ECON 1200B

Experimental Economics

Trust and Reciprocity

Professor Sierra Smith



A Leap of Faith

- You hand your car keys to a valet
- You type your card number into a website you've never used
- You pay a contractor a deposit before any work is done
- Your employer pays you on Friday for work you did all week

What these have in common

One side goes first and is exposed. The other side could take advantage but usually doesn't.

- Kenneth Arrow (1974) argued that trust is part of virtually every economic transaction
- Contracts can't cover everything. Trust fills the gaps

Two Ideas

Trust

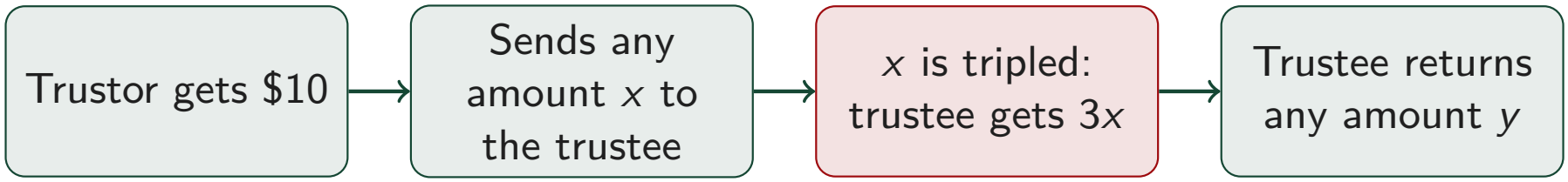
Putting yourself at risk by giving someone else control and expecting them not to exploit it.

Reciprocity

Responding to kindness with kindness (and unkindness with unkindness).

- Our last two classes were about one-way splits
- In the dictator game, the receiver couldn't respond; in the ultimatum game, they could only accept or reject
- Today the second player gets money because the first player trusted them and decides how much to give back
- Trust only pays if the other side reciprocates

The Trust Game



	Trustor gets	**Trustee gets**
Payoff	$10 - x + y$	$3x - y$
Send nothing	\$10	\$0
Send \$10, trustee keeps it all	\$0	\$30
Send \$10, trustee returns \$15	\$15	\$15

- The second stage is a dictator game, except the trustee's money came from the trustor

What Theory Predicts

Backward induction

- The trustee has no reason to return anything, so $y = 0$
- Knowing that, the trustor sends nothing, so $x = 0$
- Everyone ends with the \$10 they started with

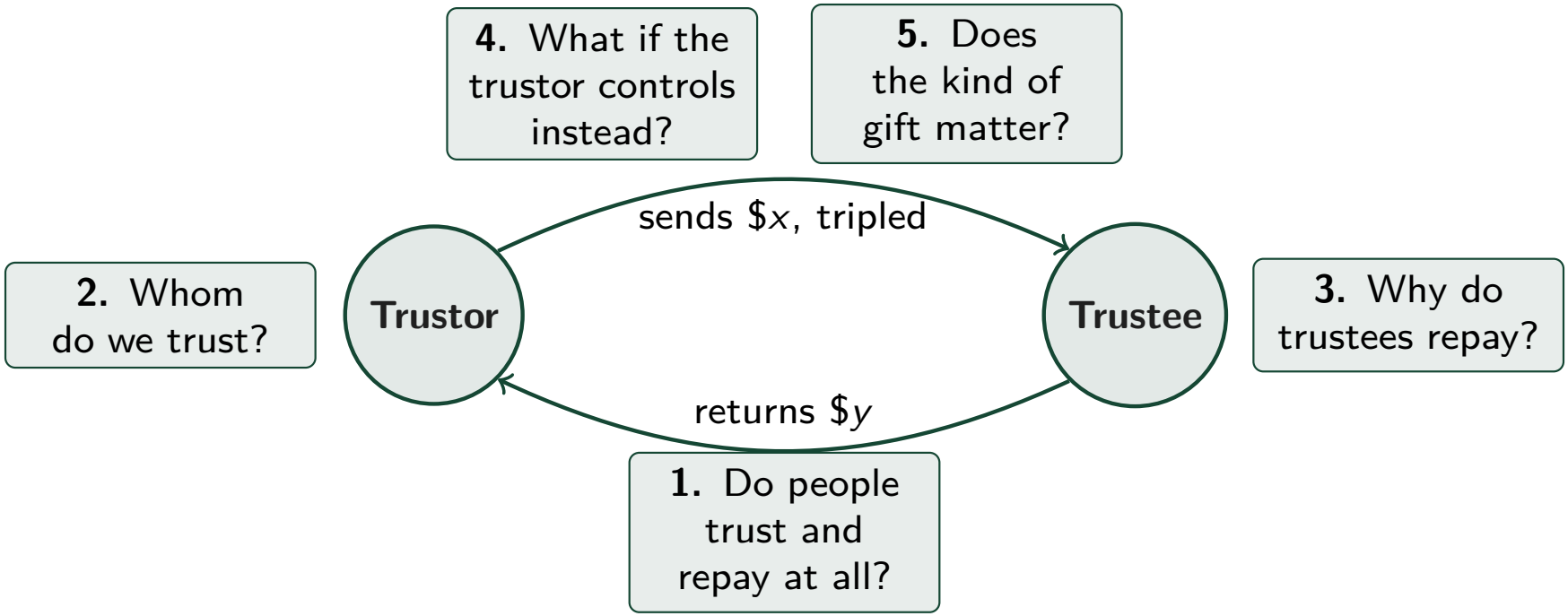
What's left on the table

- If the trustor sends all \$10, the pair has \$40 instead of \$10
- Any split of the \$40 that gives the trustor more than \$10 makes both better off

