

# Confidence and Communication: Too much air time for some?

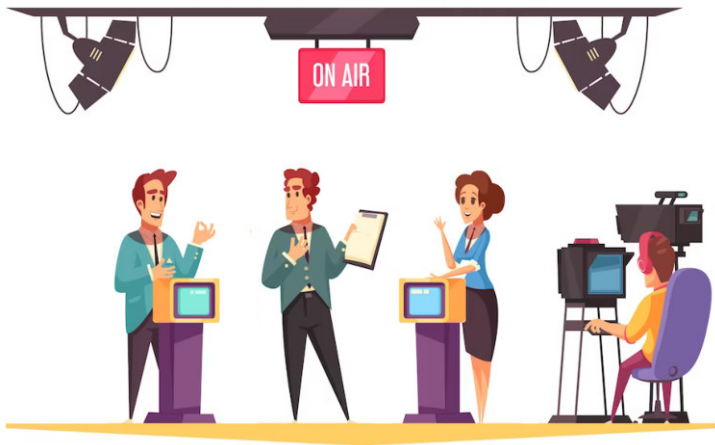
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Aarhus University

EEA Bordeaux 2025

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## Example: Political Talk Show



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- optimal coordination: Ann should talk, Bob should not

## Example: Political Talk Show



- wrong beliefs: (over)confidence

## Example: Political Talk Show



- wrong beliefs: (over)confidence
- additional incentives: competition for attention

# RQ: How people coordinate on who should talk?

## Environment

- accuracy motivation
- scarcity of time/attention

## Lab experiment on interplay of

- coordination of competences

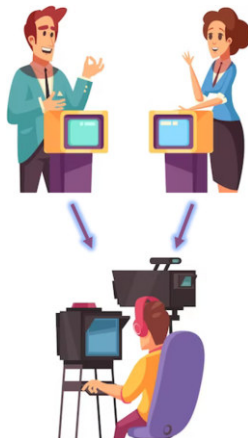
Vespa & Weizsäcker 2023, Enke et al. 2022, Coffman 2014

- (over)confidence

Kawamura 2015

- competition for attention

Charness et al. 2018, Schwardmann & van der Weele 2019



# Why Should We Care?



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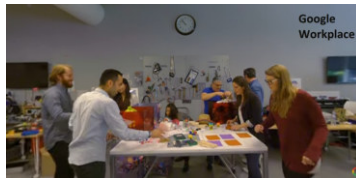


Frank Graves ✓

@VoiceOfFranky

Folgen

COVID: unvaccinated people may be seen as 'free riders' and face discrimination  
[theconversation.com/covid-unvaccin...](https://theconversation.com/covid-unvaccin...) via  
 @ConversationUK



Confidence & Communication

## Preview of the Results

Increase in confidence for all participants leads to

- 65% increase in talking
- better coordination on who should talk

Competition for attention leads to

- 27% increase in talking
- worse coordination

Feedback on relative competence leads to

- almost optimal coordination
- but listeners underestimate this effect

## Method: Lab Experiment

### Communication game

- 2 senders and 1 receiver with aligned incentives
- accuracy of sender's signal depends on his relative competence
- between-subjects design




### Treatments

- Hard: baseline
- Easy: exogenous increase in confidence hard-easy effect
- Reward: additional reward for being visible to the receiver
- Feedback: information about sender's relative competence

# Timeline

Part 1

## Reasoning Task

- determine relative competence  
- create exogenous shift in confidence (hard vs easy) 
- measure under/overplacement

Part 2

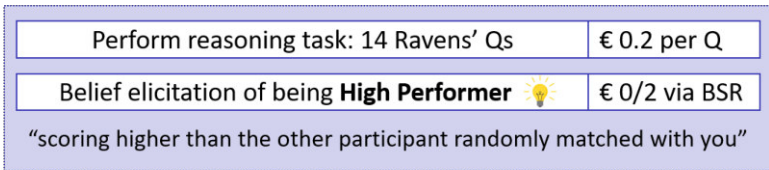
## Communication Game

- data on talking/staying silent
- data on beliefs about competence of the talker

