Group Identity and Peer Effects in Rule-Following: Online Appendix

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- **Appendix A**: Details of manipulation check for minimal group identity
- **Appendix B**: Details of pilot experiment to create experimental condi- tions and to determine sample size
- **Appendix C**: Experiment Screenshots

A Details of manipulation check for minimal group identity

We pre-tested the strength of our minimal group identity manipulation by running a pilot experiment (N = 212; 59% male; 41% female; mean age=43.6, s.d.=13.9) where we compared the ingroup bias induced by our manipulation with the bias induced by a non-minimal manipulation based on partisan identities (Democrats vs Republicans in the US).

Participants were recruited from Prolific (location restricted to the USA) and randomly assigned to either the minimal or (N = 108) non-minimal identity condition (N = 104). In the minimal condition, they reported their perception of colors in The Dress task, as in the main experiment and were divided into groups based on their response. In the non-minimal condition, participants reported their partisan affiliation and were divided into groups accordingly.

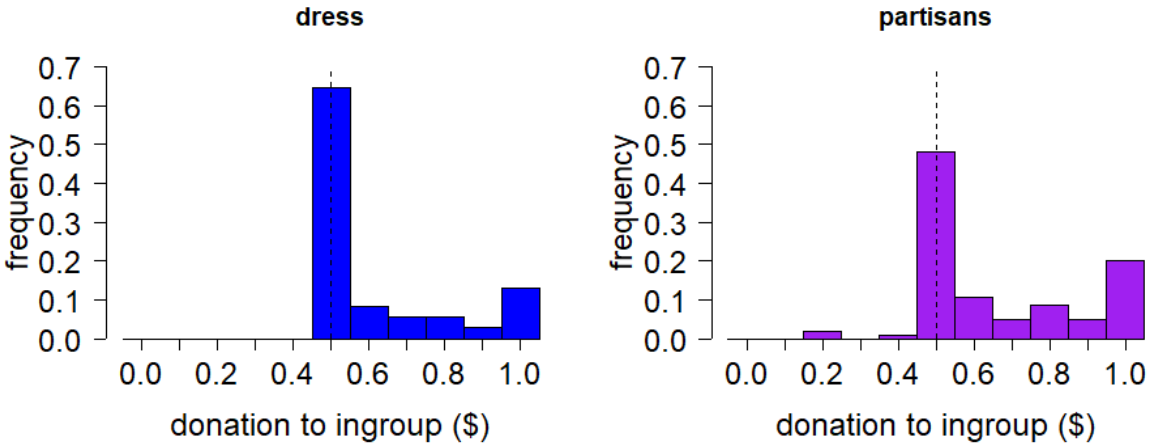
In both conditions, after the manipulation, participants acted as decision-makers in a third-party allocation game, where they had to split 1 USD in 0.01 increments between two passive participants, one sharing the same identity as themselves (ingroup) and the other instead of the opposite identity (outgroup). These participants were recruited separately and paid accordingly. Note that the decision-maker has no stakes in the allocation decision, as they cannot keep any of the 1 USD they have to divide between the other two participants. Decision-makers were instead paid a fixed amount of 0.50 USD as participation fee, plus a random bonus of 0.50, 1.00 or 1.50 USD, with equal probability.

We say that decision-makers exhibit an *ingroup bias* if they do not allocate the 1 USD equally between the two passive participants, but instead allocate more money to the passive participant who shares the decision-maker's identity. We assess whether the ingroup bias induced by our minimal identity manipulation is comparable to the bias induced by a non-minimal manipulation based on partisan identities.