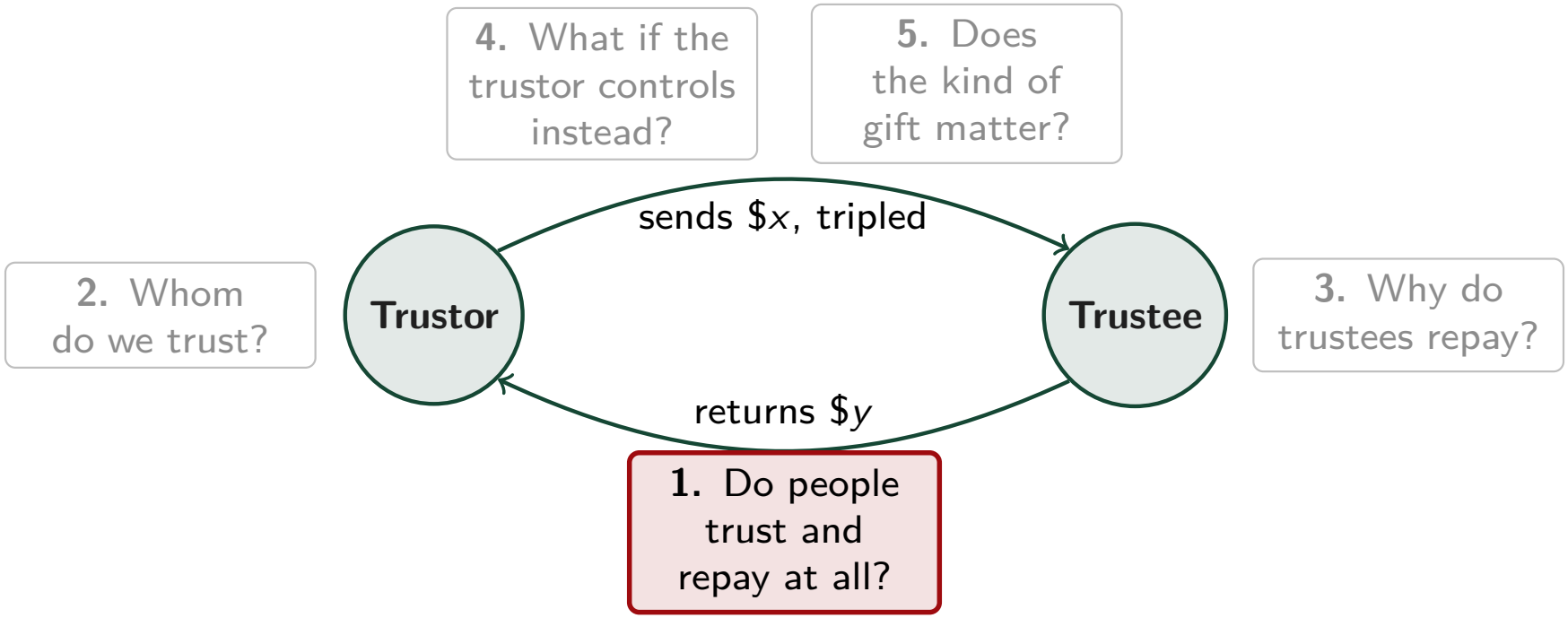
The dilemma

Trust creates value, but only if the trustee reciprocates, and a selfish trustee won't. So selfish players never realize the gains.

Today's Map



- Each paper studies one part of this exchange
- We start with the foundation (does trust happen at all?), then move to the lab details, then to a real workplace



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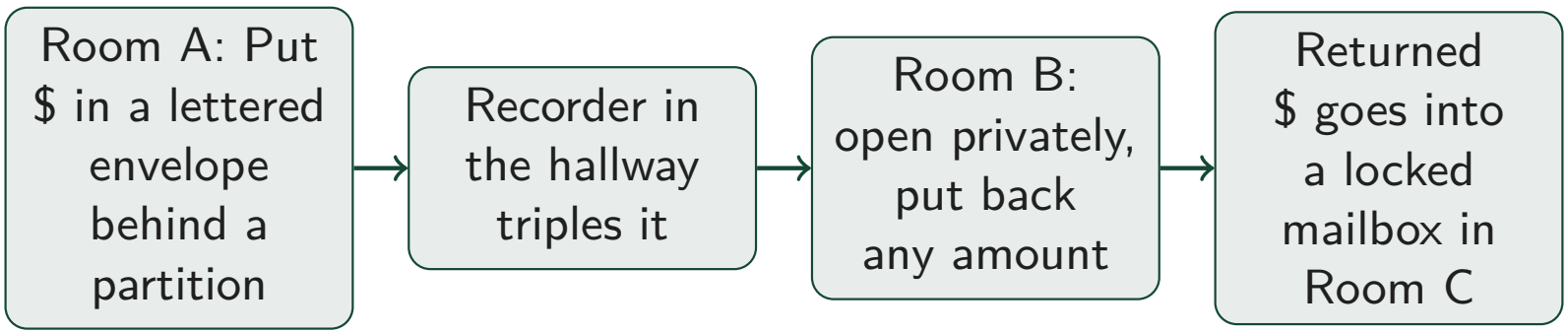
Do you trust a complete stranger and does that stranger repay?

Trust, Reciprocity, and Social History

Berg, Dickhaut & McCabe *Games and Economic Behavior, 1995*

The Design

- Undergraduates at the University of Minnesota
- Room A (trustors) and Room B (trustees); each got a $10 show-up fee
- Double blind: no one, not even the experimenter, could link a decision to a person



Two Treatments

No history (32 pairs)

Play the game cold.

Social history (28 pairs)

New subjects get a one-page report of what the first 32 pairs did: how often each amount was sent and what came back.