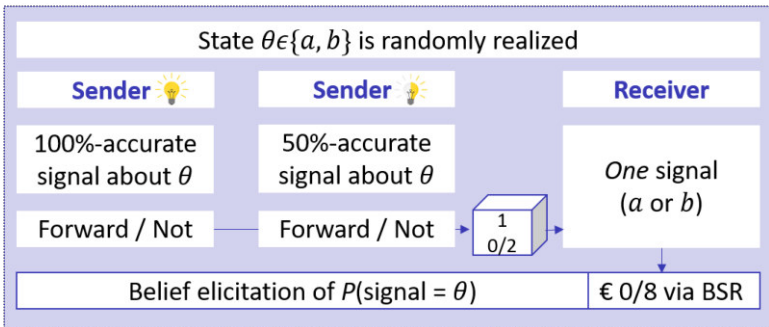


# Timeline

Part 1

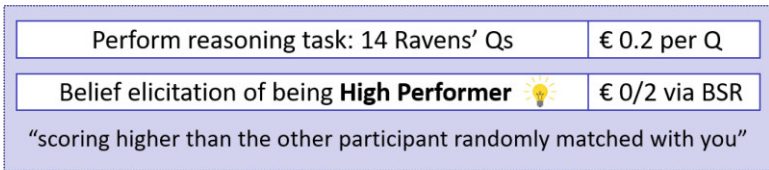


Part 2

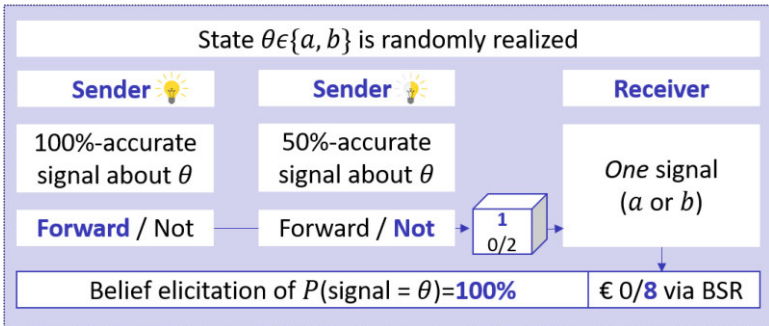


# Timeline

Part 1

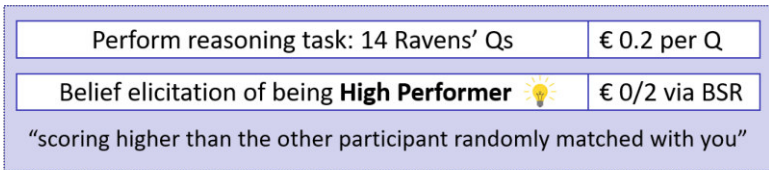


Part 2

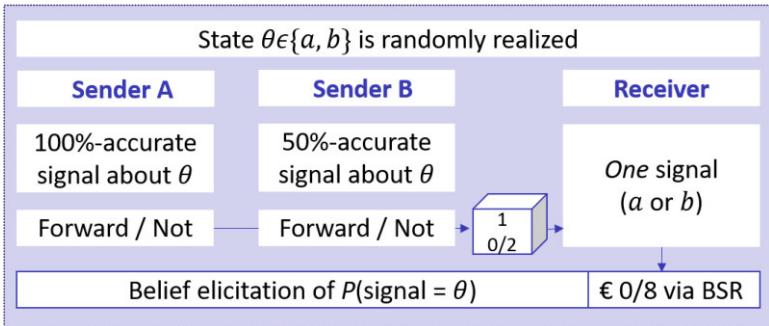


# Timeline

Part 1



Part 2



# Treatments

Participants are assigned to the same treatment during one session

**Hard:** hard and moderate Ravens' Qs

**Easy:** easy and moderate Ravens' Qs

**Reward:** Hard

+ small reward to sender (€ 2) whose signal is shown to receiver

**Feedback:** Hard

+ feedback about being the High/Low Performer

# Pre-registered Hypotheses

**Treatments:** Hard, Easy, Reward, Feedback

## Senders

$H_0^S$  (H vs E)  $\hat{\eta}_i^{\text{Easy}} > \hat{\eta}_i^{\text{Hard}}$  on average

