] 0.4 + [B_0.5, T1: order2 \text{ and } T2] 0.5} \times (\text{total group contribution to the common project})$

[T1] If your group receives **[T1: order1] 0.5 / [T1: order2] 0.3** Taler for each Taler contributed to the common project:

- Each participant's income from the common project will be $\left(\frac{[T1: order1] 0.5}{[T1: order2] 0.3} \times (\text{total group contribution to the common project}) \right)$
- Each participant's total earnings will be $(10 - \text{own investment}) + \frac{[T1: order1] 0.5}{[T1: order2] 0.3} \times (\text{total group contribution to the common project})$

[T1: order1]

If your group receives 0.3 Taler for each Taler contributed to the common project:

Example 1: You invest 4 Taler into the project, 2 other participants each invested 8 Taler, and 1 other participant invested 0 Taler. Thus, a total of $4 + 8 + 8 = 20$ Taler are invested in the common project. You will receive a total of $20 \times 0.3 = 6$ Taler from the common project. You will also receive the 6 Taler you kept in your private account. So you earn a total of 12 Taler.

Example 2: All participants in the group, including yourself, invest their 10 Taler into the common project. Thus, a total of 40 Taler are invested in the common project. You will receive a total of $40 \times 0.3 = 12$ Taler from the common project. You will not receive any Taler from your private account since you invested them all. So you earn a total of 12 Taler.

Example 3: All participants in the group, including yourself, invest 0 Taler into the common project. Thus, a total of 0 Taler are invested in the common project. You will receive nothing from the common project. You will receive the 10 Taler you kept in your private account. So you earn a total of 10 Taler.

Example 4: All the other participants invest 10 Taler each into the common project, and you invest nothing. Thus, a total of 30 Taler are invested in the common project. You will receive a total of $30 \times 0.3 = 9$ Taler from the common project. You will also receive the 10 Taler you kept in your private account. So you earn a total of 19 Taler.

Example 5: All the other participants invest nothing into the common project, and you invest 10 Taler. Thus, a total of 10 Taler are invested in the common project. You will receive a total of $10 \times 0.3 = 3$ Taler from the common project. You will not receive any Taler from your private account since you invested them all in the common project. So you earn a total of 3 Taler.

If your group is rewarded with 0.5 Taler for each Taler contributed to the common project:

[The same 5 examples were shown here, but with $\theta = 0.5$ instead of 0.3. The change in θ will also change the numbers that depend on it.]

[T1: order2]

If your group is rewarded with 0.5 Taler for each Taler contributed to the common project:

[The same set of 5 examples were shown here, but with $\theta = 0.5$. The change in θ will also change the numbers that depend on it.]

If your group is rewarded with 0.3 Taler for each Taler contributed to the common project:

[The same 5 examples were shown here, but with $\theta = 0.3$. The change in θ will also change the numbers that depend on it.]

[NB: In the other conditions, as there is only one possible θ , participants will only see one set of examples. The change in θ will also change the numbers that depend on it.]

Comprehension Questions [quiz_words]

[T1] Imagine / [B_0.4, B_0.5, T2] Remember that the common project gives each group member [B_0.4] 0.4 / [T1: order2] 0.3 / [B_0.5, T1: order1] and [T2] 0.5 Taler for every Taler in the common project.

[NB: This is the reverse order of appearance than later on, for variety. The order of the answers is randomised.]

How many Taler would each group member receive as income from the common project?

- ✓ $[\text{Theta} \times \text{Total group contribution to the common project}]$ Taler
- $[\text{Theta} \times \text{Own contribution to the common project}]$ Taler
- $[\text{Theta} \times \text{Others' contribution to the common project}]$ Taler

[NB: Theta will be 0.5 if order1 and 0.3 if order2 in t1, and 0.5 in t2.]

Your total earnings would then amount to **[same as above]**

- ✓ $[(\text{Theta} \times \text{Total group contribution to the common project}) + \text{Taler in private account}]$ Taler
- $[\text{Own contribution} + (\text{Theta} \times \text{Others' contribution to the common project})]$ Taler
- $[\text{Theta} \times (\text{Total group contribution to the common project})]$ Taler
- $[\text{Own contribution} + (\text{Theta} \times \text{Others' contribution}) + \text{Taler in private account}]$ Taler

[t1] [Feedback_words]

[If both answers are right] That's right!