Selfish prediction	**Trust-and-reciprocity alternative**
Trustors send \$0	Some trustors send money
Trustees return \$0	Some trustees return more

- Social history could go either way: it shows many trustees kept everything, but also that some amounts paid off

No History: Most People Trust

Trustors

- 30 of 32 sent money
- Average sent: $5.16
- 5 sent the full $10

Trustees (28 who were sent more than $1)

- 12 returned $0 or $1
- 11 returned more than was sent
- Average returned: $4.66



Social History: Reciprocity Gets Stronger

	No history	Social history
Trustors who sent \$0	2 of 32	3 of 28
Average sent	\$5.16	\$5.36
Average returned	\$4.66	\$6.46
Average net return to trustor	−\$0.50	+\$1.10
Average returned when \$10 was sent	\$10.20	\$13.17

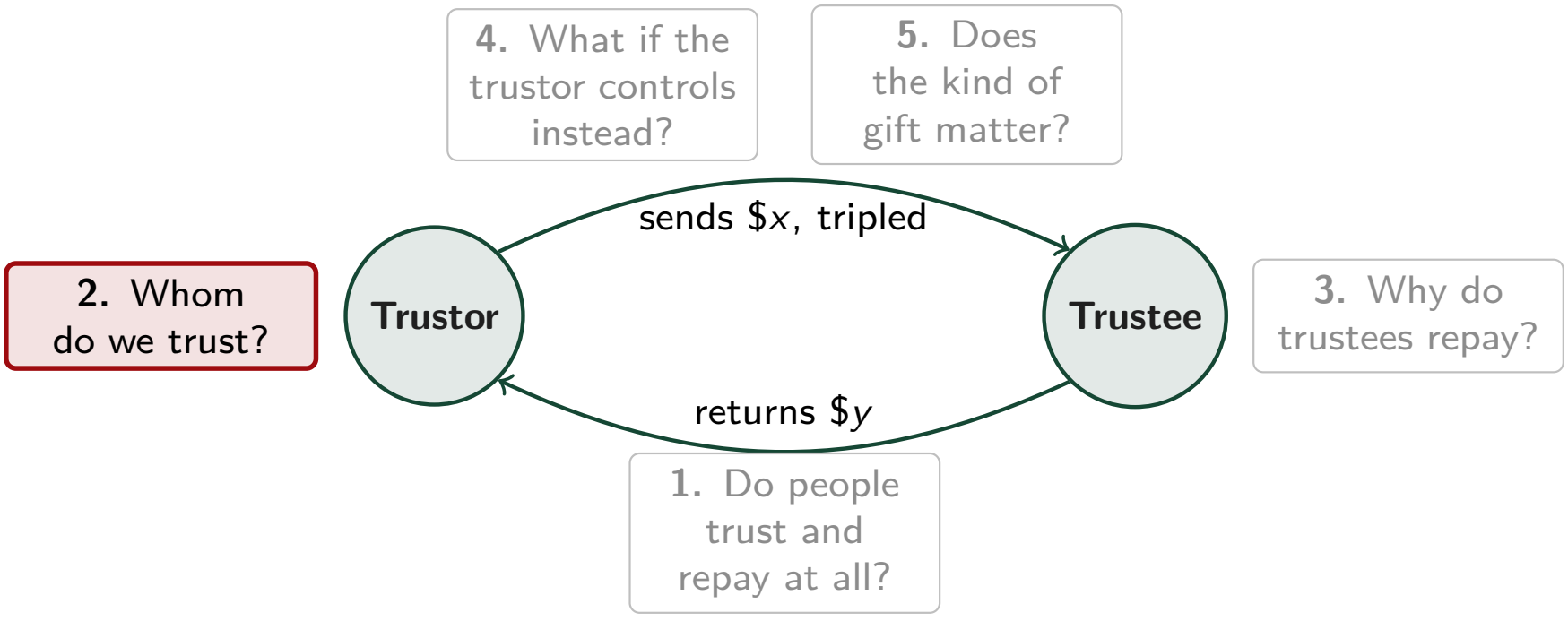
- Seeing the history didn't make people stop trusting
- Instead, trustees returned more and trust started to pay off

What the Authors Conclude

- 55 of 60 trustors sent money, with nothing on the line
- Self-interest alone can't explain the results
- People are initially trusting
- But reciprocity is mixed

Questions for today

- How do trustors decide whom to trust?
- Why do the trustworthy ones repay?
- Should a trustor just protect themselves instead?



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Whom do we trust? Does a smile help?

The Value of a Smile: Game Theory with a Human Face

Scharlemann, Eckel, Kacelnik, & Wilson *Journal of Economic Psychology, 2001*

Reading Faces

- If you could pinpoint who is trustworthy, life would be easy
- But if there is a signal of trustworthiness, fakers can imitate it
- A trust signal only works if it's hard to fake
- A genuine smile may be one
  - Only about 10% of people can deliberately control all the facial muscles a real smile uses
- Smiles already matter elsewhere: smiling servers get bigger tips and smiling defendants get lighter sentences

The question: with real money at stake, are people more likely to trust a stranger who smiles?

