Intergenerational Cooperation: An Experimental Study of Ageism in Trust and Exploitation

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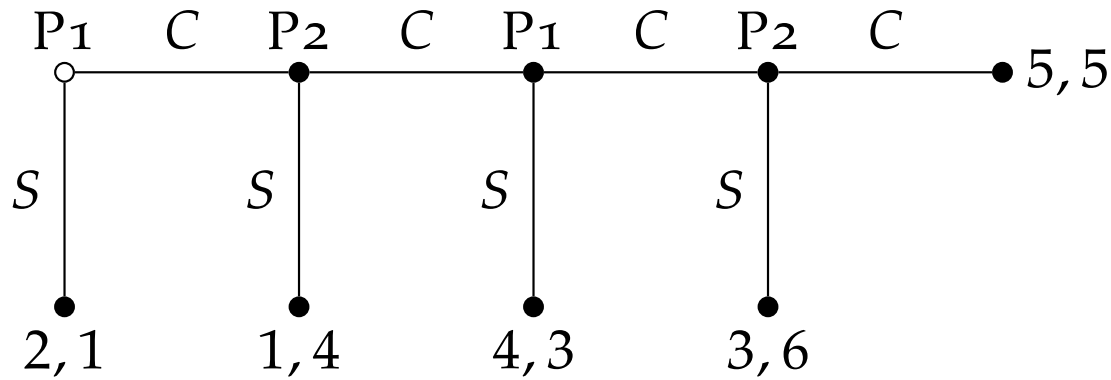
Some Background and Motivation

- financial exploitation of older adults is the most prevalent & frequent form of elder abuse (Peterson et al., 2015).
- attempted financial exploitation of older adults (believed to be trusting) by younger adults has been demonstrated in the lab (Schniter & Shields, 2014)
- trust seems to be increasing with age (Poulin & Silver, 2008; Li & Fung, 2013; Kocher, 2015; Poulin & Haase, 2015)
- older adults show extra age-discriminant benevolence when interacting with younger adults (Charness and Villeval 2009, Schniter & Shields, 2014)
- (age) group identity & in-group favoritism (Chen & Li, 2009) could drive the behavior of both younger and older decision makers, though attenuated for older adults (Chasteen, 2005)

We use centipede games — why?



sequential interaction allows to identify

- initial trust
- unconditional cooperation
- instrumental cooperation and exploitation

Selection of our Hypotheses & Predictions

- Backwards induction ability can explain deviations from the Nash equilibrium: non-cooperation at first chance.

- Older participants show more *initial trust* and *unconditional cooperation*, and less *instrumental cooperation and exploitation*. The last effect is even stronger when paired with a Younger other participant.

vs

- Interactions within each age group lead to less *instrumental cooperation and exploitation* than interactions between age groups.

The Experiment

1. 4 different centipede games with 4 nodes each
   - 1st mover is always 1st mover, 2nd mover is always 2nd mover; partners stay with each other
   - Age group of the other player is always known
   - played against either against an Older or Younger other player
2. 4 centipede games repeated
   - the partner and the Age group of the partner changes
   - leads to a balanced 2x2 design with respect to the Age group of the players
3. Revealed social preference measure

   Kerschbamer, 2015: series of binary choices, non-parametric approach allows to identify several distinct types
4. Measure of backwards induction reasoning ability

   Gneezy et al., 2010: Race-to-20, against the computer
5. Questionnaire

Participants

- None of the subjects participated in an experiment before
- Subjects in a session are not related
- Younger: 18 to 26 years old
- Older: more than 55 years old

	Older Participants	Younger Participants	p-value
Number	82	79	
Number Man	38	34	
Number Women	45	44	
Mean Age	63.9	21.6	
SD Age	6.9	2.1	
Backward Induction Success	33	46	0.027
Other regarding preferences			0.795

Note: Reported p-values are for Fisher's exact test for count data.