[If not] **That isn't completely right.**

Remember that,

[T1] There is equal chance that the return is **[T1: order 1]** 0.5 and 0.3 / **[T2: order 1]** 0.3 and 0.5 Taler for each Taler in the common project, but imagine that for these questions chance has determined that the return is **[T1: order 1]** 0.5 / **[T2: order 1]** 0.3.

- Each group member would receive "**[B_0.4]** 0.4 / **[T1: order 2]** 0.3 / **[B_0.5, T1: order1 and T2] 0.5** x (total group contribution)" Taler as income from the common project.
- And your total earnings would amount to "**[B_0.4]** 0.4 / **[T1: order 2]** 0.3 / **[B_0.5, T1: order1 and T2] 0.5** x (total group contribution)] + Taler in private account (not invested)" Taler.

Comprehension Questions

Imagine you invest 7 Taler into the common project, and the total contribution to the common project from the other three group members is 13 Taler.

[T1] Imagine / **[B_0.4, B_0.5, T2]** Remember that the common project gives each group member **[B_0.4]** 0.4 / **[T1: order 1]** 0.3 / **[B_0.5, T1: order2 and T2]** 0.5 Taler for every Taler in the common project.

[T1] Remember that there is equal chance that the return is / [T1: order 1] 0.3 and 0.5 / [T2: order 1] 0.5 and 0.3, but for these questions chance has determined that it is [T1: order 1] 0.3 / [T2: order 1] 0.5.

How many Taler would each group member receive as income from the common project? [multiple choice. The actual options are numbers rather than text, computed using the following expressions]

- ✓ [Theta x (Total group contribution to the common project)] Taler [quiz3_ans1]
- [Theta x Own contribution] Taler
- [Theta x Others' contribution] Taler

Your total earnings would then amount to [same as above]

- ✓ [Theta x (Total group contribution to the common project) + Taler in private account] Taler [quiz4_ans1]
- [Own contribution + (Theta x Others' contribution)] Taler
- [Theta x (Own + Others' contribution)] Taler
- [Own contribution + (Theta x Others' contribution) + Taler in private account] Taler

Choose five taler in this question... [attention check – participants who fail it cannot proceed]

- 12.0 Taler
- 7.5 Taler
- ✓ 5.0 Taler
- 0.0 Taler

[Feedback_new]

[If both answers are right] That's right!

[If not] **That isn't completely right.**

[T1] Remember that there is equal chance that the return is / [T1: order 1] 0.3 and 0.5 / [T2: order 1] 0.5 and 0.3.

Remember that,

- There is equal chance that the return is [T1: order 1] 0.3 and 0.5 / [T2: order 1] 0.5 and 0.3, but for these questions chance determined that it was is [T1: order 1] 0.3. / [T2: order 1] 0.5.
- Each group member would receive “[B_0.4] 0.4 / [T1: order 1] 0.3 / [B_0.5, T1: order 2 and T2] 0.5 x (total group contribution)” as income from the common project.
- And your total earnings would amount to “[B_0.4] 0.4 / [T1: order 1] 0.3 / [B_0.5, T1: order 2 and T2] 0.5 x (total group contribution)] + Taler in private account (not invested)”.

The returns of the common project would be [B_0.4] 0.4 / [T1: order 1] 0.3 / [B_0.5, T1: order 2 and T2] 0.5 Taler for every Taler in the common project.

- Each group member would receive $(7 + 13) \times [\text{group.theta}] = [\text{player.quiz3_ans1}]$ Taler from the common project.
- Your total income would then amount to $[\text{player.quiz3_ans1}] + 3 = [\text{player.quiz4_ans1}]$ Taler.

This is how the group contributions to the common project will be shown to you and your group members. Imagine you are player B.

You are player B.

Common Project Contributions

Player A: 5 Taler

Player B: 7 Taler

Player C: 8 Taler

Player D: 0 Taler

[Embezzlement Instructions] [Treatment 2 only]

Investments may get lost

There is a 20% chance that the investment in the common project of each of your group members (including yourself) is lost. You can think of this as a lottery game where there are 100 coloured balls in an opaque bag: 20 of them (20%) are red and 80 of them (80%) are green. One ball is drawn without looking. If the ball is red, the investment is lost, and if the ball is green, the investment is not lost.

