# Honesty of groups: Effects of size and gender composition

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# Motivation

- **Decision-making by groups/teams** – rather than individuals – is ubiquitous.
  - Work teams, committees, groups of friends or family....
- Context: **Unethical (or even illegal) decisions**
  - Work team deciding whether to provide **honest or dishonest** (i.e. sugarcoated) report to their supervisor.
  - Recent corporate fraud scandals (e.g. Volkswagen, Enron) resulting from conspiracies of small groups of managers.
- What makes groups (less) prone to such behavior?
- We study the impact of **group size and gender composition**.

# Related literature

1. **Decisions-making by groups (mainly dyads) versus individuals**

   Surveys: Kugler/Kausel/Kocher (2012), Charness/Sutter (2012)

2. **Unethical behavior**

   - Individual decision-making (mostly lying)

     e.g. Gneezy (2005), Fischbacher/Föllmi-Heusi (2013), Abeler/Nosenzo/Raymond (2019)

   - More unethical behavior in groups compared to individuals

     e.g. Dana/Weber/Kuang (2007), Muehlheusser/Roider/Wallmeier (2015), Kocher/Schudy/Spantig (2018), Falk/Neuer/Szech (2020)

   - Underlying motives such as diffusion of responsibility

     e.g. Bartling/Fischbacher (2012), Rothenhäusler/Schweitzer/Szech (2018), Feess/Kerzenmacher/Muehlheusser (2023)

   - Virtually all group papers consider dyads or triads

# Related literature

3. **Role of gender**
   - **Individual decision-making** (e.g. risk, time, social preferences)

     e.g. surveys by Bertrand (2010), Niederle (2016)
   - **Unethical behavior**: Do men lie more than women?

     e.g. Dreber/Johannesson (2008), Erat/Gneezy (2012), Houser et al. (2016)
   - **Groups**: Gender composition and outcomes
     - Female quotas in leadership positions (Matsa/Miller, 2013), judge panels (Peresie, 2004), hiring committees (Bagues/Esteve-Volart, 2010, Bagues et al., 2017, Radbruch/Schiprowski, 2023), willingness to lead (Born/Ranehill/Sandberg, 2022), dictator game (Dufwenberg/Muren, 2006), confidence judgments (Keck/Tang, 2018)
     - **Unethical behavior**: All-male and mixed dyads lie more than all-female dyads (Muehlheusser/Roider/Wallmeier, 2015)
     - No evidence for larger groups. Gender balance or first female?