Older decision maker exploit more often

Observed Conditional Probability of Stopping the Game

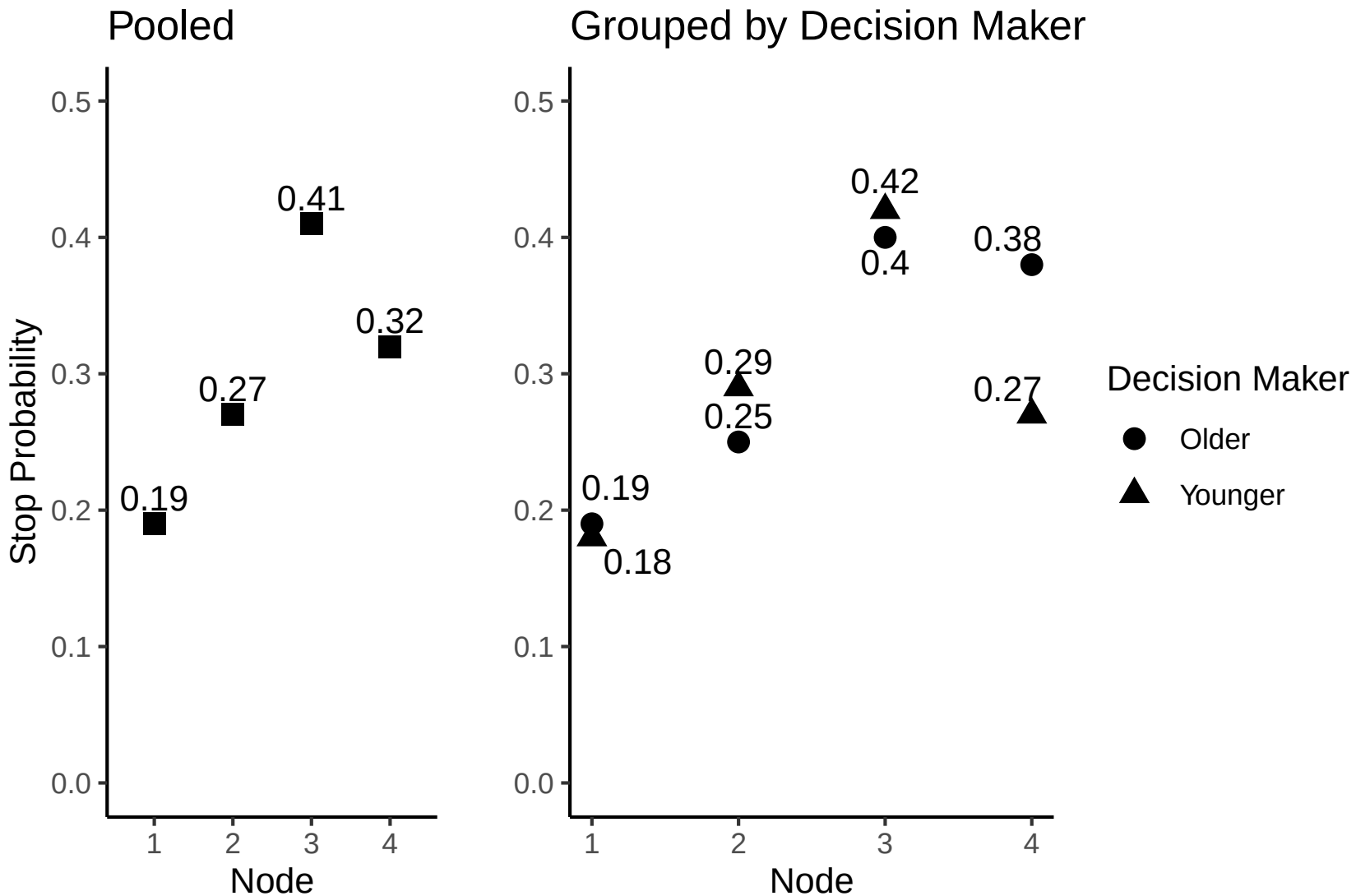


Table: How often did the decision maker consistently show unconditional cooperation or instrumental cooperation and exploitation of his partner's trust?

