Appendix

A Sample and payment

The data was collected on the Amazon's Mechanical Turk platform in 22 sessions in February and March 2017. To ensure the quality of responses (Peer et al., 2014), we restricted our recruitment to workers who had performed at least 100 tasks and had an approval rating of over 85%. We recruited 1,247 subjects.

After they gave their informed consent, participants were presented with the following tasks: i) a questionnaire inquiring their age, sex, income category and race, ii) the cooperative investment game (CIG), iii) the dictator game (DG), iv) a test asking to recall characteristics (sex, income category, race) of their interaction partner, v) questions inquiring the motives for their decision in the behavioral tasks, and vi) a questionnaire with additional socio-demographic information (marital status, parental status, number of dependent children, self-reported risk aversion). To minimize cross-contamination, the order of games ii) and iii) was randomized.

We took a few steps to improve the quality of our analysis. First, we control for the order in which games were presented in our regression models. (We do not find any order effect). Second, in response to our open questions about their motivations in the behavioral tasks, most participants mentioned the payoff that would be optimal for them, stated their beliefs with regard to the motives of their interaction partner and/or his/her socio-economic condition. However, 57 individuals explicitly stated that they did not believe that their interaction partner was real. We excluded these individuals from the analysis, thus leading to a final sample of 1,190 subjects. Including these observations in the data does not qualitatively change the results, but decreases the precision of estimates. Third, to control for potential session-specific effects, we cluster standard errors at the session level in all models.

Participants received a fixed payment of $0.20, and a variable payment from the dictator game and cooperative investment game of $0.32–$0.80. Overall, participants earned an average of $0.78 for a task that took them about 6 minutes. Thus, the average payment per hour was around $7.80, slightly more than the US federal minimum wage of $7.25.

B Additional results

Table A1: Regression of dictator game donation on treatment conditions

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	Middle	High
High income partner			-0.029* (0.016)	-0.024 (0.017)	-0.030* (0.016)		-0.014 (0.029)	-0.022 (0.024)	-0.029 (0.033)
Partner Black	-0.005 (0.011)	-0.003 (0.011)							
High income × partner White						ref.			
High income × partner Black						-0.007 (0.017)			
Low income × partner White						0.021 (0.025)			
Low income × partner Black						0.021 (0.013)			
Constant	0.350*** (0.012)	0.277*** (0.022)	0.362*** (0.011)	0.289*** (0.024)	0.248*** (0.022)	0.269*** (0.026)	0.356*** (0.048)	0.262*** (0.084)	0.342*** (0.083)
Demographic controls	–	yes	–	yes	yes	yes	yes	yes	yes
CIG investment	–	–	–	–	yes	–	–	–	–
N	1,190	1,190	1,190	1,190	1,190	1,190	382	388	420

OLS regression; DV: Share of endowment passed on to partner in DG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior, simultaneously controlling for decision in CIG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses, $p < 0.1$, $p < 0.05$, $p < 0.01$.

2

Table A2: Regression of dictator game donation on treatment conditions – Full results for Table A1