$H_1^S$  (H vs E)  $\uparrow$  fraction of experts forward signals in Easy

$H_2^S$  (H vs R)  $\uparrow$  fraction of experts forward signals in Reward

$H_3^S$  (H vs F) feedback improves coordination of experts

**Receivers** correctly assess the advice informativeness

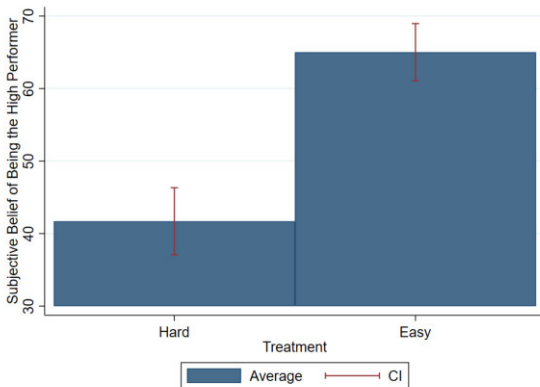
$H_1^R$  (H vs E)  $\mu^{\text{Easy}} < \mu^{\text{Hard}}$  on average

$H_2^R$  (H vs R)  $\mu^{\text{Reward}} < \mu^{\text{Hard}}$  on average

$H_3^R$  (H vs F)  $\mu^{\text{Feedback}} > \mu^{\text{Hard}}$  on average

Procedure

## Treatment Manipulation



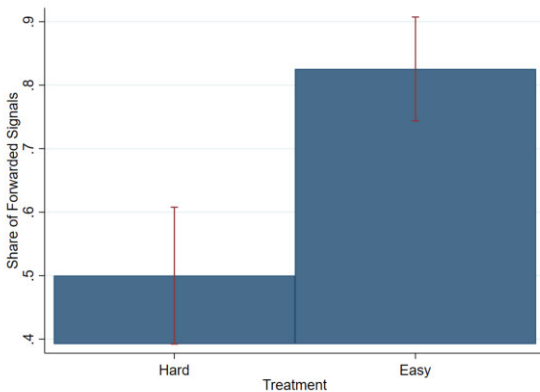
$H_0^S$ : hard-easy effect ✓

Median

Cum. Dist.

↓ the difficulty level of the reasoning task ↑ the average confidence of participants in their own relative performance.

## Share of Forwarded Signals



$H_1^S$  ✓ OLS

↑ in confidence translates into ↑ in share of forwarded signals.

# Treatment effect operates via beliefs

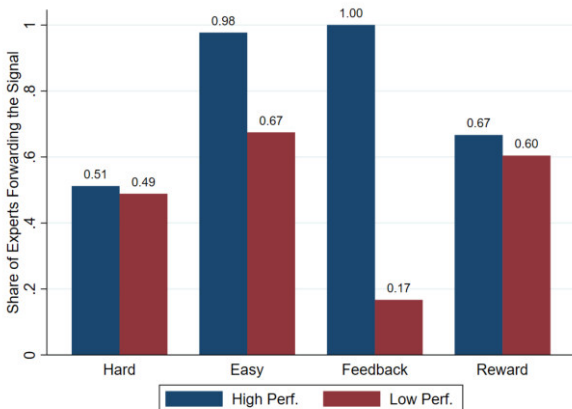
## Dep.V. Forwarding a signal

	(1) OLS	(2) IV	(3) IV
Subjective belief	1.1705*** (0.1077)	1.3965*** (0.2560)	1.3481*** (0.2780)
Risk aversion			0.0202 (0.0182)
Constant	0.0383 (0.0750)	-0.0823 (0.1433)	-0.1700 (0.1248)
Number of observations	172	172	172
R-squared	0.3269	0.3147	0.3255

$H_1^S$  ✓

↑ in confidence translates into ↑ in share of forwarded signals.

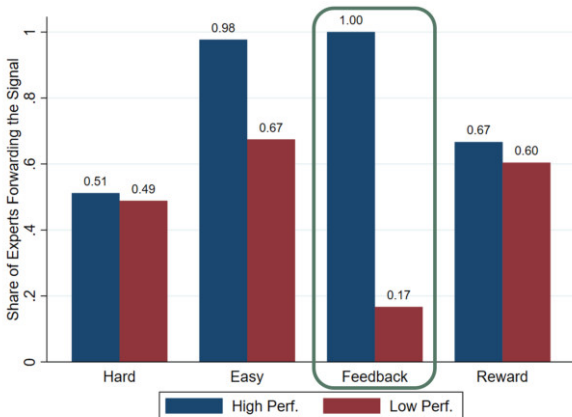
## Share of Forwarded Signals by Treatment

 $H_2^S$  ✓

Sum. Stat.