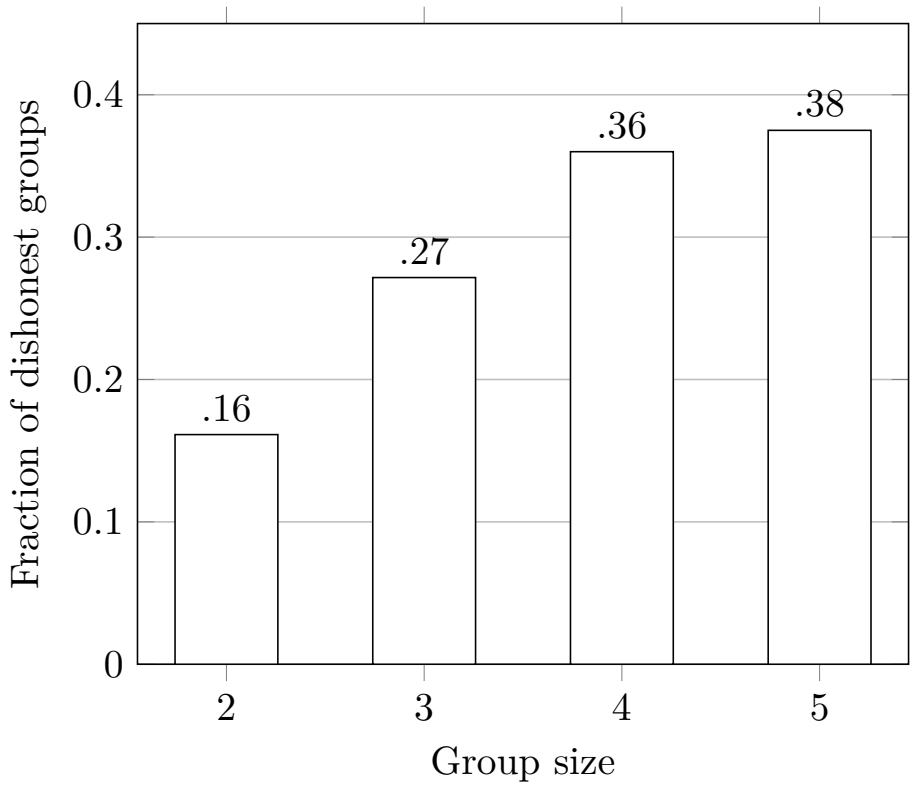
# Summary: Online group experiment

- Group members **jointly** decide whether to be **honest or dishonest**
- **18 treatments**, systematically varying **group size** ($n = 2, 3, 4, 5$) and **group gender composition** (# females in group)
- Technical innovation: Embedding a **novel video chat tool** in oTree, allowing **online face-to-face communication** and **free-form discussions**
- Preregistered at AEA RCT Registry
- 1677 subjects recruited via Prolific, leading to 447 groups

# Group task: Reporting outcome of a die roll

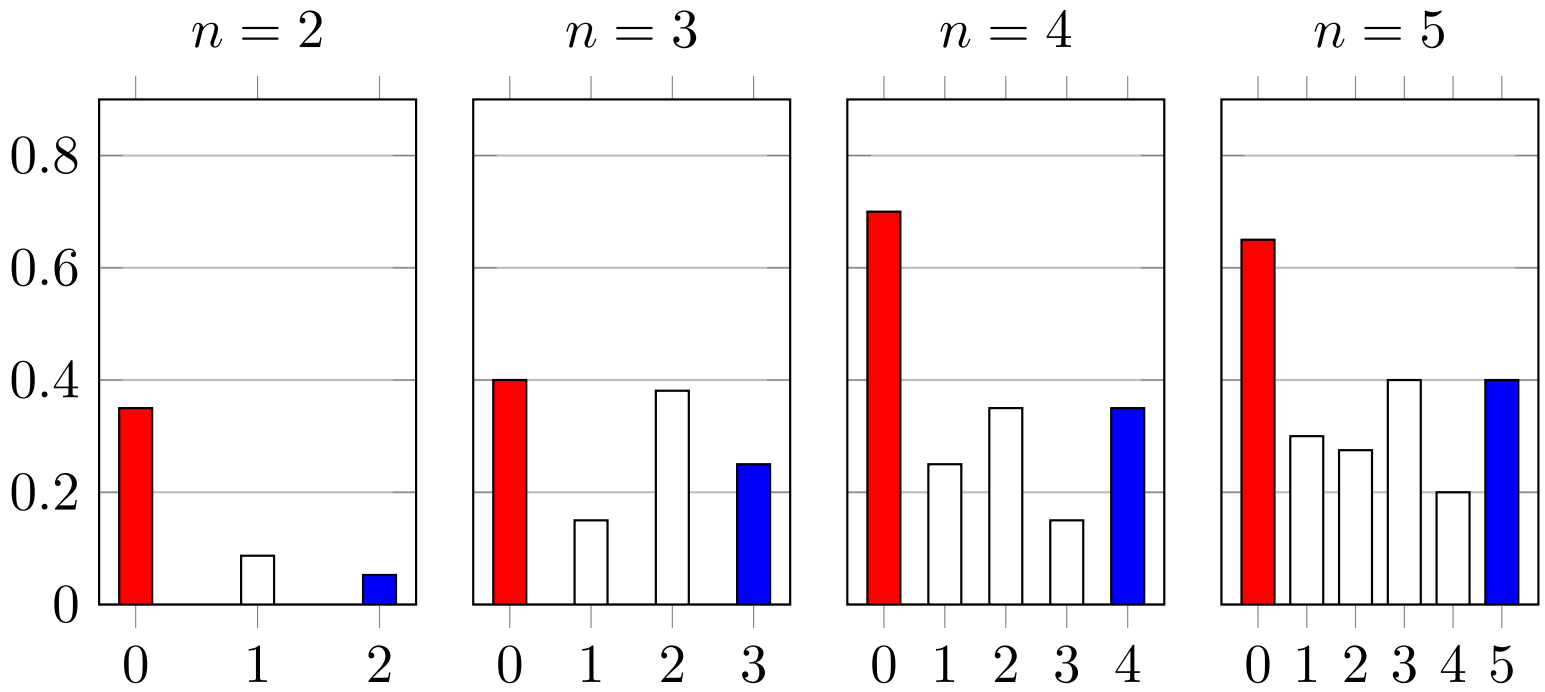
- Extending the die-roll paradigm of Fischbacher/Föllmi-Heusi (2013):
  - Group **observes (random) die roll** and is asked to **report a number** $r \in \{1, ..., 6\}$ to the experimenter.
  - Payoff $\pi$ (in £) for each group member depends only on **reported number**: $\pi = r/2$ for $r \leq 5$ and $\pi = 0$ for $r = 6$
    $\Rightarrow$ **incentive to lie** (unless number rolled is 5)
- Group members can get a positive payoff only upon reaching an **agreement** on which number to report (**unanimity**); otherwise $\pi = 0$
- To reach an agreement, group members can **discuss face-to-face** via the **online video chat tool**. ▸ Details
- **Focus on those 363 groups** (out of the 447) that have reached an **agreement** and had an **incentive to lie** (i.e. die roll outcome $\neq 5$)