Two Studies

Study 1: Rating faces

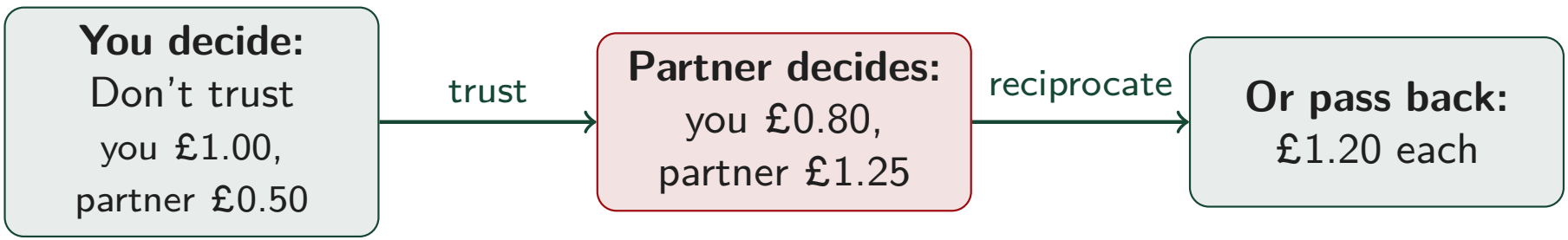
- 60 people photographed twice: one smiling, one neutral
- 120 raters scored one photo on 25 word pairs (honest/dishonest, friendly/unfriendly...)
- Smiling photos scored higher on a "cooperative" factor

Study 2: A trust game

- 120 Oxford graduate students and staff
- Each saw a photo of their "partner," smiling or not
- Small stakes: about £1

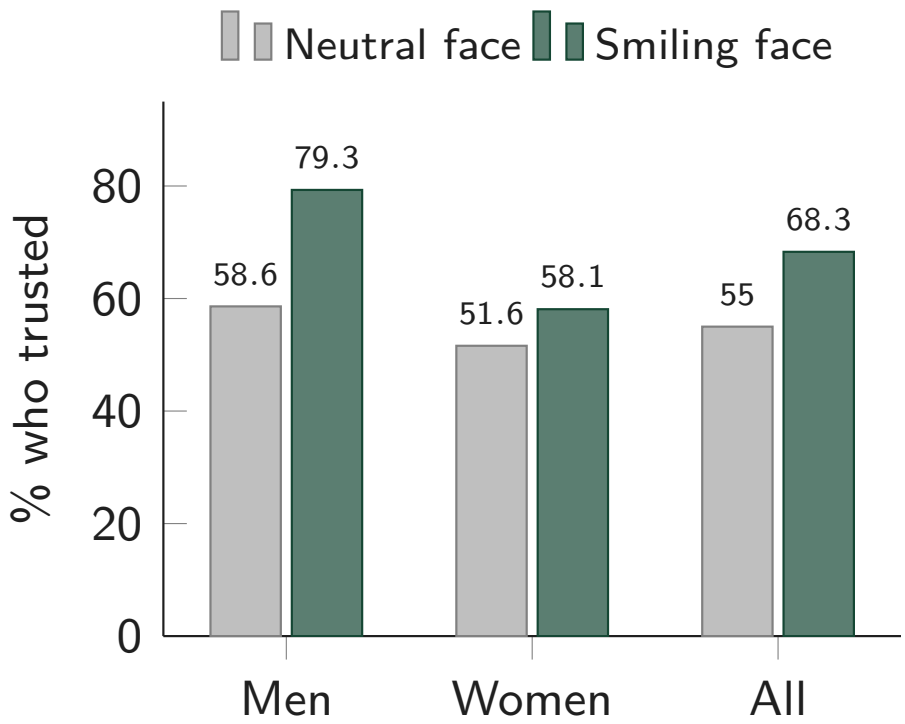
- **Same face, two versions:** comparing a person's smiling and neutral photo isolates the smile
- **One catch:** the "partner" was actually a computer that always reciprocated

The Game



- Trusting risks going from £1.00 to £0.80, for a chance at £1.20
- The selfish prediction is still: don't trust
- Because the partner was a computer, only the first choice tells us anything

Results: Smiles Earn Trust



Grouped by the sex of the person deciding.

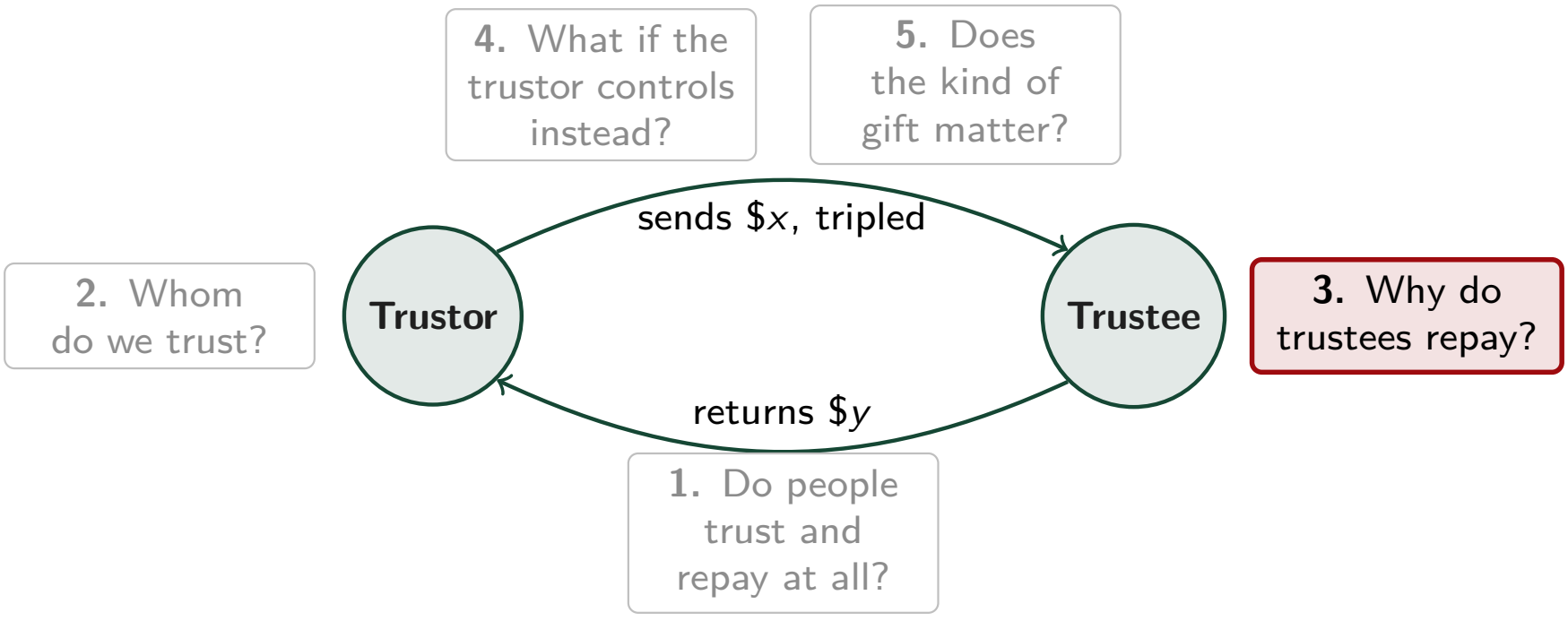
- A smile raised trust from 55% to 68%
- Men responded strongly to smiles; women much less
- Men trusted women's faces more (83% vs. 65%)
- Women trusted women's faces least (36% vs. 60%)