Figure 1 shows the distributions of allocations to the ingroup in the two conditions. In both cases, the histograms show that a considerable share of people favors the ingroup. In the minimal condition, decision-makers allocated on average 0.61 USD

to the ingroup (s.d.=0.18), which is statistically different from 0.5, i.e. equal allocation to ingroup and outgroup participants (one-sample t-test: $t(107) = 6.329$, $p < 0.001$). This reveals a mild preference for individuals who had the same visual perception in The Dress task as themselves. In the non-minimal condition, the average ingroup bias was instead 0.66 USD (s.d.=0.21). This is also different from the equal allocation share of 0.5 (one-sample t-test: $t(103)=7.762$, $p < 0.001$). Moreover, a Wilcoxon rank-sum test indicates no significant differences between the distributions in the minimal vs non-minimal conditions ($W = 6{,}276$, $p=0.111$), revealing that the ingroup bias induced by our minimal manipulation is not significantly different from the bias induced by a manipulation based on partisan identities.

Figure 1: Manipulation check for ingroup bias in the third-party allocation game



Histogram of allocation to the ingroup in the third-party allocation game. Left panel: minimal identity condition; right panel: non-minimal identity condition (Democrats vs. Republicans).

B Details of pilot experiment to create experimental conditions and to determine sample size

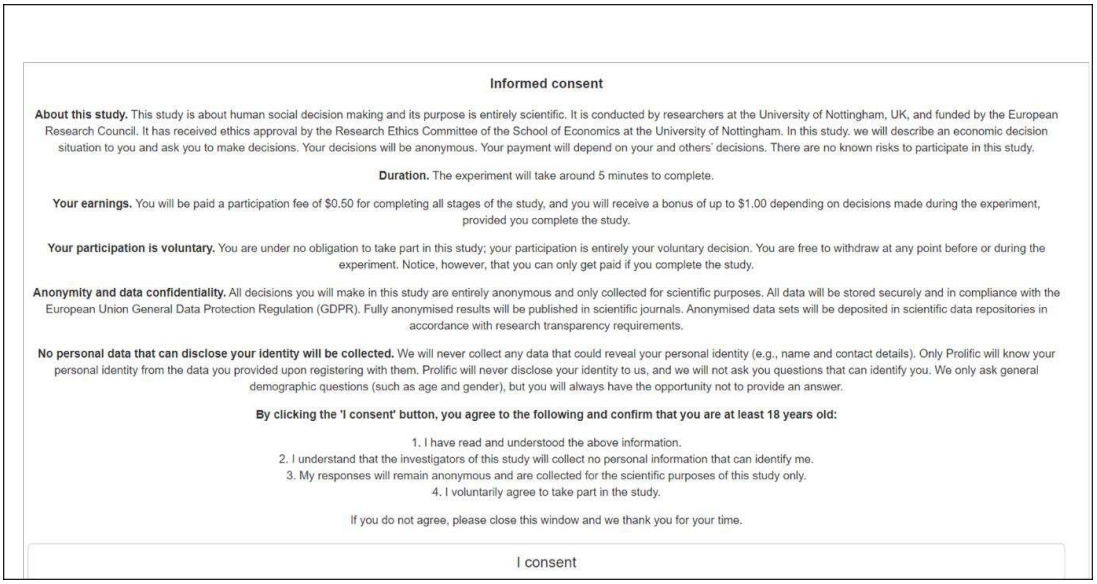
We ran two pilot experiments to create the experimental conditions (pilot 1) and to estimate effect sizes (pilot 2) with participants recruited from Prolific, with the location restricted to the USA. As in the main experiment, participants first had to pass a comprehension check before completing the main task, which was the same used in the main experiment.

In pilot 1 (N=71; 63% male, 34% female, mean age= 32.0, s.d.=7.9) participants were asked to indicate whether they perceived the dress as blue/black or white/gold, and subsequently completed the behavioral task on their own. In this sample, 45% followed the rule, and 55% broke the rule. 20% of participants (n=15) perceived the dress as gold and white, which sufficed for having at least 7 individuals in each category breaking the rule and following the rule.