Older Decision Maker $p = 0.037$

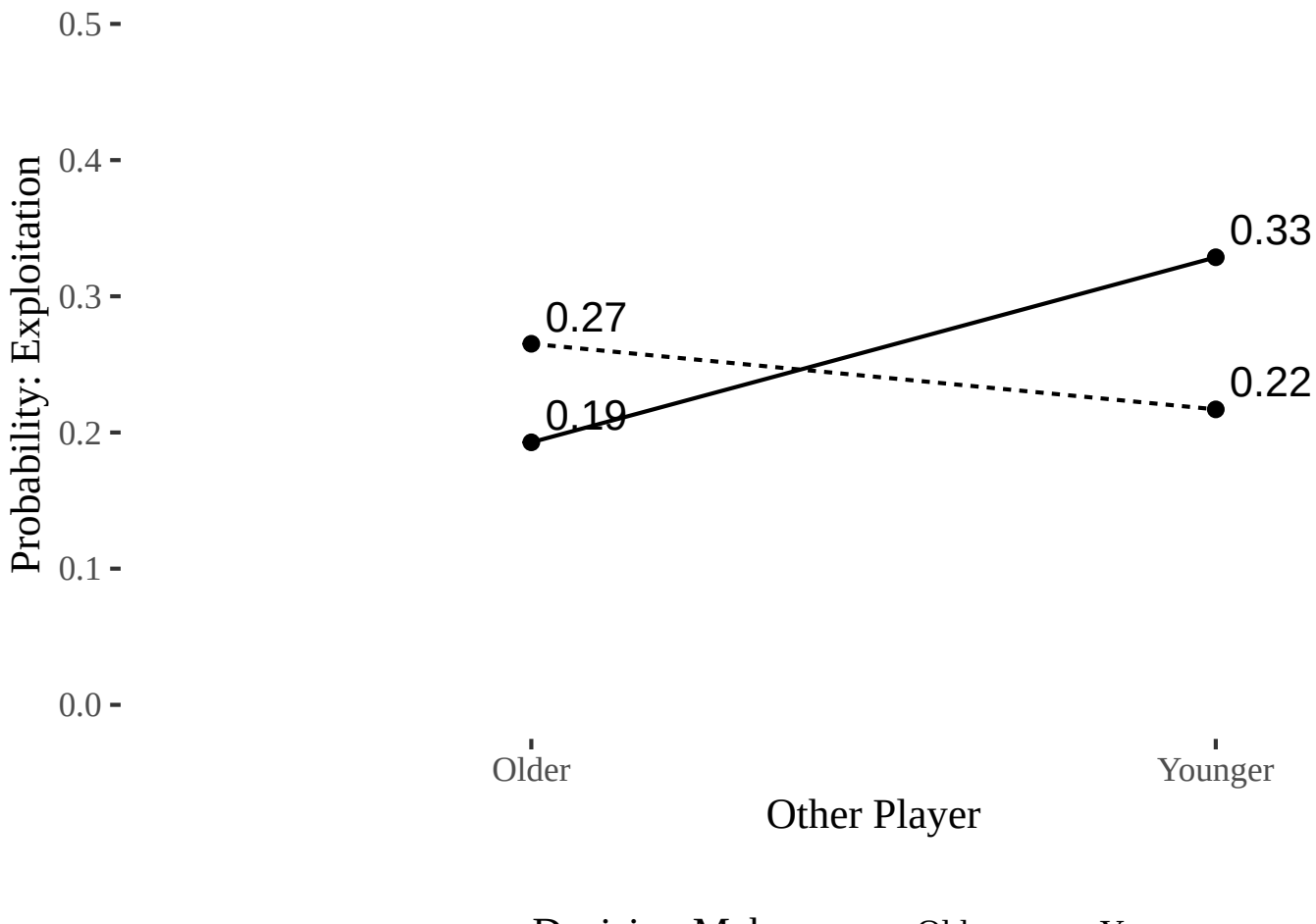
	Younger Other Player			
Older Other	Exploit	Uncertain	Cooperate	Total
Exploitation	4	7	4	**15**
Uncertain	12	15	8	35
Cooperation	9	14	9	32
Total	**25**	36	21	82

Younger Decision Maker $p = 0.418$

	Younger Other Player			
Older Other	Exploit	Uncertain	Cooperate	Total
Exploitation	2	9	6	**17**
Uncertain	9	20	11	40
Cooperation	3	9	10	22
Total	**14**	38	27	79