More Than a Smile

- The "cooperative" rating from Study 1 predicted trust better than the smile alone
- As a face looked more cooperative, men's chance of trusting rose from 22% to 97%. Women's rose only from 22% to 48%

Caveats

- Very small stakes and a single decision per person
- Photos taken for an unrelated purpose, not real attempts to signal
- The partner wasn't real



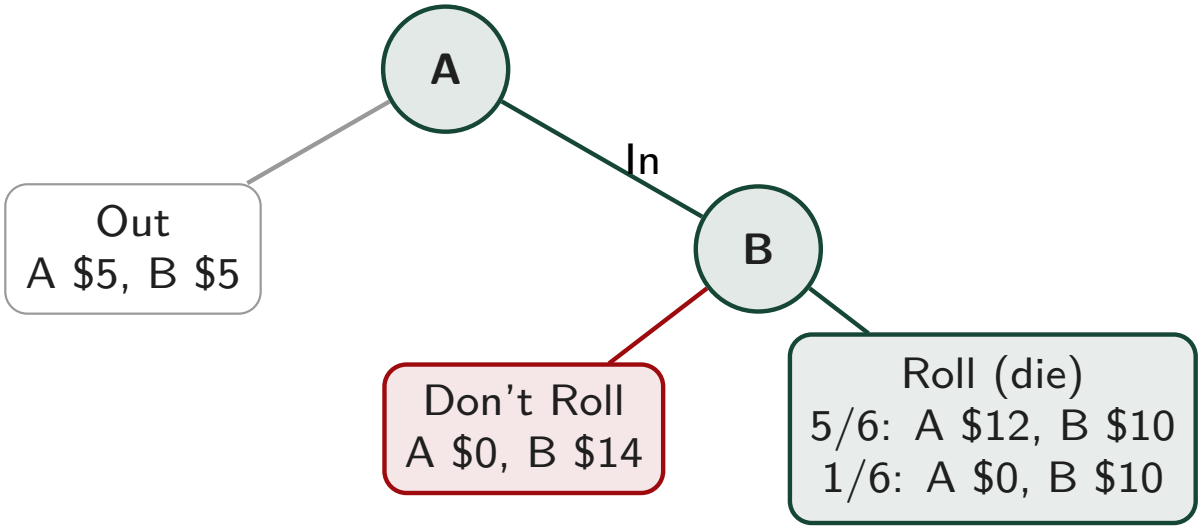
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Why do trustees repay? Do promises matter?

Promises and Partnership

Charness & Dufwenberg *Econometrica, 2006*

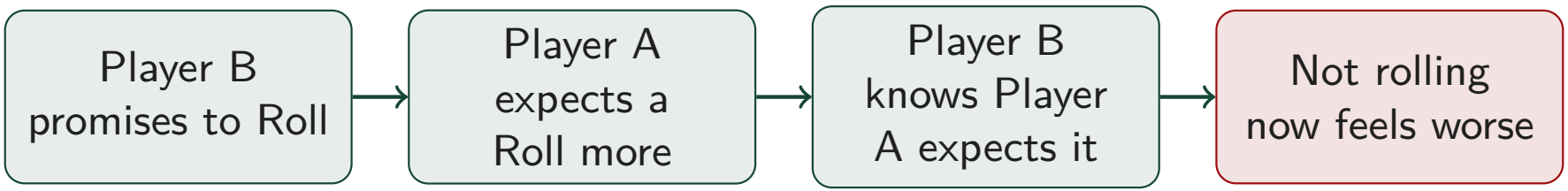
A Partnership



- Player A is deciding whether to partner
- Player B has to decide whether to put in effort (Roll)
- Player A never learns whether a $0 came from B shirking or from bad luck
- Selfish prediction: Player B doesn't roll, so Player A stays out

The Idea: Guilt Aversion

- People feel guilty when they let someone down relative to what that person believed
- So Player B's choice depends on what they think Player A expects
- The more Player B thinks Player A is counting on a Roll, the guiltier the option of Don't Roll feels