In pilot 2 (N=204; 60% male, 40% female; mean age=36.8, s.d.=9.7), participants again indicated their dress perception, and then completed the task on their own (compliance rate: 49%). Then participants observed the choices of 7 "peers" (participants from pilot 1). Across conditions, we varied whether these peers perceived the dress the same as the participant ("ingroup") or differently ("outgroup"), and whether they all complied with the rule, or all violated it. Participants were then asked to make a second decision. Across treatments, compliance rates were ingroup-follow (n=56): 70%, ingroup-violate (n=52): 37%; outgroup-follow (n=50): 52%, outgroup-violate (n=46): 28%.

C Experiment screenshots

Where appropriate, we add notes in grey boxes.



Informed consent

About this study. This study is about human social decision making and its purpose is entirely scientific. It is conducted by researchers at the University of Nottingham, UK, and funded by the European Research Council. It has received ethics approval by the Research Ethics Committee of the School of Economics at the University of Nottingham. In this study. we will describe an economic decision situation to you and ask you to make decisions. Your decisions will be anonymous. Your payment will depend on your and others' decisions. There are no known risks to participate in this study.

Duration. The experiment will take around 5 minutes to complete.

Your earnings. You will be paid a participation fee of $0.50 for completing all stages of the study, and you will receive a bonus of up to $1.00 depending on decisions made during the experiment, provided you complete the study.

Your participation is voluntary. You are under no obligation to take part in this study; your participation is entirely your voluntary decision. You are free to withdraw at any point before or during the experiment. Notice, however, that you can only get paid if you complete the study.

Anonymity and data confidentiality. All decisions you will make in this study are entirely anonymous and only collected for scientific purposes. All data will be stored securely and in compliance with the European Union General Data Protection Regulation (GDPR). Fully anonymised results will be published in scientific journals. Anonymised data sets will be deposited in scientific data repositories in accordance with research transparency requirements.

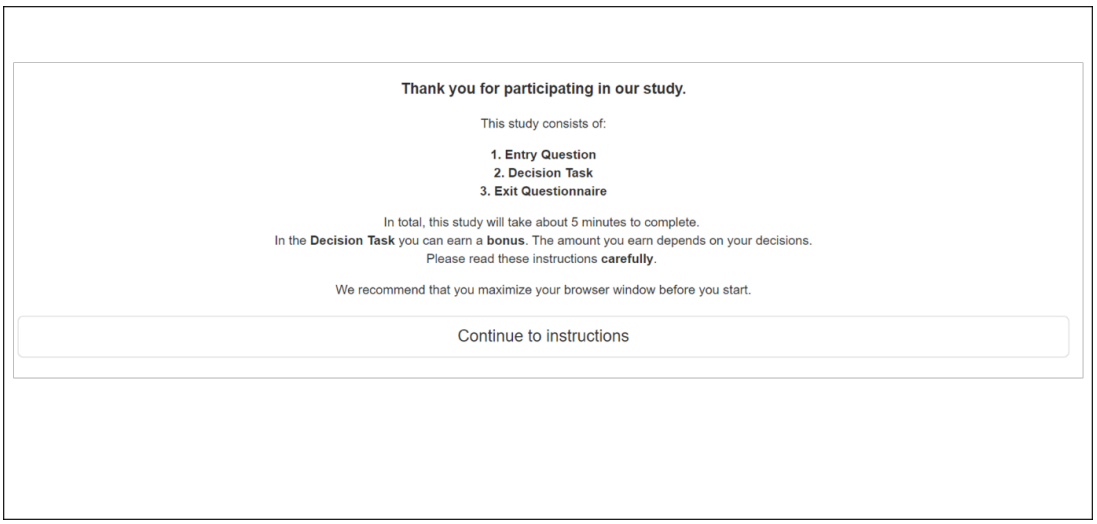
No personal data that can disclose your identity will be collected. We will never collect any data that could reveal your personal identity (e.g., name and contact details). Only Prolific will know your personal identity from the data you provided upon registering with them. Prolific will never disclose your identity to us, and we will not ask you questions that can identify you. We only ask general demographic questions (such as age and gender), but you will always have the opportunity not to provide an answer.