Competition for attention ↑ share of forwarded signals.

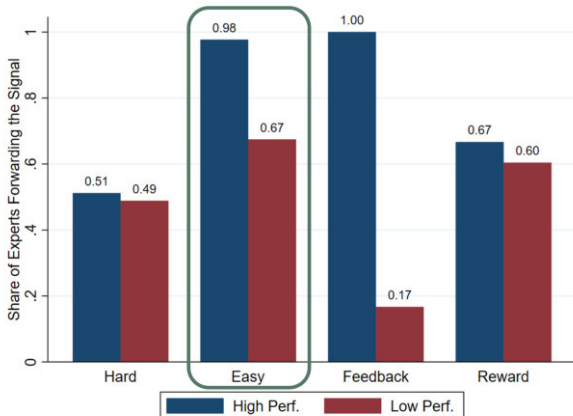
## Share of Forwarded Signals by Treatment

 $H_2^S$  ✓

Sum. Stat.

Competition for attention ↑ share of forwarded signals.

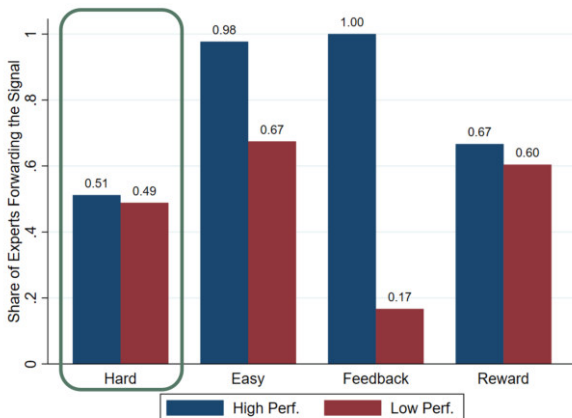
## Share of Forwarded Signals by Treatment

 $H_2^S$  ✓

Sum. Stat.

Competition for attention ↑ share of forwarded signals.

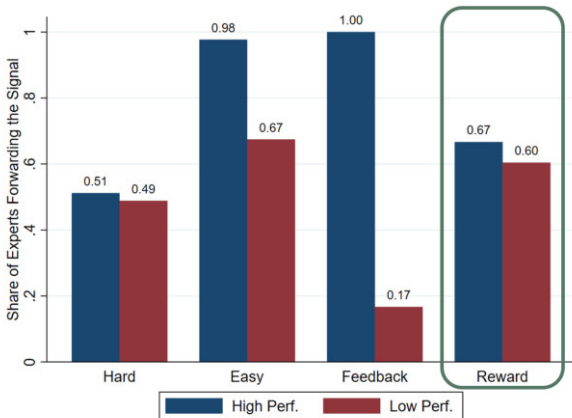
## Share of Forwarded Signals by Treatment

 $H_2^S$  ✓

Sum. Stat.

Competition for attention ↑ share of forwarded signals.

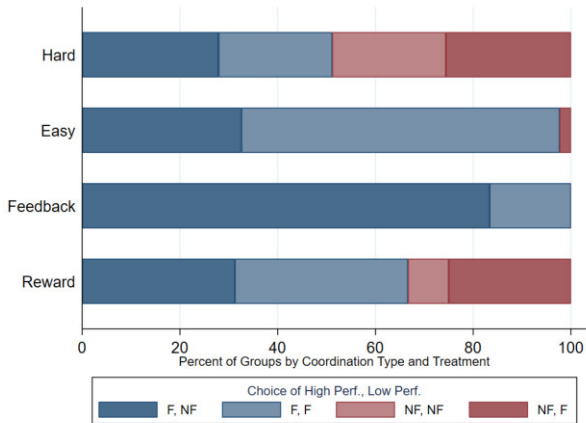
## Share of Forwarded Signals by Treatment

 $H_2^S$  ✓

Sum. Stat.

Competition for attention ↑ share of forwarded signals.