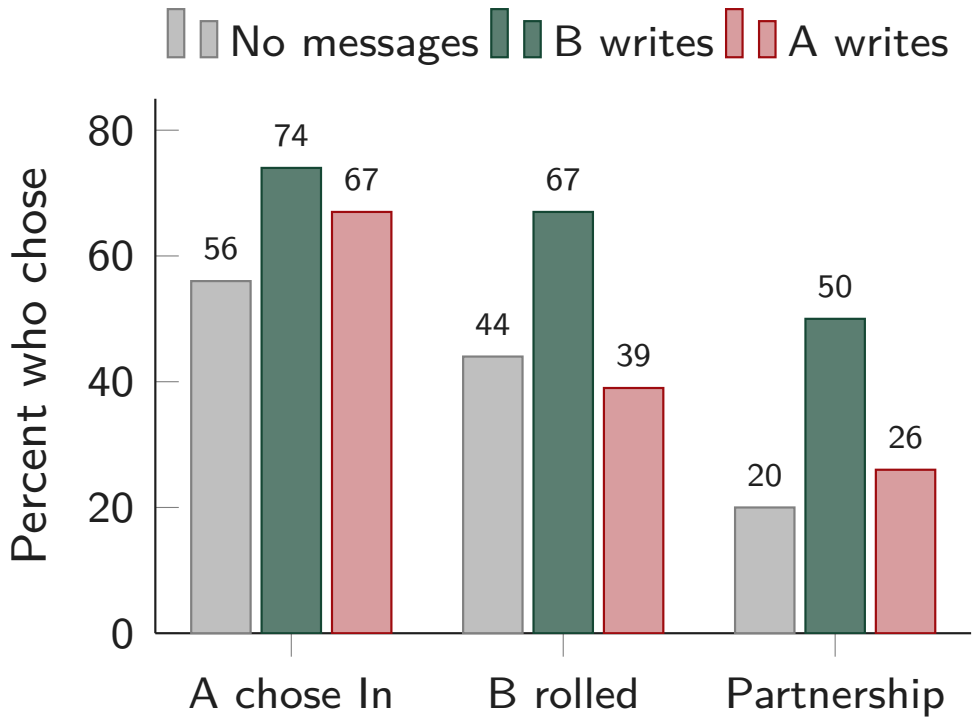


The Design

- UC Santa Barbara, with 15 sessions of 24–36 participants each
- Player Bs chose Roll or Don't Roll without knowing whether Player A had chosen In
- After, everyone guessed what others did and was paid $5 for a close guess
  - As guessed how many Bs rolled
  - Bs guessed what As had guessed: "beliefs about beliefs"

Treatment	**What changes**
No messages	The game as shown
B messages	B can write A a note before A decides
A messages	A writes to B instead

Results: Messages From B Build Partnerships



- When B could write, successful partnerships rose from 20% to 50%
- Messages from A did nothing significant
- In every treatment, Bs who rolled believed A expected more of them than Bs who didn't

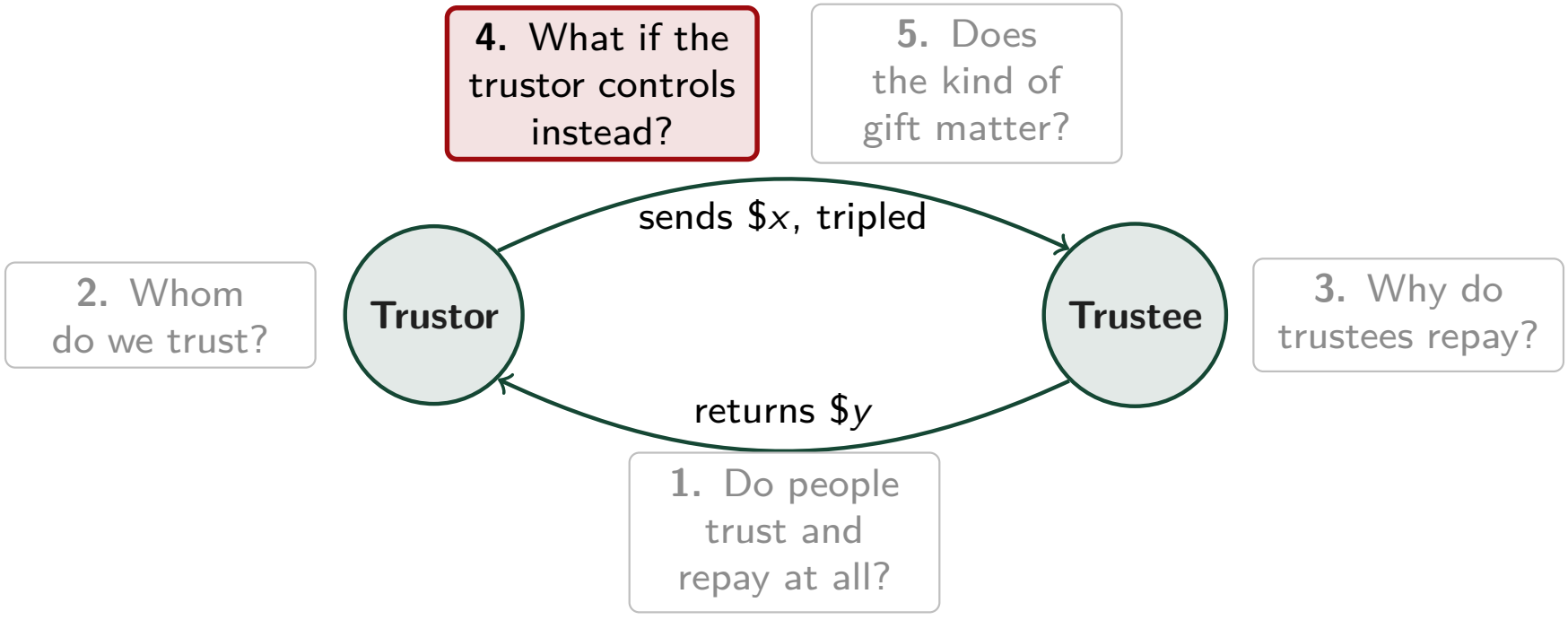
Promises Are Kept

	Promise	No promise
A chose In	79%	37%
B rolled	79%	33%
Partnership	62%	14%

- A "promise" was any statement of intent
- As trusted promises and Bs mostly kept them
- Promises also raised As' expectations, which is what guilt aversion needs

Trustees repay partly to avoid letting people down

Promises aren't cheap talk when people feel guilty about breaking them.