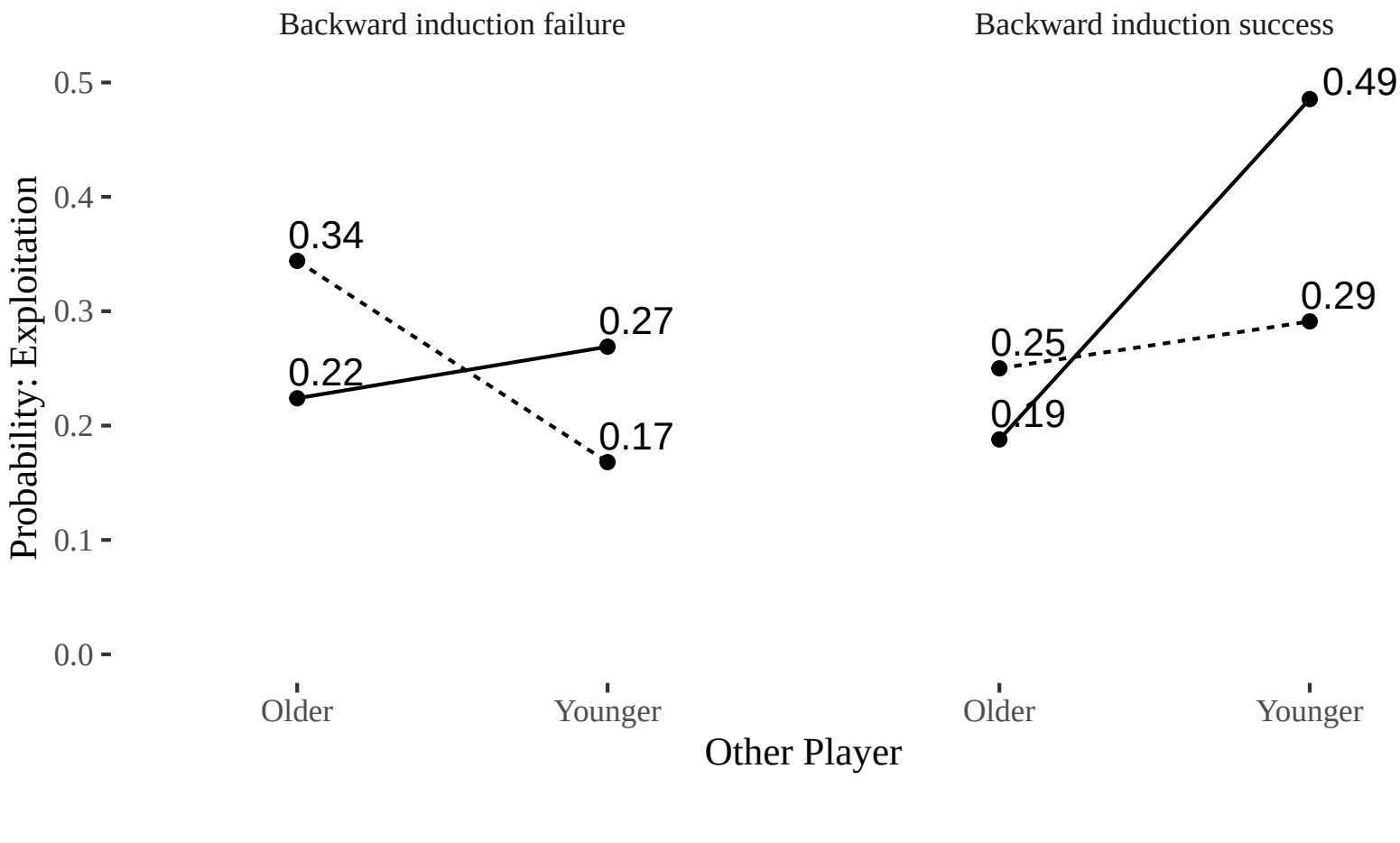
Older decision maker are more likely to exploit younger interaction partners

Expected Probability of Consistent Exploitation



...and it's worse when they have proven to possess backwards induction ability

Expected Probability of Consistent Exploitation



- The Game theoretic Null is rejected (as expected).
- Older decision maker are less cooperative than expected. In fact, they are more likely to exploit Younger other players.
- Both Age groups seem to favor their own age group.
- Backward induction ability helps to explain some of the observed variance.

The paper will be available on my webpage soon

`https://economicscience.net`

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Table: Random Effects Ordinal Probit Regression: Is consistent behavior conditional on own and other player's age?

$Y = \{-1, 0, 1\}$: {exploitation, inconsistent behavior, unconditional coop.}

Coefficients	Model 1	Model 2	Model 3
Decision Maker is Younger	-0.258	-0.233	-0.355
	(0.180)	(0.181)	(0.229)
Other Player is Younger	-0.425*	-0.426*	-0.148
	(0.178)	(0.178)	(0.206)
Decision Maker and Other Player is Younger	0.592*	0.593*	0.723**
	(0.254)	(0.254)	(0.259)
Success in Race Game		-0.146	0.139
		(0.139)	(0.237)
DM is Younger and Success in Race Game			0.122
			(0.280)
Other Player is Younger and Success in Race Game			-0.696**
			(0.259)
AIC	677	678	675
SD Random Effects			
Matching Groups [45]	0.394	0.389	0.393
Subjects [161]	<0.001	<0.001	<0.001

* and ** indicate statistical significance at 5% and 1% respectively