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	Middle	High
High income partner			-0.029*	-0.024	-0.030*		-0.014	-0.022	-0.029
			(0.016)	(0.017)	(0.016)		(0.029)	(0.024)	(0.033)
Partner Black	-0.005	-0.003							
	(0.011)	(0.011)							
High income ✗ White (ref.)									
High income ✗ Black						-0.007			
						(0.017)			
Low income ✗ White						0.021			
						(0.025)			
Low income ✗ Black						0.021			
						(0.013)			
27-32 years (ref.)									
18-26 years		0.015		0.015	0.011	0.014	0.001	0.058	-0.014
		(0.028)		(0.028)	(0.026)	(0.028)	(0.036)	(0.035)	(0.030)
33-41 years		0.042		0.039	0.033	0.039	0.023	0.049	0.040
42+ years		0.046		0.044	0.039	0.044	0.036	0.058	0.030
		(0.028)		(0.028)	(0.027)	(0.028)	(0.031)	(0.045)	(0.034)
White (ref.)									
Black/African American		0.038*		0.039*	0.048**	0.038*	0.060	0.007	0.043
		(0.021)		(0.021)	(0.020)	(0.022)	(0.049)	(0.033)	(0.031)
Hispanic		-0.032		-0.031	-0.021	-0.031	0.012	-0.067	-0.071
		(0.037)		(0.038)	(0.034)	(0.037)	(0.071)	(0.041)	(0.046)
Asian		-0.032		-0.030	-0.034	-0.030	0.004	-0.081*	-0.015
		(0.027)		(0.027)	(0.026)	(0.027)	(0.072)	(0.042)	(0.060)
Other		0.049		0.044	0.038	0.045	-0.014	0.035	0.101**
		(0.039)		(0.039)	(0.035)	(0.039)	(0.115)	(0.087)	(0.046)
College degree (ref.)									
High school		0.013		0.014	0.023	0.014	-0.051*	0.056**	0.055
		(0.022)		(0.022)	(0.021)	(0.022)	(0.029)	(0.020)	(0.033)
Master's or further		0.009		0.008	0.000	0.008	-0.059	0.052	0.010
		(0.019)		(0.019)	(0.019)	(0.019)	(0.068)	(0.039)	(0.028)
Annual HH income		-0.002		-0.002	-0.003	-0.002	-0.024*	0.003	-0.008
		(0.005)		(0.005)	(0.005)	(0.005)	(0.013)	(0.019)	(0.013)
Household size		0.011		0.011	0.010	0.011	0.011	0.020	0.006
		(0.006)		(0.006)	(0.006)	(0.007)	(0.011)	(0.016)	(0.008)
Parent		-0.002		-0.001	0.010	-0.001	0.038	-0.061	0.016
		(0.018)		(0.019)	(0.018)	(0.019)	(0.024)	(0.036)	(0.031)
Full/part-time work (ref.)									
Housework		0.027		0.025	0.012	0.024	0.034	-0.014	0.031
		(0.020)		(0.020)	(0.019)	(0.020)	(0.042)	(0.040)	(0.030)
Retired		0.040		0.041	0.055	0.041	0.083	0.038	0.031
		(0.046)		(0.044)	(0.045)	(0.045)	(0.067)	(0.096)	(0.056)
Unemployed/other		0.021		0.021	0.022	0.020	0.043*	-0.036	-0.011
		(0.025)		(0.024)	(0.021)	(0.024)	(0.025)	(0.039)	(0.045)
CIG presented before DG		-0.013		-0.013	-0.012	-0.013	-0.005	-0.030	-0.007
		(0.012)		(0.012)	(0.012)	(0.012)	(0.018)	(0.027)	(0.019)
Constant	0.350***	0.277***	0.362***	0.289***	0.248***	0.269***	0.356***	0.262***	0.342***
	(0.012)	(0.022)	(0.011)	(0.024)	(0.022)	(0.026)	(0.048)	(0.084)	(0.083)
N	1,190	1,190	1,190	1,190	1,190	1,190	382	388	420

OLS regression; DV: Share of endowment passed on to partner in DG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior, simultaneously controlling for decision in CIG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses,* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Regression of cooperative investment game behavior on treatment conditions – Full results for Table 3