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What if the trustor controls instead of trusting?

The Hidden Costs of Control

Falk & Kosfeld *American Economic Review, 2006*

Trust or Control?

- So far, trustors could only trust or not. Real Player 1s have the additional option to control
- Monitoring, minimum hours, required quotas: rule out the worst behavior instead of hoping for the best
- Standard theory: control can only help. It removes bad options and leaves good ones

A story from David Packard (co-founder of HP)

At General Electric in the 1930s, tool bins were locked to stop theft, and employees took this as a challenge and stole whatever they could. At HP, Packard kept bins and storerooms open as a symbol of trust.

- Can control backfire?

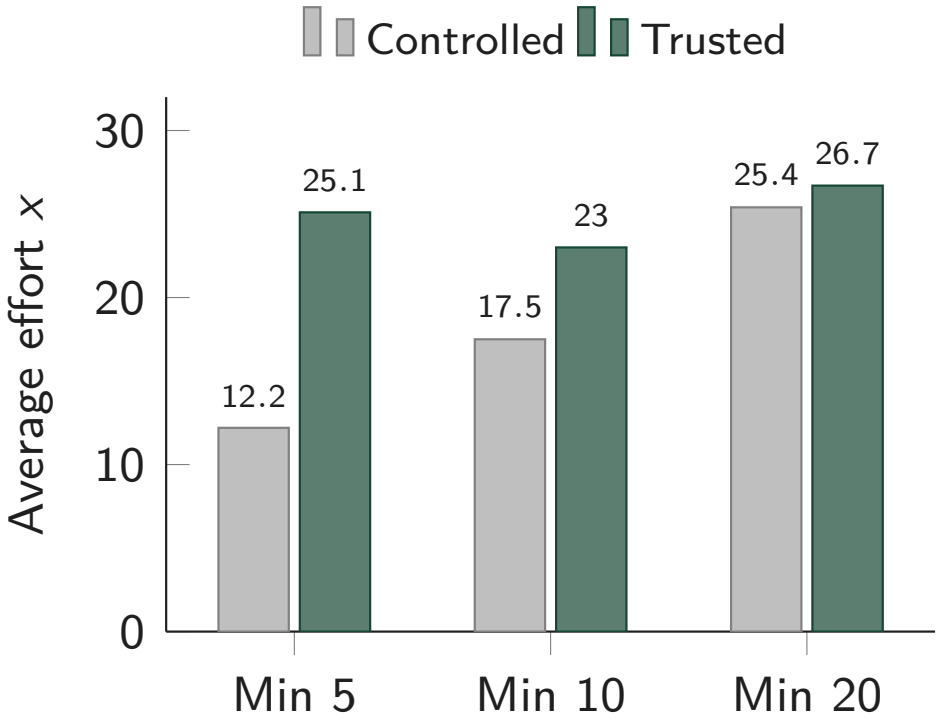
The Design

- Player 2 starts with 120 points and chooses effort x
- Each point costs the agent 1 point but gives Player 1 2 points
- Player 1 moves first: trust (Player 2 can choose any x from 0) or control (Player 2 must choose at least $\underline{x}$)

Treatment	**Minimum $\underline{x}$**
C5	5
C10	10
C20	20

- 804 Zurich students
- Player 2 chose effort for both cases before learning what Player 1 did

Results: Control Backfires



- With a minimum of 5, trusted Player 2s gave about twice as much
- Under control, more than half chose exactly the minimum
- The gap shrinks as the minimum rises

Player 2s who...	**C5**	**C10**	**C20**
gave less when controlled	64%	57%	42%

Player 1s Understand

Minimum	Player 1s who trust
5	74%
10	71%
20	52%

A self-fulfilling prophecy

Distrust produces the low effort that seems to justify it, so "low-trust" and "high-trust" beliefs can each sustain themselves.

- Controllers expected less effort and got less
- Trusters expected more and got more
- When a minimum of 10 was the only option shown to Player 2, average effort was 28.7, compared to 17.5 when Player 1 had to choose it