# Result: More lying in larger groups



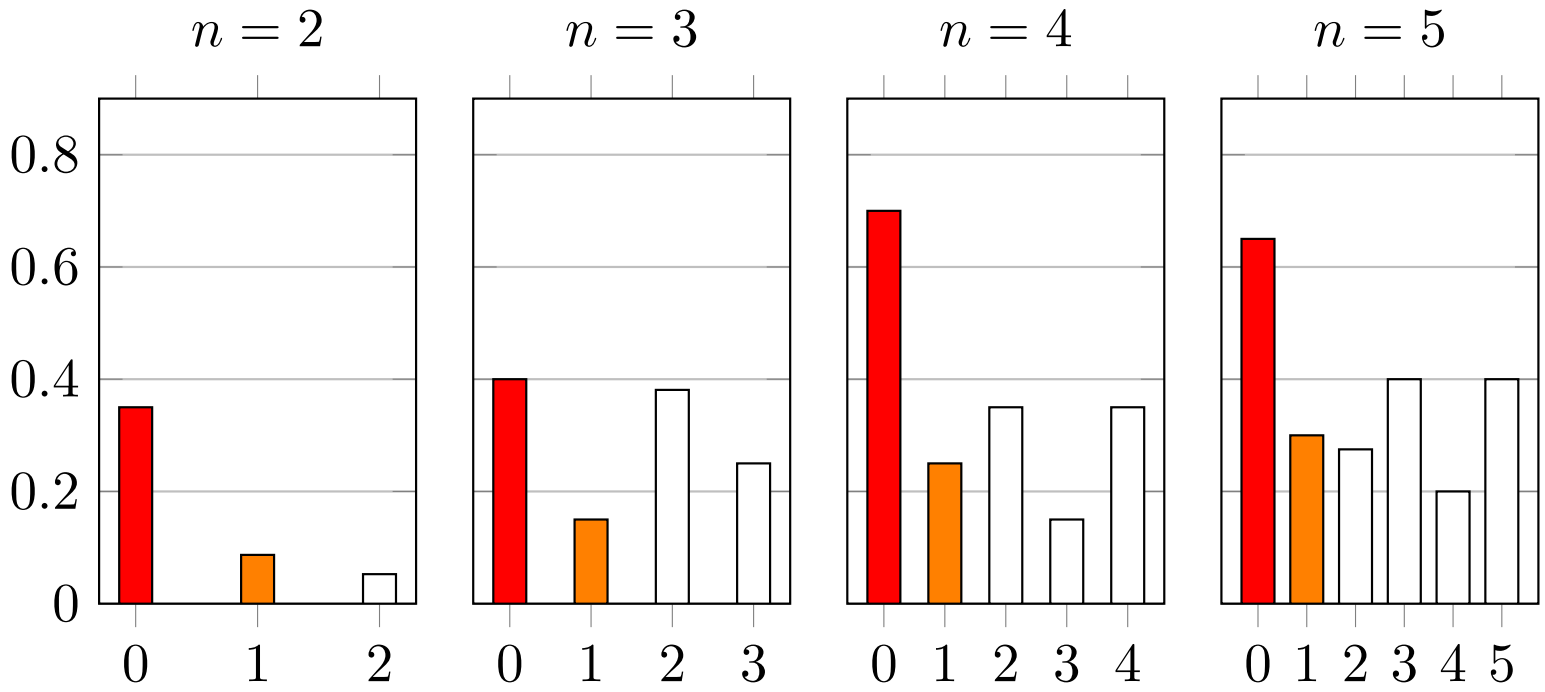

- Twice as high for $n = 4$ and $n = 5$ compared to $n = 2$
- Jonckheere-Terpstra trend test ($p = 0.002$), some pairwise differences also significant
- In line with **guilt sharing** (e.g. Rothenhäusler et al., 2018, Feess/Kerzenmacher/ Muehlheusser, 2023)