By clicking the 'I consent' button, you agree to the following and confirm that you are at least 18 years old:

1. I have read and understood the above information.
2. I understand that the investigators of this study will collect no personal information that can identify me.
3. My responses will remain anonymous and are collected for the scientific purposes of this study only.
4. I voluntarily agree to take part in the study.

If you do not agree, please close this window and we thank you for your time.

I consent



Thank you for participating in our study.

This study consists of:

1. Entry Question
2. Decision Task
3. Exit Questionnaire

In total, this study will take about 5 minutes to complete.
In the **Decision Task** you can earn a **bonus**. The amount you earn depends on your decisions.
Please read these instructions **carefully**.

We recommend that you maximize your browser window before you start.

Continue to instructions

Entry Question

In 2015, this picture went 'viral' on the internet:

It turns out that some people see the dress as **blue and black**.
Other people see the dress as **gold and white**.

This disagreement is thought to reflect differences between people in how their brain processes colors.

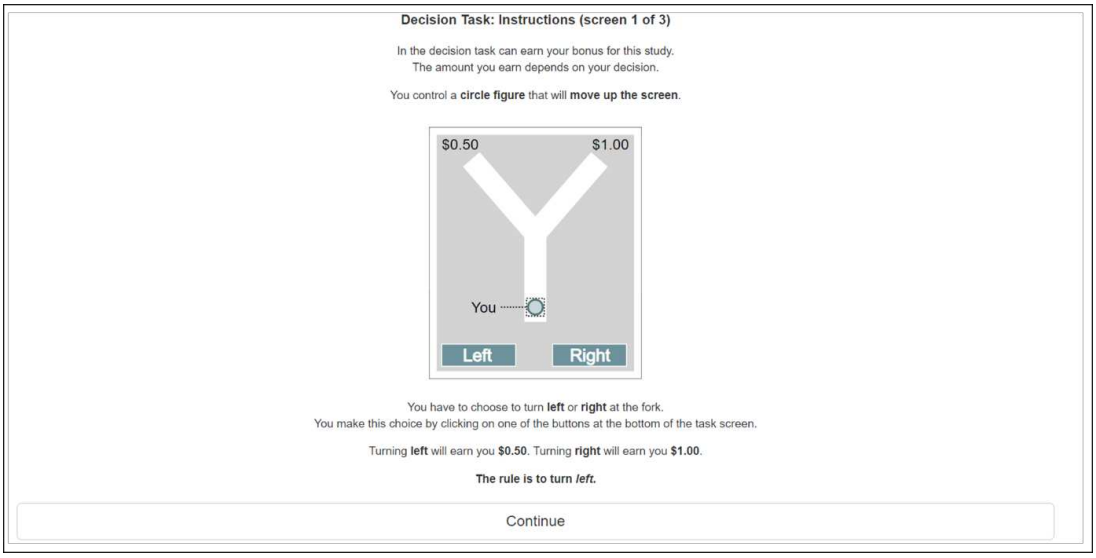
How do you perceive the dress colors?