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	Middle	High
High income partner			0.037	0.051**	0.061***		0.114**	-0.008	0.042
			(0.024)	(0.023)	(0.021)		(0.046)	(0.053)	(0.031)
Partner Black	-0.036	-0.031							
	(0.025)	(0.026)							
High income ✗ White (ref.)									
High income ✗ Black						-0.015			
						(0.043)			
Low income ✗ White						-0.036			
						(0.037)			
Low income ✗ Black						-0.081**			
						(0.031)			
27-32 years (ref.)									
18-26 years		0.034		0.037	0.030	0.036	0.068	0.014	0.004
		(0.037)		(0.037)	(0.031)	(0.037)	(0.086)	(0.063)	(0.062)
33-41 years		0.052		0.058	0.041	0.059	0.044	0.076	0.025
		(0.037)		(0.037)	(0.028)	(0.037)	(0.079)	(0.060)	(0.074)
42+ years		0.046		0.049	0.029	0.048	0.088	0.037	-0.017
		(0.030)		(0.031)	(0.030)	(0.031)	(0.072)	(0.063)	(0.065)
White (ref.)									
Black/African American		-0.086*		-0.088*	-0.105**	-0.086*	-0.126	-0.044	-0.075
		(0.046)		(0.046)	(0.043)	(0.048)	(0.102)	(0.103)	(0.129)
Hispanic		-0.087		-0.090	-0.077	-0.090	-0.042	-0.151*	-0.107
		(0.065)		(0.066)	(0.059)	(0.066)	(0.075)	(0.077)	(0.137)
Asian		0.038		0.036	0.049	0.035	-0.043	0.114*	0.016
		(0.045)		(0.044)	(0.044)	(0.043)	(0.072)	(0.065)	(0.111)
Other		0.047		0.057	0.037	0.053	-0.116	0.070	0.162
		(0.090)		(0.089)	(0.083)	(0.091)	(0.224)	(0.192)	(0.106)
College degree (ref.)									
High school degree		-0.084**		-0.086***	-0.092***	-0.085***	-0.056	-0.052	-0.166***
		(0.030)		(0.029)	(0.026)	(0.030)	(0.055)	(0.062)	(0.047)
Master's or further		0.073		0.075	0.071	0.075	0.021	0.103	0.051
		(0.061)		(0.060)	(0.058)	(0.060)	(0.120)	(0.123)	(0.065)
Annual HH income		0.009		0.009	0.009	0.009	-0.081**	0.022	0.035
		(0.006)		(0.006)	(0.006)	(0.006)	(0.036)	(0.055)	(0.027)
Household size		0.009		0.009	0.004	0.009	0.002	0.030	-0.002
		(0.010)		(0.010)	(0.010)	(0.010)	(0.022)	(0.023)	(0.025)
Parent		-0.105**		-0.108**	-0.108***	-0.107**	-0.035	-0.165**	-0.108
		(0.039)		(0.039)	(0.036)	(0.040)	(0.063)	(0.071)	(0.076)
Full/part-time work (ref.)									
Housework		0.109**		0.117**	0.105**	0.115**	-0.041	0.090	0.242***
		(0.051)		(0.050)	(0.048)	(0.050)	(0.086)	(0.091)	(0.081)
Retired		-0.131*		-0.133*	-0.151*	-0.136*	-0.229	-0.038	-0.098
		(0.073)		(0.073)	(0.077)	(0.072)	(0.175)	(0.153)	(0.142)
Unemployed/other		-0.018		-0.016	-0.026	-0.016	-0.055	-0.056	-0.061
		(0.041)		(0.042)	(0.035)	(0.042)	(0.046)	(0.080)	(0.068)
CIG presented before DG		-0.012		-0.011	-0.005	-0.010	0.029	-0.017	-0.045
		(0.025)		(0.025)	(0.025)	(0.025)	(0.048)	(0.046)	(0.047)
Constant	0.475***	0.427***	0.439***	0.384***	0.254***	0.441***	0.519***	0.281	0.341
	(0.014)	(0.044)	(0.016)	(0.053)	(0.046)	(0.038)	(0.096)	(0.304)	(0.252)
N	1,190	1,190	1,190	1,190	1,190	1,190	382	388	420

OLS regression; DV: Participant invested in the CIG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior as recorded in DG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses,* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

B.1 Non-black participants only

Table A4: Regression of investment behavior on treatment conditions, excluding Black participants

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	Middle	High
High income partner			0.029	0.041*	0.051**		0.100*	-0.024	0.033
			(0.022)	(0.021)	(0.019)		(0.052)	(0.048)	(0.030)
Partner Black	-0.039	-0.031							
	(0.028)	(0.029)							
High income × partner White						ref.			
High income × partner Black						-0.013			
						(0.053)			
Low income × partner White						-0.023			
						(0.042)			
Low income × partner Black						-0.074**			
						(0.030)			
Constant	0.482***	0.432***	0.449***	0.394***	0.262***	0.440***	0.532***	0.297	0.319
	(0.014)	(0.047)	(0.015)	(0.053)	(0.049)	(0.043)	(0.096)	(0.279)	(0.261)
Demographic controls	–	yes	–	yes	yes	yes	yes	yes	yes
DG behavior	–	–	–	–	yes	–	–	–	–
N	1,113	1,113	1,113	1,113	1,113	1,113	354	358	401

OLS regression; DV: Participant invested in the CIG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior as recorded in DG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses, $p < 0.1$, $p < 0.05$, $p < 0.01$.