# Result: All-male groups lie more than all-female groups



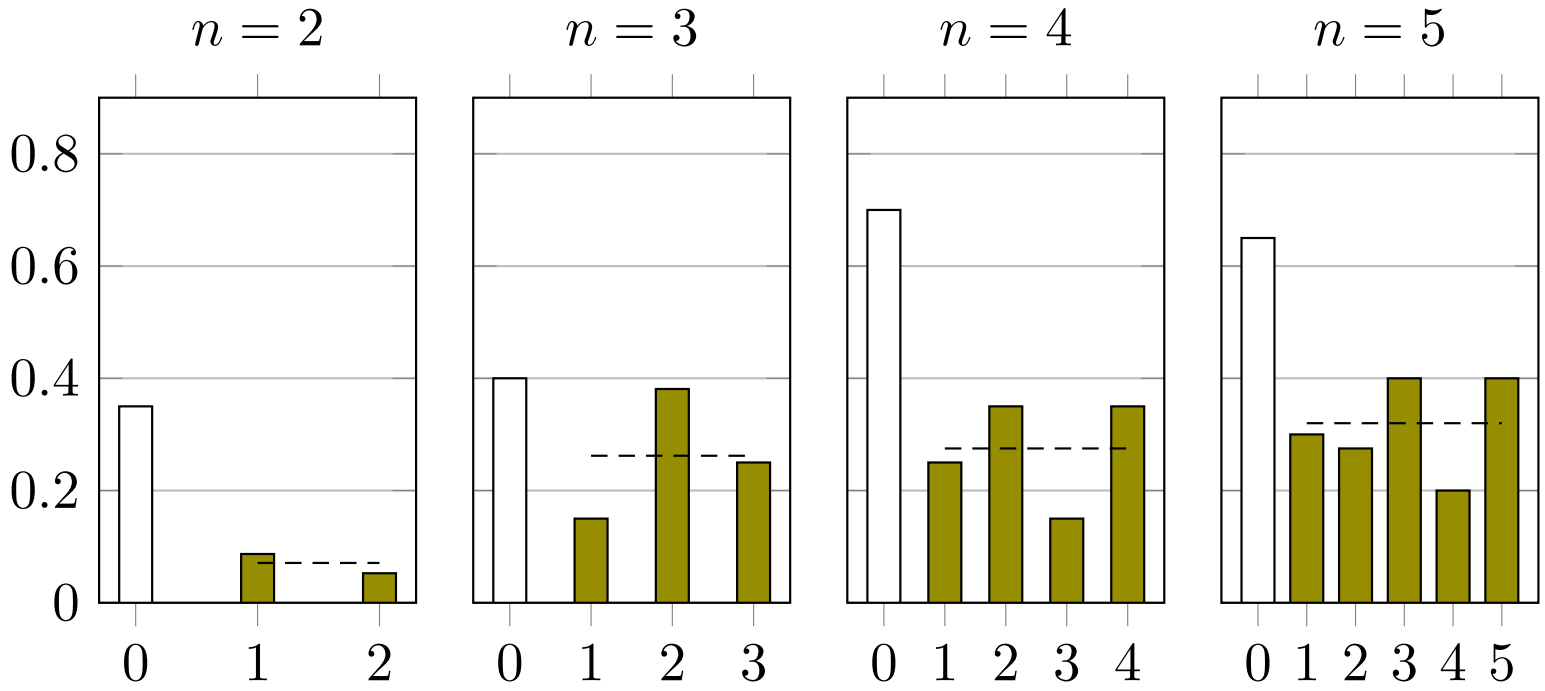

- Effect highly significant when pooling over $n$ (Chi2, $p = 0.002$), for $n = 2, 4$ also within. Extends Muehlheusser et al. (2015, dyads only)
- **Lying most prevalent in all-male groups**, and by a large margin...

# Result: All-male groups lie more than almost all-male groups




- Highly significant when pooling over $n$, and also within $n$ (except $n = 3$)
- First female in group quite effective in reducing frequency of lying
- Less clear-cut for all-female and *almost all-female* groups ▸ Details

# Result: When excluding all-male groups, gender composition does not affect lying behavior

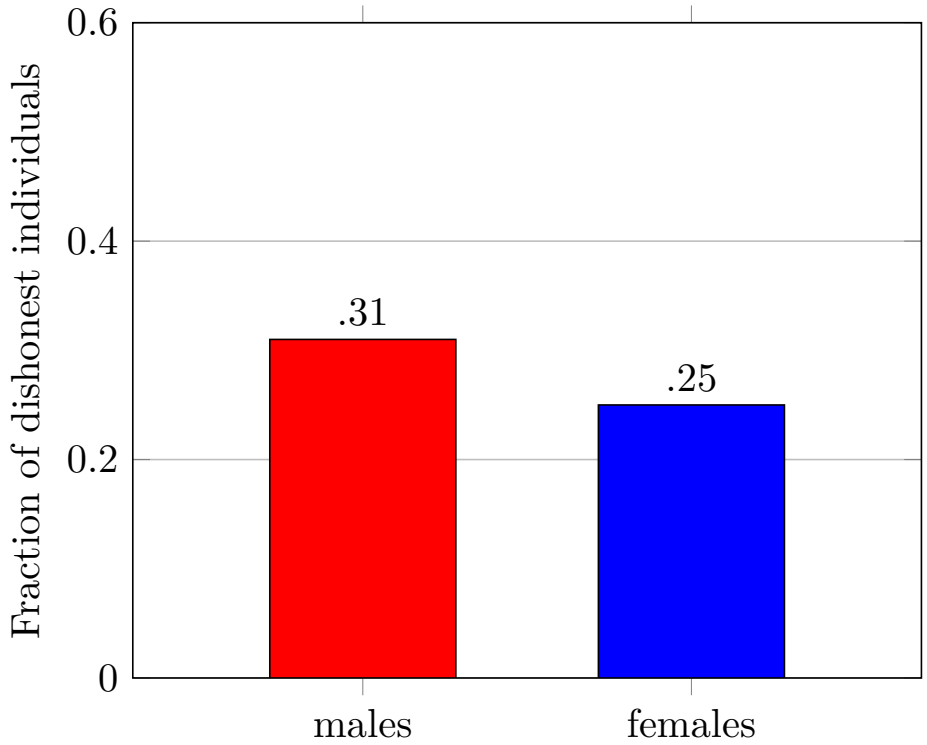



- For each $n$, no evidence for presence of trend (Jonckheere-Terpstra test). Also, virtually all pairwise comparisons are insignificant
  $\Rightarrow$ **"All-male" versus "all other"** group gender compositions

# Is group behavior driven by members' individual honesty preferences?

- Elicit **individual honesty preference** through **music quiz** (Hugh-Jones, 2016):
  - 6 questions: 3 quite easy, 3 very difficult but easy to check online
  - Bonus of £0.5 iff all 6 questions correct
  - Subjects were told **not** to look up correct answers on the internet
  - **"Cheater"** if all 6 questions correct
- We study three issues:
  1. Gender difference at the individual level?
  2. Can they explain the observed gender effects at the group level?
  3. How does the number of cheaters in the group affect group behavior? Can one *bad apple* "spoil" an entire group?