Blue and black | Gold and white

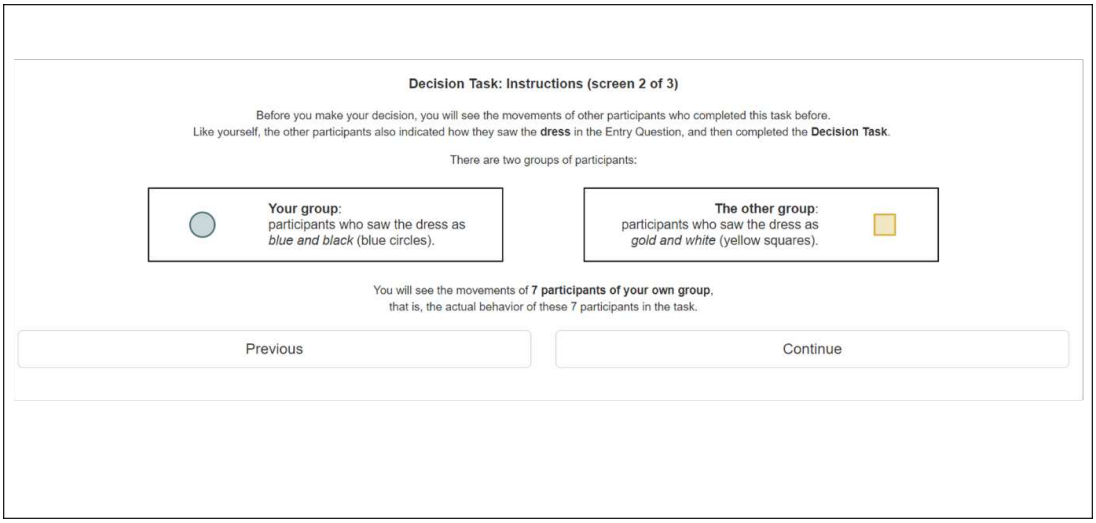
Continue

Your response to the Entry Question has been recorded.

Continue to Decision Task



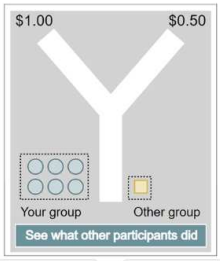
The colour of the circle figure always corresponded with the participant's perception of the dress: blue if they saw the dress as "blue and black", and gold if they saw it as "gold and white". The colouring of the ingroup and outgroup peers were adjusted accordingly (see next screen).



Decision Task: Instructions (screen 3 of 3)

The other participants are shown in the task screen.

You can see their movements by clicking on the button. Then you can make your decision.