Table A5: Regression of dictator game donation on treatment conditions, excluding Black participants

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	Middle	High
High income partner			-0.028*	-0.022	-0.027		-0.003	-0.031	-0.030
			(0.015)	(0.017)	(0.016)		(0.027)	(0.027)	(0.035)
Partner Black	-0.004	-0.002							
	(0.012)	(0.012)							
High income ✗ partner White						ref.			
High income ✗ Black						-0.009			
						(0.018)			
Low income ✗ White						0.016			
						(0.024)			
Low income ✗ Black						0.020			
						(0.013)			
Constant	0.346***	0.281***	0.359***	0.292***	0.249***	0.274***	0.363***	0.252***	0.336***
	(0.012)	(0.022)	(0.011)	(0.024)	(0.023)	(0.026)	(0.049)	(0.085)	(0.087)
Demographic controls	–	yes	–	yes	yes	yes	yes	yes	yes
CIG investment	–	–	–	–	yes	–	–	–	–
N	1,113	1,113	1,113	1,113	1,113	1,113	354	358	401

OLS regression; DV: Share of endowment passed on to partner in DG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior, simultaneously controlling for decision in CIG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses, $p < 0.1$, $p < 0.05$, $p < 0.01$.

B.2 Replication without time dimension

This section presents an additional test answering to the question what happens if the the CIG is played without the time dimension, i.e. omitting the two-week wait for the cooperative outcome to materialize, but rather offering immediate payout. In this case, the game structurally conforms with a typical stag hunt game, where it is optimal for a participant to cooperate as long as s/he believes that his/her partner will also cooperate.

Table A6: Regression of investment behavior on treatment conditions in the modified version of the CIG without time dimension

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	Middle	High
High income partner			0.000	-0.027	-0.005		0.013	-0.029	-0.076
			(0.069)	(0.072)	(0.076)		(0.106)	(0.139)	(0.145)
Partner Black	0.058	0.063							
	(0.048)	(0.053)							
High income ✗ partner White						ref.			
High income ✗ Black						0.019			
						(0.097)			
Low income ✗ White						-0.016			
						(0.056)			
Low income ✗ Black						0.088			
						(0.080)			
Constant	0.771***	0.820***	0.802***	0.861***	0.729***	0.822***	1.070***	0.272	1.162***
	(0.050)	(0.097)	(0.059)	(0.069)	(0.089)	(0.106)	(0.154)	(0.517)	(0.283)
Demographic controls	–	yes	–	yes	yes	yes	yes	yes	yes
DG behavior	–	–	–	–	yes	–	–	–	–
Observations	222	220	222	220	220	220	68	87	65

OLS regression; DV: Participant invested in the CIG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior as recorded in DG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

We can see that taking out the time dimension from the CIG (Table A6) almost doubles the cooperation rate. Without the time dimension, there is no evidence that the partner partners induce lower cooperation rates among participants, and the racial identity of the partner no longer negatively influences the participants' investment decision. This suggests that it is indeed the anticipation of the present-bias by the interaction partner that can explain our results.

It should also be noted that the behavior in the dictator game (Table A7) closely resembles that of the main experiment, increasing the confidence that the above results are not driven by strong differences in the composition of the sample.

Table A7: Regression dictator game donation on treatment conditions in the modified version of the CIG without time dimension

Income class player	(1)	(2)	(3)	(4)	(5)	(6)	(7) Low	(7) Middle	(7) High
High income partner			-0.037 (0.034)	-0.055 (0.038)	-0.051 (0.034)		0.003 (0.037)	-0.078 (0.059)	-0.102 (0.071)
Partner Black	0.041* (0.019)	0.043 (0.025)							
High income × partner White						ref.			
High income × Black						0.087 (0.059)			
Low income × White						0.098* (0.053)			
Low income × Black						0.108* (0.055)			
Constant	0.340*** (0.021)	0.281*** (0.081)	0.379*** (0.031)	0.323*** (0.067)	0.201** (0.065)	0.225** (0.097)	0.440*** (0.082)	0.100 (0.307)	0.680* (0.311)
Demographic controls	–	yes	–	yes	yes	yes	yes	yes	yes
CIG investment	–	–	–	–	yes	–	–	–	–
Observations	222	220	222	220	220	220	68	87	65