This 20% chance is independent for each group member. You can imagine this as each group member (including yourself) having their own opaque bag of balls to determine whether their investment is lost.

Every group member (including yourself) will find out whether this happened to their own investment after making it. Nobody will find out whether this happened to the investment of any other group member. This means that if you see someone's contribution is 0, you will not be able to tell whether they invested 0 or whether their contribution got lost.

Recall the previous example:

Imagine you invest 7 Taler into the common project, and the total contribution to the common project from the other three group members is 13 Taler.

Remember that the common project gives each group member 0.5 Taler for every Taler in the common project.

Imagine your investment got lost. The previous example would then be as follows.

Imagine you invest 7 Taler into the common project **but your investment gets lost and never reaches the common project**. Imagine that the total contributions to the common project from the other three group members is 13 Taler.

Remember that the common project gives each group member 0.5 Taler for every Taler in the common project.

This is how the group contributions to the common project will be shown to you and your group members. Imagine you are player B.

You are player B.

Common Project Contributions

Player A: 5 Taler

Player B: 0 Taler

Player C: 8 Taler

Player D: 0 Taler

You would receive from the common project a total of $13 \times 0.5 = 6.5$ Taler. You would also keep the 3 Taler you did not invest in the common project. So you would earn a total of $6.5 + 3 = 9.5$ Taler.

Comprehension Questions

What is the chance that the investment of each of your group members is not lost?

- No chance
- 20% chance
- 50% chance
- ✓ 80% chance

What is the chance that your investment is lost? **[attention check]**

- No chance
- ✓ 20% chance
- 50% chance
- 80% chance

If you invested 7 Taler but they got lost, what contribution would appear from you as Player B on the Common Project Contributions table?

- ✓ 0 Taler
- 3 Taler
- 7 Taler
- A different amount
- It is impossible to tell from the information provided

[Feedback_two]

[If both answers are right] That's right!

[If not] That isn't completely right.

Remember that there is a 20% chance that the investment in the common project of each of your group members (including yourself) is lost. This is as if each of you had an opaque ball with 100 coloured balls, 20 of which (20%) were red losing balls, and 80 of which (80%) were green non-losing balls.

For each of your group members, there is a 20% chance of drawing a red ball and losing their investment, and therefore an 80% chance of drawing a green ball and not losing their investment.

The same is true for your own chances: there is a 20% chance of drawing a red ball and losing your investment, and therefore an 80% chance of drawing a green ball and not losing your investment.

If your investment or that of one of your group members is lost, it will appear on the contributions table as a contribution of 0, as 0 Taler reach the common pot.

[Attention check]

Investment Decision

This is a screen to ensure you are attentive to the instructions and the questions asked during this task. Please answer the question below with the result of "four minus one".

There are 10 Taler in your private account. What is the answer to the question above?

[dropdown list 0-10]

[Attention check feedback 1]

Attention check

The previous question was an attention check and you

[failed attention check] did not pass it.

That may mean that you were not paying enough attention while reading the instructions. Please, make sure to be fully focused on this study from now on.

The next screen will ask you about your investment decision. If you want, you can instead go back and go through the instructions and comprehension questions again. If so, select that option below and click on the 'Next' button.

- Take me back to see the instructions and comprehension questions again
- I will continue with my investment decision

[If they choose the 'take me back option', they go back to the "Welcome to our Study" screen. Everything is the same, except when they get to this page again, they do not see the sentence starting with "If you want, ..." nor the options to go back or continue.]

[passed it] passed it.

Thank you for paying attention while reading the instructions and being fully focused on this study.

The next screen will ask you about your investment decision.

[everyone] Remember that your answers are very important to us, and part of your payoff in this study depends on them!

[Attention check feedback 2. Participants get this screen instead of 'Attention screen feedback 1' if they chose "take me back to see the instructions..." on that page.]

Attention check

The previous question was an attention check and you **passed it / did not pass** [depending on choice; participants do not see the text in bold] it.

Thank you for paying attention while reading the instructions and being fully focused on this study.

The next screen will ask you about your investment decision.

Remember that your answers are very important to us, and part of your payoff in this study depends on them!