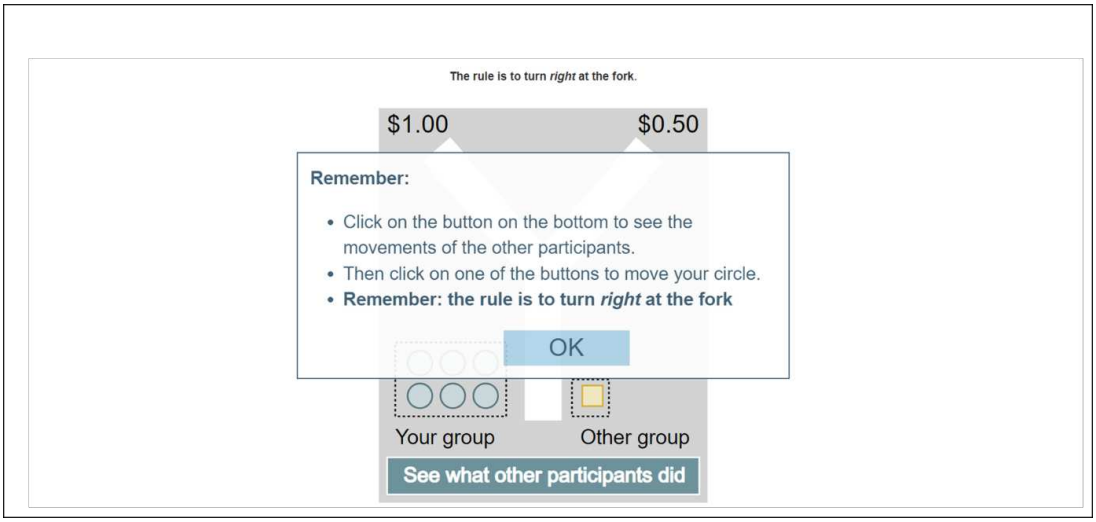
Previous

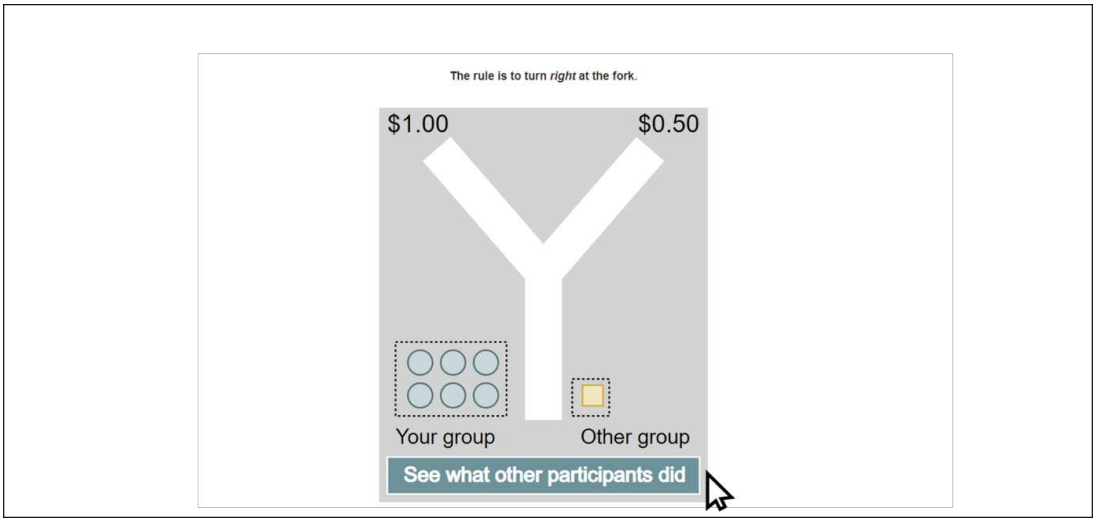
Continue to Task

Ready to start

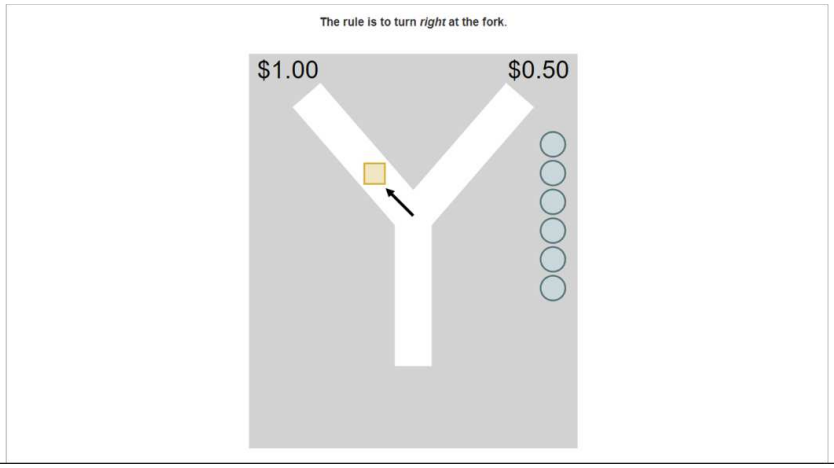
That is correct! Please click below to start the task.