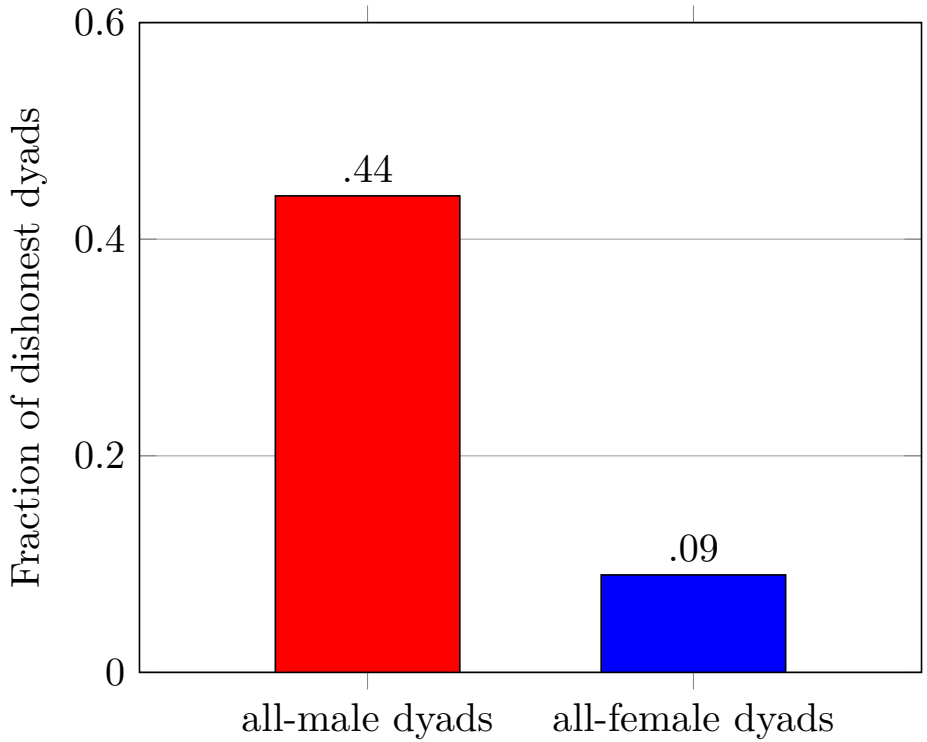
# Result: Males lie more than females




- Males are 6 percentage points more likely to lie than females ($p = 0.014$)
- In line with literature: gender difference either small or insignificant (e.g. Dreber and Johannesson, 2008, Erat and Gneezy, 2012, Houser et al., 2012, Muehlheusser et al., 2015)