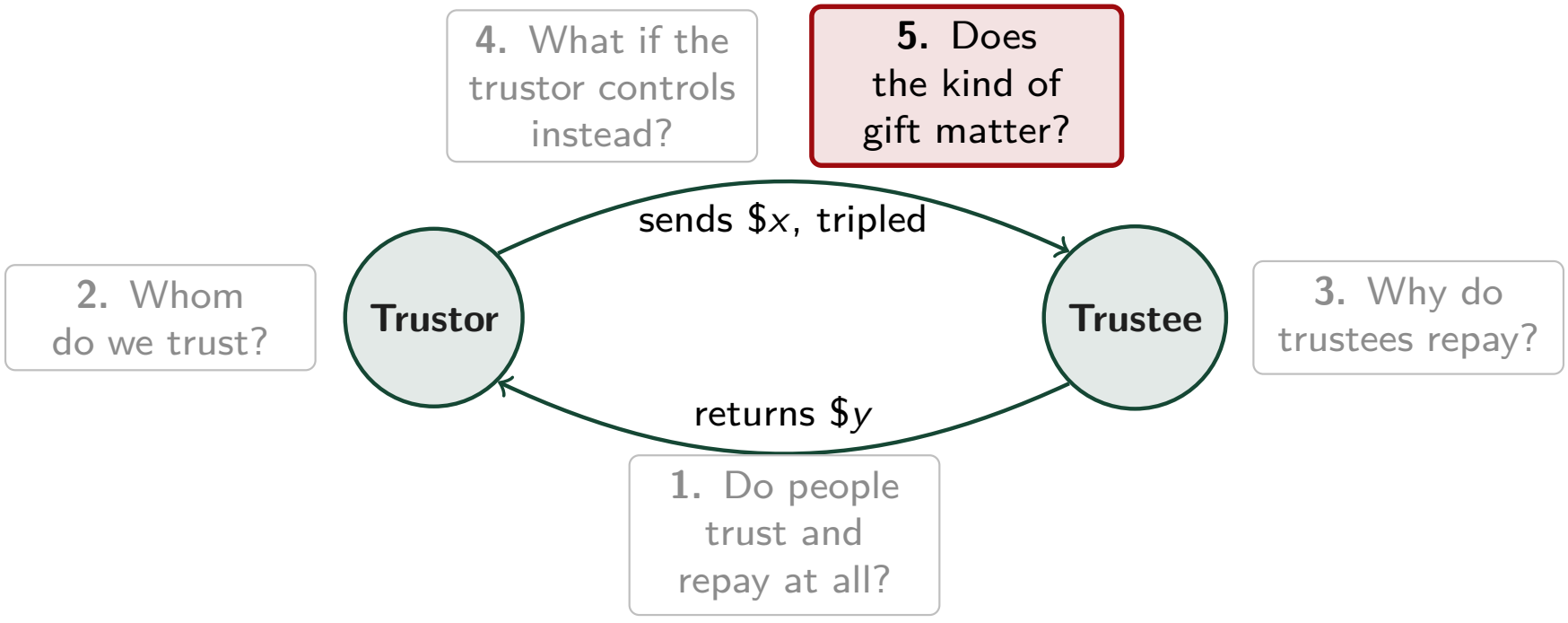
Why Player 2s React

- Player 2 was asked how they felt when Player 1 imposed a minimum
- Of the Player 2s who cut their effort:

49%
felt distrusted

48%
felt a loss of autonomy

18%
saw Player 1 as greedy



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Does the kind of gift matter?

The Currency of Reciprocity: Gift Exchange in the Workplace

Kube, Maréchal & Puppe *American Economic Review, 2012*

From the Lab to a Real Job

- In the lab, higher wages reliably raise effort
- In real jobs, cash raises have shown only weak effects

The question: is reciprocity only about the dollar value of a gift, or does the kind of gift matter?

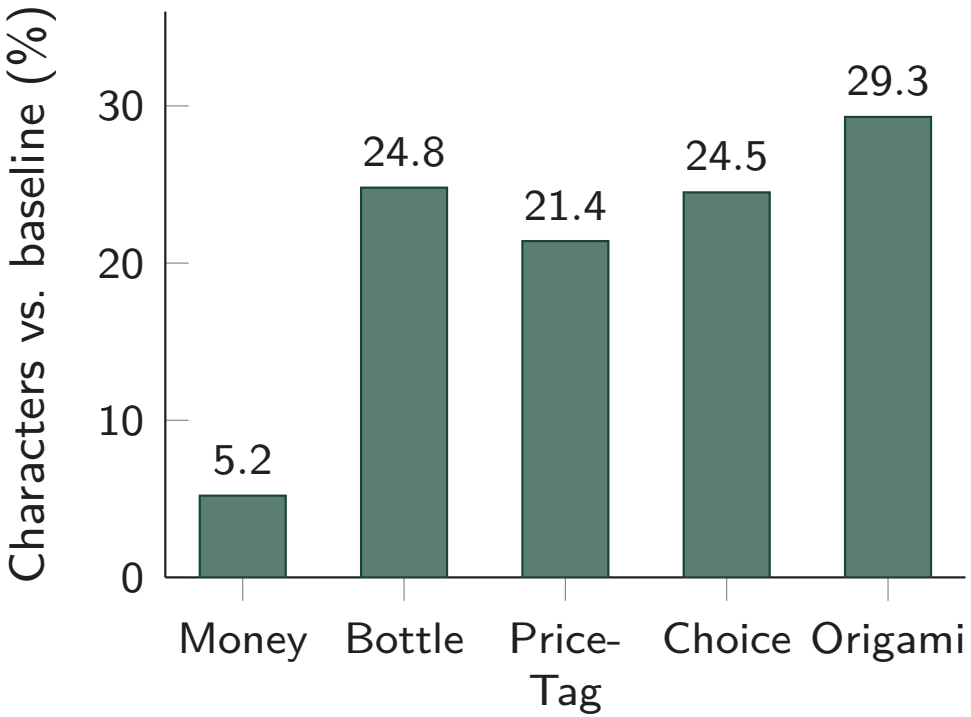
- The trust game in a workplace: the employer's "gift" is the first move and the worker's effort is the return

The Design: Cataloging a Library

- Students hired for a one-time, 3-hour job entering books into a database at €12 per hour
- One-shot: no future job, so no reputation to build
- Workers worked alone and didn't know they were in an experiment
- Output was the number of characters typed

Treatment	**Surprise announced at the start**	***n***
Baseline	Nothing extra	35
Money	€7 more	34
Bottle	A thermos bottle worth €7	15
Price Tag	The same bottle with its €7 price shown	15
Choice	Pick the €7 or the bottle	22
Origami	€7 folded into an origami shirt on a card	18

Results: The Bottle Beats the Cash



- An extra €7 increased output by only 5%
- A bottle worth the same increased it by 25%
- The effect lasted the whole 3 hours

Ruling Out Explanations

Explanation...	**But...**
Workers overestimated the bottle's price	With the price tag shown, output was still +21%
Workers just liked bottles more than cash	Given the choice, 18 of 22 took the cash and still produced +25%
Only non-cash gifts work	Cash folded into origami produced +29%

It's the thought that counts

What workers seem to reciprocate is the time and effort the employer put into the gift, not its cash value.

Where This Shows Up

- **Management:** heavy monitoring and strict quotas can lower effort; small, personal gestures can raise it
- **Online markets:** ratings, photos, and seller messages help strangers decide whom to trust
- **Contracts:** leaving some things unspecified can signal trust, and promises can fill the gaps