Continue to Task

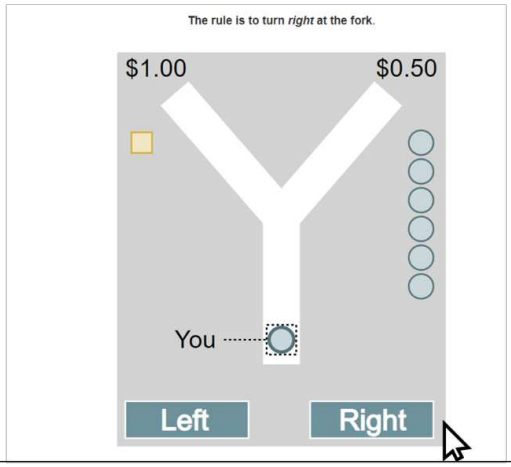




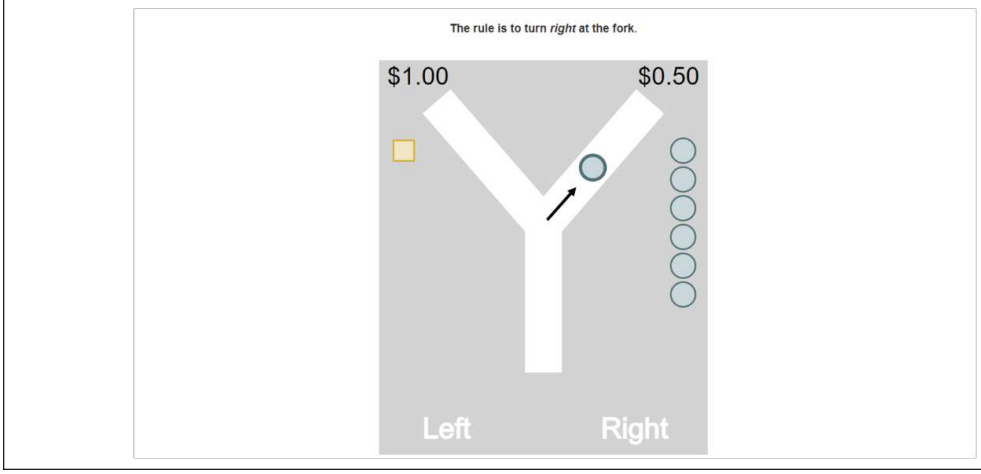
When the participant clicked the button “See what other participants did”, the circles began moving through the Y-tube to go either left (in this case, violating the rule) or right (complying with the rule).



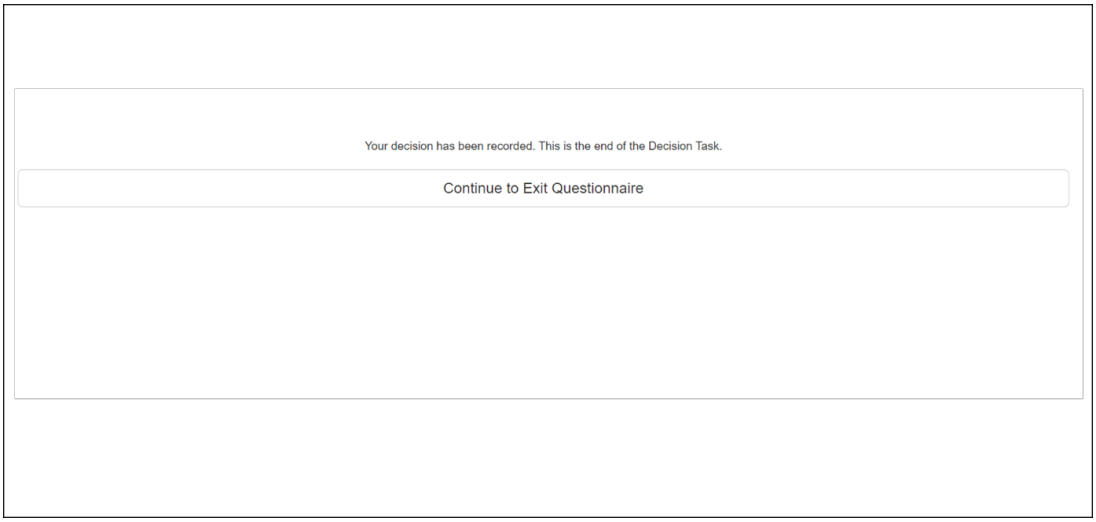
The movements from the ingroup peers have completed and are shown on the right, and the outgroup peer is moving on the screen.