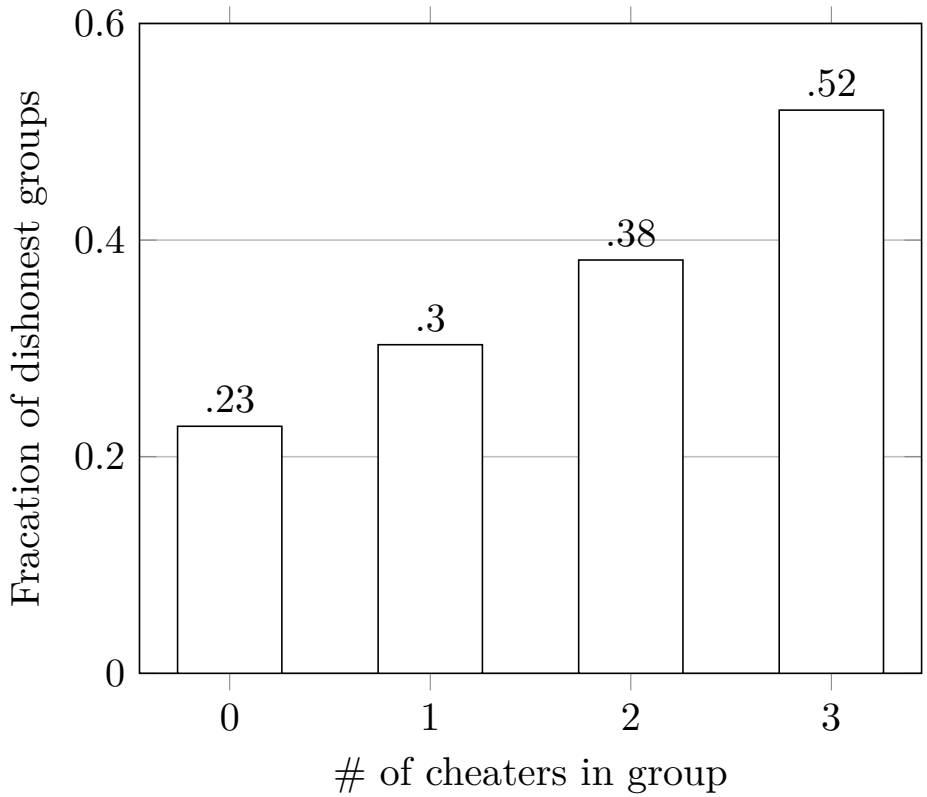
- Is this the main driver for the differences in group behavior? No...

# Result: Even when considering only groups w/o any cheaters, all-male dyads lie more than all-female dyads




- All-male dyads are 35 percentage points more likely to lie than all-female dyads ($p = 0.053$)
- Group interaction seems to play a major role for lying behavior at group level, beyond any individual gender differences in honesty

# Result: Group lying increases with # of cheaters in group




- First cheater increases lying frequency by 7 percentage points
- Rather "linear" effect than bad apple story
- In line with finding of Dimmock et al. (2018) for work teams of financial advisors

# Further results and work in progress

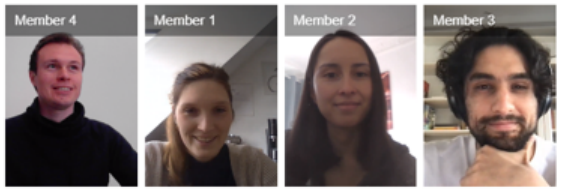
- Decision times:
  - larger groups take more time to decide
  - no difference between all-male and almost-all-male groups
- Are communication patterns gender-specific?
  - Hardt et al. (2024, context: team production, pure and gender-balanced groups of four): females talk **less** than males
  - Our finding in context unethical behavior for same group types: females talk **more** than males
  - By contrast, in almost-all-male groups females talk relatively little
  - Communication patterns not only gender-, but also context-specific
- Channels explaining the honesty shift in almost-all-male groups:
  - **Honesty beliefs** versus **image concerns** (both gender-specific)

**Thanks for your attention!**

Questions/Comments? → gerd.muehlheusser@uni-hamburg.de

# Design: Instructions and group decision

**VIDEO CHAT**




**TASK DESCRIPTION: PLEASE READ IT NOW**

1. When the counter in the video **CLIP** has reached zero, all members of your group will see the same clip that shows the roll of a standard die. Each of the six possible numbers is equally likely.
2. The die roll will be displayed for 10 seconds, and the task of your group is to memorize it.
3. You can use the **VIDEO CHAT** to discuss the die roll within your group.
4. As for payoffs, if not all group members report the same number within the time limit of 10 minutes, then every group member gets a payoff of 0. If all group members report the same number, then every group member gets a payoff as stated in the following table:

**CLIP**

02:45

| Number reported by all group members | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| Payoff for each group member (in £) | 0.50 | 1.00 | 1.50 | 2.00 | 2.50 | 0 |

5. Practically, each group member makes an individual entry in the **DECISION WINDOW**. Entries may be adjusted at any time, and the decision window displays the most recent entry of each member. When all members have entered the same number, the group report will be locked in, resulting in the payoffs according to the above table.