OLS regression; DV: Share of endowment passed on to partner in DG; Model 1 and 3: No controls; Model 2 and 4: Demographic controls as per pre-analysis plan; Model 5: Demographic controls and prosocial behavior, simultaneously controlling for decision in CIG; Model 6: Interaction with white/black partner; Model 7: Treatment effects for different income groups; Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

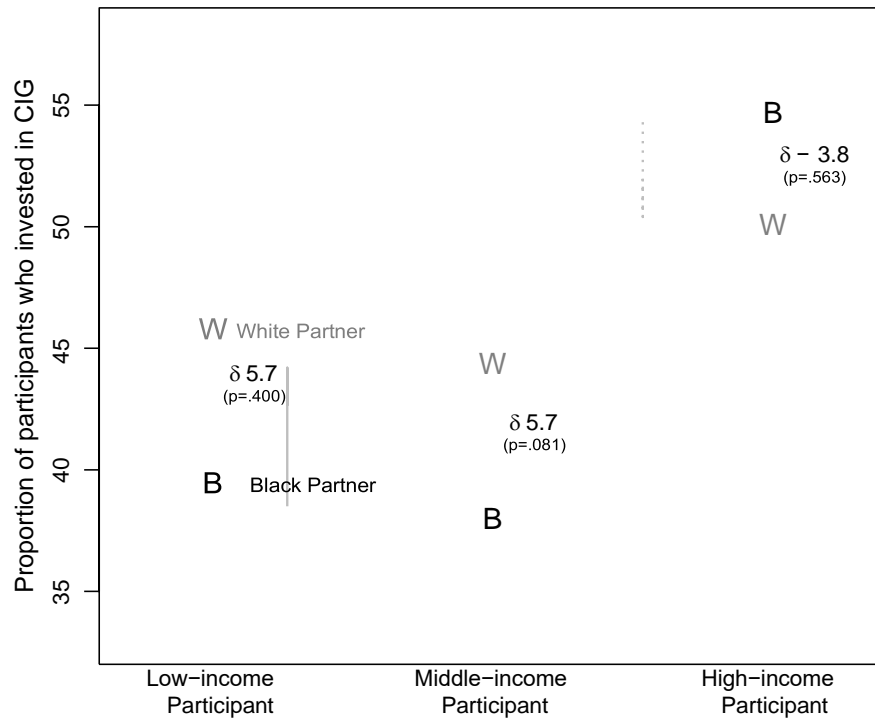## B.3 Treatment effects for partner's race by participant's income

Figure A1: Effect of partner's race (White or Black) on the investment behavior in the CIG for different income categories of participants. W stands for 'White Partner', B for 'Black Partner'. Marginal effects from OLS regression as in Table A8, Model 2. Solid lines indicate differences that are significant at p<0.1, dotted lines differences that are not statistically significant at conventional levels.

Table A8: Regression of investment behavior on race of partner, by income category of the participant

Income class player	(1)	Low	(2) Middle	High
Partner White		0.057	0.057*	-0.038
		(0.067)	(0.031)	(0.065)
High income ✗ partner White	ref.			
High income ✗ partner Black	-0.015 (0.043)			
Low income ✗ partner White	-0.036 (0.037)			
Low income ✗ partner Black	-0.081** (0.031)			
Constant	0.441*** (0.038)	0.518*** (0.106)	0.259 (0.282)	0.383 (0.264)
Demographic controls	yes	yes	yes	yes
Observations	1,190	382	388	420

OLS regression; DV: Participant invested in the CIG; Model 1: Interaction with white/black partner, identical to Table 3, Model 6 in the main text; Model 2: Treatment effects for different income groups, equivalent to Table 3, Model 7 in the main text, but with race of partner as independent variable; Standard errors in parentheses,* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

C Summary statistics

	Mean	SD	Min	Max	N
Invested in CIG	0.46	0.50	0.00	1.00	1,190
Share sent in DG	0.35	0.24	0.00	1.00	1,190
Participant female	0.50	0.50	0.00	1.00	1,190
Participant age	35.5	11.2	18.0	73.0	1,190
Education	1.75	0.68	1.00	3.00	1,190
Annual HH income in $10,000	5.30	3.60	0.00	13.0	1,190
Parent	0.40	0.49	0.00	1.00	1,190
Household size	2.64	1.40	1.00	9.00	1,190
High income partner	0.51	0.50	0.00	1.00	1,190
Partner white	0.51	0.50	0.00	1.00	1,190
CIG presented before DG	0.49	0.50	0.00	1.00	1,190