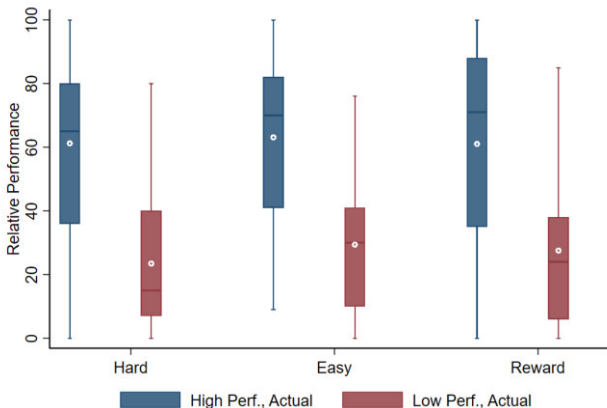
## Coordination of Senders



$H_3^S$  ✓

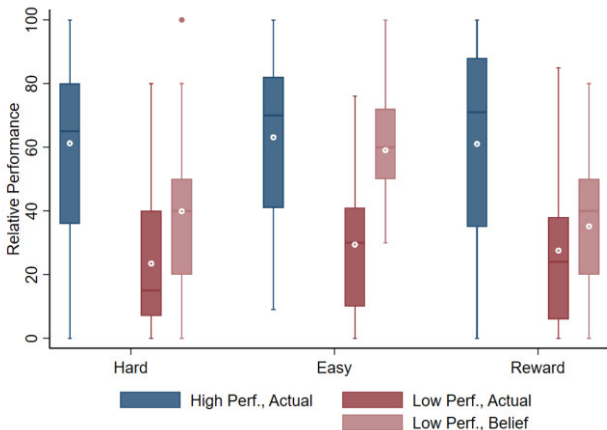
Providing feedback on relative performance improves coordination.

## Individual Over/Underplacement



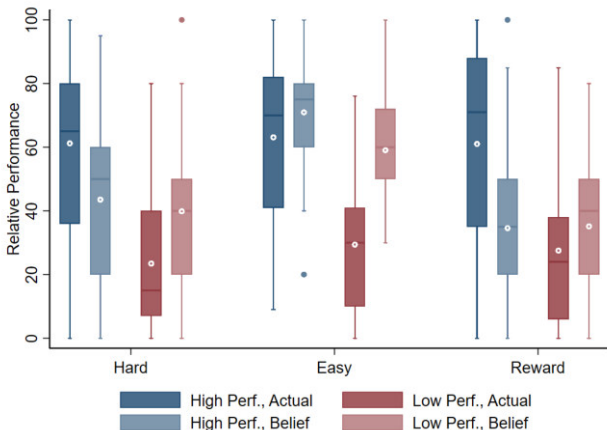
- HPs perform better than LPs

## Individual Over/Underplacement



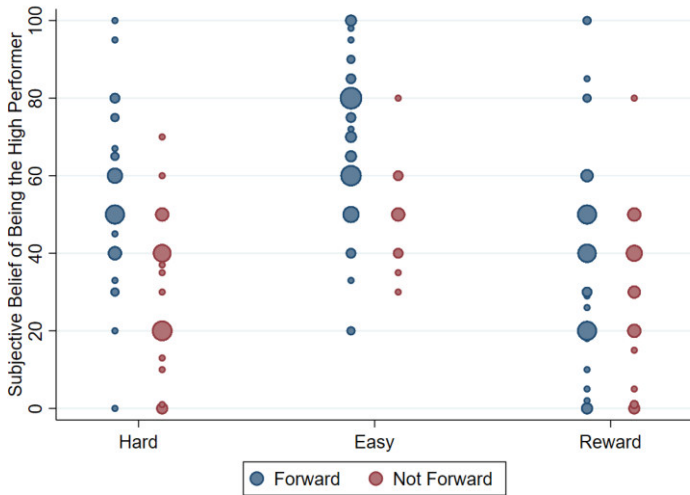
- HPs perform better than LPs
- LPs overestimate their relative performance

## Individual Over/Underplacement

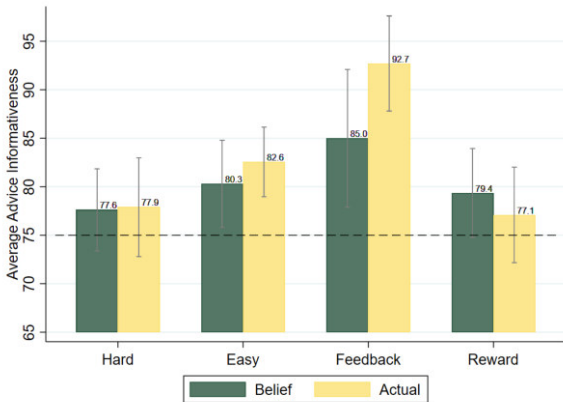


- HPs perform better than LPs
- LPs overestimate their relative performance
- HPs underestimate their rel. performance in all treatments but Easy

# Competition for Attention Impedes Coordination



# Advice Informativeness



$H_1^R$  ✗  $H_2^R$  ✗  $H_3^R$  ✓ Cum. Dist.