**DECISION WINDOW**

You are group member 4

Enter/update your report and then press "Submit":

Submit

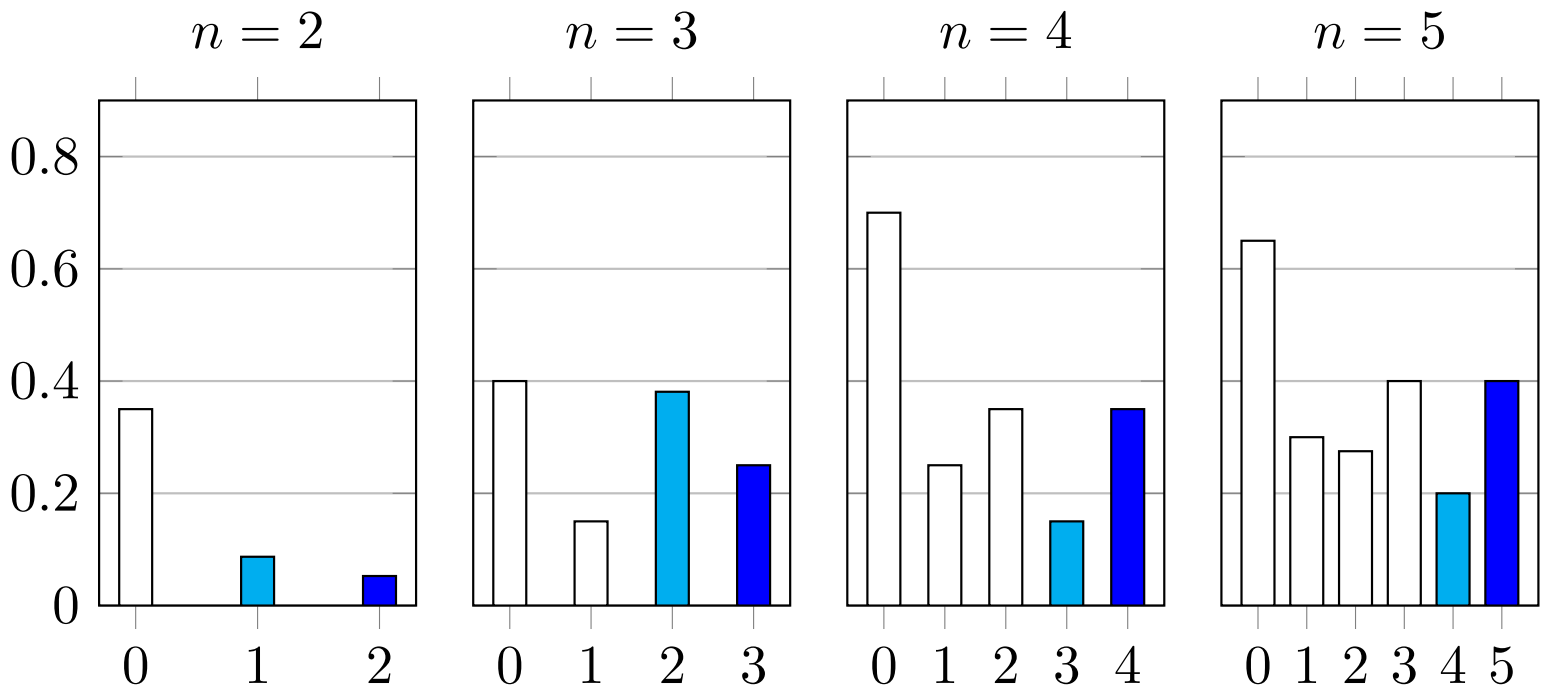
| Group member | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Number currently entered | | | | |

Identical numbers entered by all group members: **NO**

Once identical numbers have been entered by all group members and the group report has been locked in, click on any of the two circles below and then press "Next" to proceed.

▸ Back

# Result: Less clear-cut when comparing all-female groups and almost all-female groups

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