D Sensitivity analysis for heterogeneous treatment effects

We may be concerned that the heterogeneous treatment effect by income (as in Table 3, Model 7, for example) depends on the exact cutoff points for the three categories formed. Figure A2 below plots the treatment effects when participants face either a Rich or a Poor partner for groups of participants earning an annual household income of i) up to $10k, ii) up to $20k, iii) up to $30k etc. While confidence intervals overlap for all but the first income category due to relatively small sub-sample sizes, a clear pattern emerges. While there is clear differences in investment behavior for the lower income classes, these differences largely disappear for participants with a household income beyond $30k. Among those with middle-range incomes the treatment consistently has no effect, while for participants with higher incomes the treatment effect fluctuates.
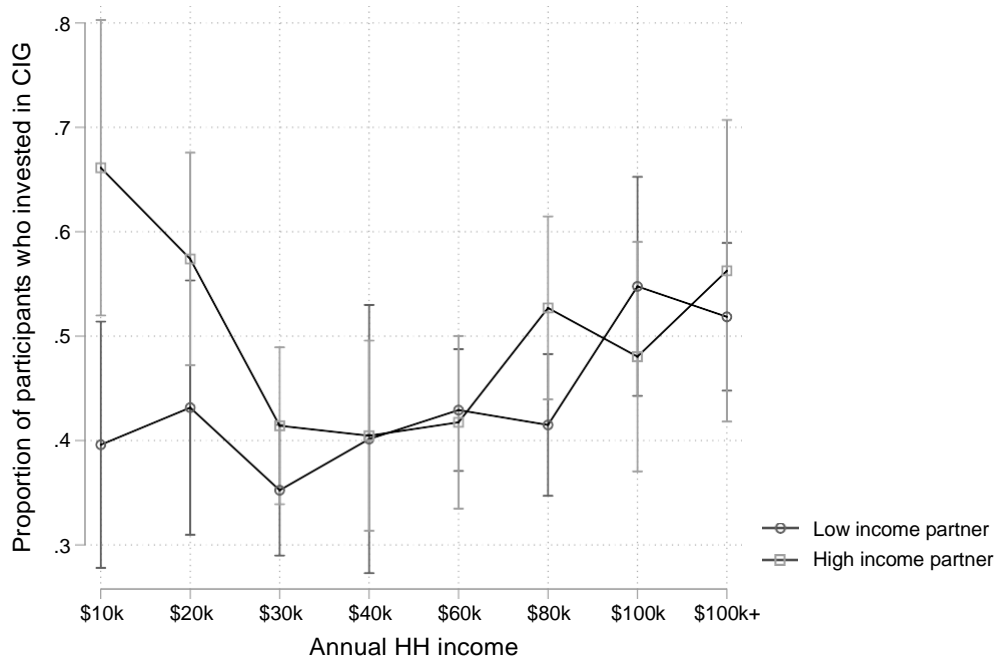

Figure A2: Marginal effects from regression of investment behavior in the CIG interacted with participants' income. Model analogous to Table 3, Model 4, controlling for demographics. Vertical bars are 90% confidence intervals.

E Comparison MTurk sample general population

Table A9 compares the MTurk sample with the US population in 2015. As shown, the sample is a bit younger, more White and clearly more educated, but similar in terms of gender composition and income.

Table A9: Comparison of MTurk sample with general population

	General population 2015	MTurk sample
Gender		
Share female	51%	50%
Age (share in workforce)		
18-24 years	12%	13%
25-54 years	65%	79%
over 54 years	22%	8%
Race		
White	61%	78%
Black	13%	6%
Hispanic	18%	5%
Asian	6%	8%
Education		
High school degree at most	40%	12%
Some college or more	60%	88%
Median income	$56,516	$50,000 (est.)
Population size	318,454,000	1,190
Source	(Proctor, Semega, and Kollar 2016; Bureau of Labor Statistics 2016)	Study participants

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