DMs expect ↓ advice informativeness in the Hard treatment compared to that in the three other treatments.

# Summary of Findings

## Hard vs Easy

- confidence drives talking
- larger effect for more competent but less confident talkers

## Hard vs Reward

- competition for attention leads to more talking
- impedes coordination

## Hard vs Feedback

- feedback about relative performance improves coordination
- listeners' beliefs about talker's competence do not fully adjust

## Key Takeaways

If talkers have aligned incentives in delivering accurate information, it might be beneficial to

1. Induce optimal confidence level
  - provide feedback (Fellner-Röhling et al. 2023)
  - boost confidence (Morrison 2022) Example
2. Exclude competition for attention motive or at least stress the importance of advice to the listener

# Social Media

## Sharing

- accuracy motivation: share meaningful information (Cosme et al.2022)
- limited time/attention span: 59% of users posting links on Twitter do not click on the link they share (Gabelkov et al. 2016)
- false beliefs about own competence (Ward et al. 2022)

⇒ those who encounter false information may actively spread it (coordination problem)

## Consuming

- confident in their ability to identify fake news (Barthel et al. 2016)

⇒ identifying accuracy of information

# Implications for Social Media Design

- Misinformation policy



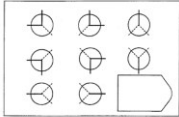
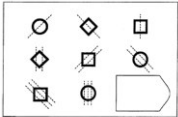
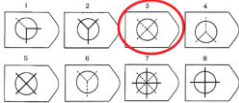
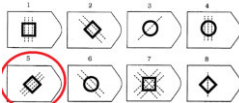
⇒ feedback improves coordination: more accurate content  
⇒ nevertheless, audience might not fully update its belief about the content accuracy

- Career on social media

⇒ impedes coordination: expert's belief about own relative competence plays a minor role in sharing the content

## Hard-Easy Effect (Moore & Healy 2008)

- on hard tasks – **underplacement**; on easy – **overplacement**
- exogenous shock to belief on one's own relative competence
- by varying the difficulty of the reasoning task - 14 Qs from the Raven's Advanced Progressive Matrices (RAPM)

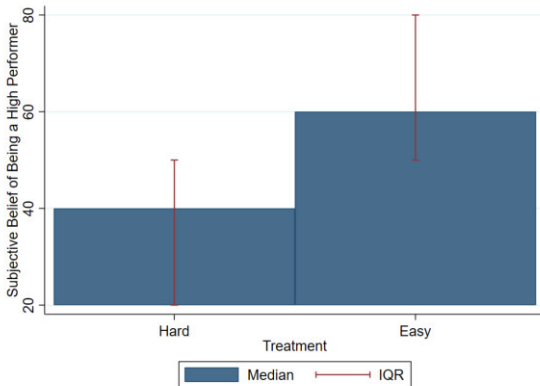
Hard Treatment	Easy Treatment
moderate and hard Qs	easy and moderate Qs
	
	

## Procedure

- pre-registered at AsPredicted
- programmed in z-Tree (Fischbacher, 2007)
- conducted at the WZB-TU exp. laboratory, summer 2023
- 474 participants, 27 sessions (9-21 participants per session)
- 193 female, 277 male, 4 diverse
- mean earnings € 16.15
- 83,12% made at most one mistake in comprehension questions