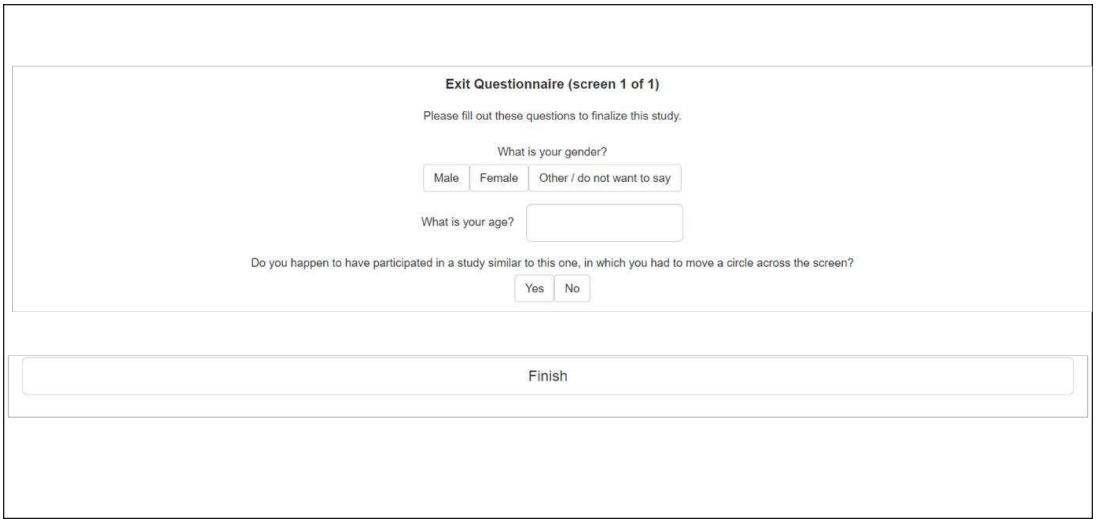


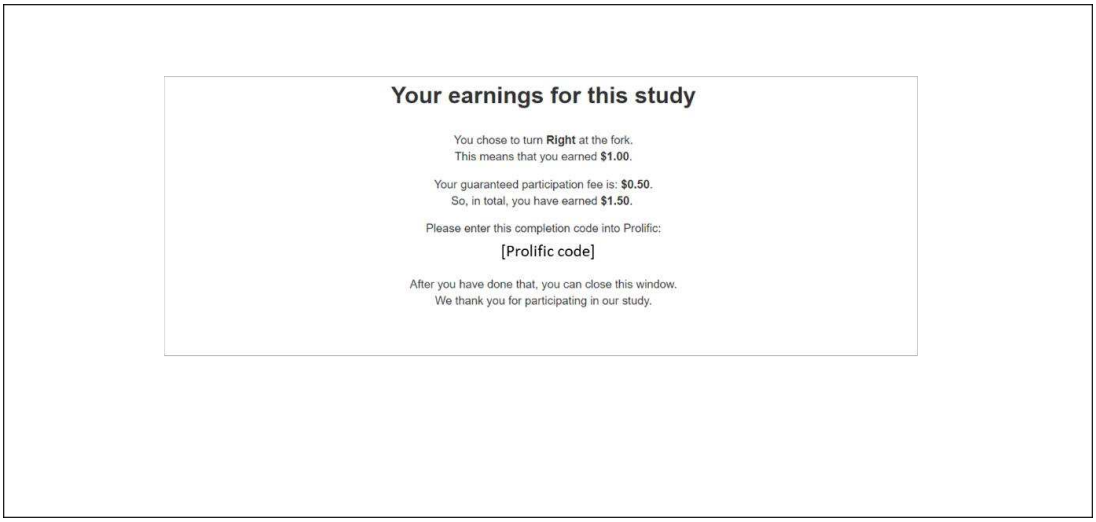
This screen is where the participant makes their decision by clicking on “Left” or “Right”.



The circle of the participant is moving through the Y-tube (in this case, the participant chose to comply with the rule, and earns a bonus of $0.50).







After entering the code on Prolific, participants received their participation fee and bonus.