Investment Decision

[The following box is only shown if they click on 'Show payment info reminder' box]

Remember that,

[T1] If your group is rewarded with [T1: order1] 0.3 / [T1: order2] 0.5 Taler for each Taler contributed to the common project:

- Each participant's income from the common project will be $[T1: order1] 0.3 / [B_0.4] 0.4 / [B_0.5, T1: order2 \text{ and } T2] 0.5 \times$ (total Taler invested in the common project by everyone)
- Each participant's total earnings will be $(10 - \text{own investment}) + [T1: order1] 0.3 / [B_0.4] 0.4 / [B_0.5, T1: order2 \text{ and } T2] 0.5 \times$ (total group contribution to the common project)

[T1] If your group is rewarded with [T1: order1] 0.5 / [T1: order2] 0.3 Taler for each Taler contributed to the common project:

- Each participant's income from the common project will be $[T1: order1] 0.5 / [T1: order2] 0.3 \times$ (total group contribution to the common project)
- Each participant's total earnings will be

$(10 - \text{own investment}) + [\text{T1: order1}] 0.5 / [\text{T1: order2}] 0.3 \times (\text{total group contribution to the common project})$

- **[T2]** There is a 20% chance that the investment in the common project of each of your group members (including yourself) is lost.

There are 10 Taler in your private account.

From those, how many would you like to invest in the common project?

[dropdown list 0-10]

Contributions to the Common Project

You are player **[A, B, C, D – assigned as they ‘join the group’]**.

Common Project Contribution

Player A: **[A’s contribution]** Taler

Player B: **[B’s contribution]** Taler

Player C: **[C’s contribution]** Taler

Player D: **[D’s contribution]** Taler

You and your group members will receive **[theta]** Taler for each Taler in the common project

Each group member’s share of the income from the common project: **[theta]** x **[group.total_contribution]** = **[group.individual_share]** Taler.

Some questions about you before you finish

What is your year of birth?

[drop down list: 1920 to 2004 including “I prefer not to answer”]

What is your gender?

- Female
- Male
- Other (describe in the box below if you wish)
- I prefer not to answer

How well would you say you are managing financially these days?

- Living comfortably
- Doing alright
- Just about getting by
- Finding it quite difficult
- Finding it very difficult
- I do not know

- I prefer not to answer

Have you ever taken a course or learnt about economics and/or game theory? Yes/No

[Attention check]

Please, choose the answer 'a little' below.

- A great deal
- A lot
- A moderate amount
- A little
- None at all

[Trust in institutions]

- 1 to 10 scale with 1 - No confidence at all, 10 - Full confidence, and numbers 2 to 9 without labels in all questions.

Do you have confidence in the judicial system and courts or not?

Do you have confidence in the national government or not?

Do you have confidence in the honesty of elections or not?

[Political views]

In political matters, people talk of "the left" and "the right". Generally speaking, how would you place your views on this scale?

- 10-point horizontal scale with "Left" and "Right" labels

Earnings

Remember that your total earnings from this study are the sum of:

- Your participation fee
- The Taler left in your private account
- Your share of the income from the common project, which is computed as 0.4 [this value changes in each condition. $B_{0.5} = 0.5$. $T_1 = (0.5, 0.3; 0.5, 0.5)$, $T_2 = 0.5$] \times (total group contribution to the common project)

Your total earnings from this study are $10 - [\textit{investment}] + [\textit{individual_share}] =$

$[\textit{payoff_withoutshowupfee}]$ Taler, which are equivalent to $\pounds[\textit{payoff_usd}] +$ your participation fee ($\pounds 1$). That is, a total of $[\textit{payoff}]$.

[More questions]

The following questions will have no effect on your final payment. We will not reject your submission on the basis of these questions either. Please answer truthfully.

1. Did you trust the instructions for the tasks you have gone through to be accurate and true while reading them? **[Yes/No]**
2. Did you find that you could understand fully the instructions with no misunderstanding? **[Yes/No]**
3. Did you complete all the tasks on your own, or did you get assistance from someone else? **[On my own/With someone's help]**
4. Were you focusing only at the tasks while completing them, or were you also doing something else on your browser or device? **[Tasks only/Something else]**

Study Completed

Thank you for taking part in this study!

Your completion code is **[XXXXXXXXXX]**.

[Click here](#) to be redirected to Prolific's completion page.