Main

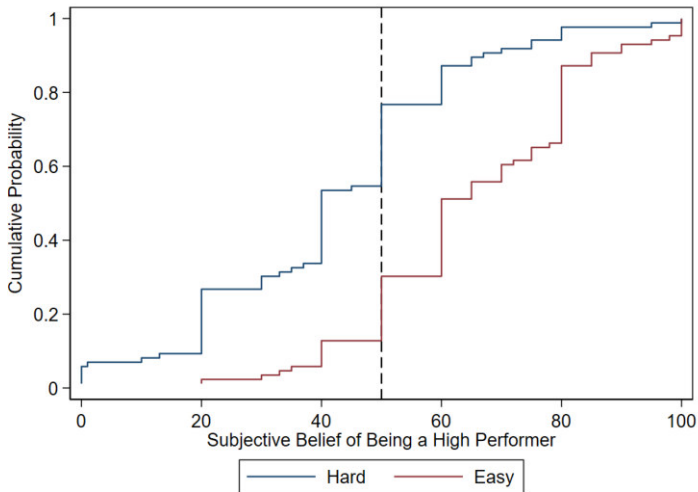
## Treatment Manipulation



$H_0^S$ : hard-easy effect ✓

↓ the difficulty level of the reasoning task ↑ the median confidence of participants in their own relative performance. Main

# Cumulative Distribution Functions



# Share of Forwarded Signals

## Dep.V. Forwarding a signal

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
Treatment (Easy = 1)	0.3256*** (0.0681)	0.3270*** (0.0680)	0.2970*** (0.0690)	0.2986*** (0.0689)
Female		0.0307 (0.0689)		0.0389 (0.0674)
Risk aversion			0.0512*** (0.0180)	0.0516*** (0.0180)
Constant	0.5000*** (0.0542)	0.4878*** (0.0609)	0.2268** (0.1087)	0.2092* (0.1141)
Number of observations	172	172	172	172
R-squared	0.1186	0.1196	0.1571	0.1587

$H_1^S$  ✓

↑ in confidence translates into ↑ in share of forwarded signals.

Main

## Summary Statistics

	Mean	S.D.	Min	Median	Max	N
<b>Hard</b>						
N of answers	8.95	3.50	2	9	14	129
N of correct answers	2.93	1.92	0	3	9	129
Subjective belief	40.3	21.5	0	40	100	129
<b>Easy</b>						
N of answers	12.4	1.91	7	13	14	129
N of correct answers	9.69	2.33	4	10	14	129
Subjective belief	63.4	18.2	8	60	100	129
<b>Feedback</b>						
N of answers	9.49	3.24	3	9.50	14	72
N of correct answers	2.57	1.63	0	2	6	72
Subjective belief	33.7	20.3	0	37.5	100	72
<b>Reward</b>						
N of answers	9.74	3.70	1	10	14	144
N of correct answers	2.67	1.89	0	2	8	144
Subjective belief	35.3	21.7	0	40	100	144

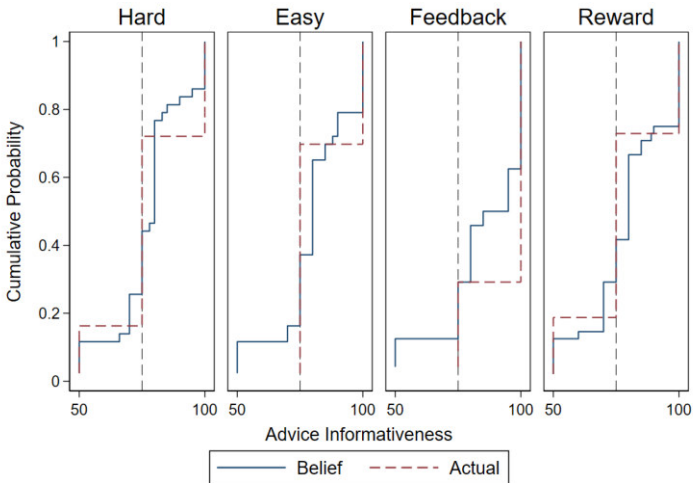
# Individual Over/Underplacement

## Dep.V. Forwarding a signal

	(1) OLS	(2) IV	(3) IV
Over/underplacement	0.2789*** (0.1045)	1.6797*** (0.5008)	1.6354*** (0.5470)
Risk aversion			0.0154 (0.0318)
Constant	0.6375*** (0.0383)	0.5105*** (0.0678)	0.4283*** (0.1580)
Number of observations	172	172	172
R-squared	0.0336	.	.

Main

# Cumulative Distribution Functions



# Boosting Confidence

## Job ad at the econjobmarket.org

“We encourage you to **apply even if you do not meet every single qualification**: some strong candidates may lack parts of the listed qualifications. Research shows that underrepresented groups are more prone to experiencing **imposter syndrome and doubting the strength of their candidacy**, so we urge you not to exclude yourself prematurely and to submit an application if you’re interested in this work.”

Main