Gender Differences in the Allocation of Low-Promotability Tasks: The Role of Backlash

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Discussants: Christine Exley, Harvard Business School; Elif Demiral, George Mason University; Olga Shurchkov, Wellesley College; Anya Samek, University of Southern California.

Abstract

This research examines the mechanisms that lead women to spend more time than men on low-promotability tasks. In particular, we examine whether gender differences found in previous research—women receiving more requests than men to do these tasks and women being more likely to accept such requests—are exacerbated by the prospect of penalties for declining the request. We replicate these prior findings and find no evidence that penalties exacerbate the gender differences. In addition, we find that men more than women penalize others for saying "no."

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By LINDA BABCOCK, MARIA P. RECALDE, AND LISE VESTERLUND

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This paper investigates gender differences in the allocation of low-promotability tasks at work. A low-promotability task is one that benefits the organization but is given relatively little weight in performance evaluations and promotion decisions, such as service tasks in a research-oriented university. Recent field evidence on task allocation indicates that, relative to men, women spend more time on low-promotability tasks and less time on high-promotability tasks (Ohlott et al. 1994; Benschop & Doorewaard 1998; Porter 2007; De Pater et al. 2010; Misra et al. 2012; Mitchel and Hesli 2013; Babcock et al. 2017). Experimental evidence shows that decision makers are more likely to ask women than men to perform these low-promotability tasks (a demand-side factor) and that women are more likely than men to agree to perform low-promotability tasks (a supply-side factor) in mixed-gender groups (Babcock et al. 2017).

The net result of women being asked more and accepting requests more than men is an inequity in the allocation of these low-promotability tasks. If time spent on low-promotability tasks comes at the expense of tasks that are relatively high in promotability, then this inequity can lead to gender differences in the rate of advancement in organizations.

While previous research has improved our understanding of the factors that lead to gender differences in the allocation of low-promotability tasks, there are important features of the environment that remain unexplored. Our study examines whether the prospect of being penalized for saying "no" to a request to do a low-promotability task exacerbates gender differences in the

allocation of low-promotability tasks. One might expect that penalties for failure to help another person would be harsher on women than men as helping behavior is more normative for women than for men (Eagly & Steffen 1984; Williams & Best 1990; Lueptow et al.1995) and a large body of research in social psychology finds that individuals are penalized when they deviate from normative gender stereotypes. For example, research has shown that women who behave in a dominant manner (Eagly et al. 1992; Bowles et al. 2007; Rudman & Glick 2001) or say "no" to a request to help another person (Heilman & Chen 2005) are judged more negatively than men.

I. Experiment: How Does the Risk of Penalty Affect the Demand and Supply of Low-Promotability Tasks?

We conduct an experiment to explore how the possibility of imposing a penalty for non-compliance affects who is asked to perform low-promotability tasks (demand), who agrees to perform low-promotability tasks (supply), and in particular whether gender influences these decisions. We also explore the penalty decisions and whether these are influenced by gender. We adopt an experimental design used in our previous research, which mirrors the incentives faced by a decision maker who needs to find a volunteer to perform a low-promotability task.

A. Design

Using a slightly modified version of the experimental setup of Babcock et al. (2017) as a baseline, we add a treatment where participants could be punished for saying "no" to a request to perform the task.[1] Participants are randomly and anonymously assigned to groups of four and shown the "profiles" of the three individuals they are paired with. These profiles contain demographic information about each person's age, gender, whether he or she was born in the US, year in school,

[1] Specifically, we use the setup of Experiment 3 of Babcock et al. (2017) adapted to use profiles with demographic information rather than photos. We chose not to use photos because in the penalty condition, photographs could expose participants to the potential risk of retaliation after the study.

and major (business, social science, or other major). They are informed that one person will be designated the role of "red" player and the other three will be designated the role of "green" players. The three green players are given 2 minutes to make an investment (volunteering) decision. If no one invests during the two minutes, then all green players and the red player each earn $1. If one green player invests, then that person earns $1.25 and the other two green players and the red player each earn $2. The round ends when the 2 minutes are up or when someone invests. The red player cannot invest, and is charged with making a request to one of the green players to make the investment (which the green player can refuse by not investing). Before it is learned who in the group will be the red player, all players decide who they will ask to invest should they be assigned the role of the red player. It is then announced to the group which group member is the red player and which green player the red player asked to invest. After roles are assigned and requests are announced, green players participate in the 2-minute investment decision, where every green player has the option of being the one who invests. Participants are randomly assigned to new groups and roles in each of the ten rounds.

We have two experimental conditions—a control treatment as described above—and a backlash treatment in which the red player can penalize the green player who is asked to invest. For each of the three possible scenarios (no one invests, a green player different from the player who was asked invests, and the green player who was asked invests), the red player can decrease the earnings of the asked green player. The cost of punishment to the red player is $0.01 to decrease the earnings of the asked green player by $0.03. The red player can choose to deduct an amount between $0.00 and $0.75 from the asked green player's earnings.

B. Participants and Procedures

We conducted eight sessions of this experiment (four of each treatment), with 20 participants per session. Participants were recruited from introductory classes in Economics. Between 45 percent and 55 percent of participants in each session were female. Participants were on average 18.7 years old, 71 percent were Caucasian, 90 percent were born in the US, and 91 percent were either Freshmen or Sophomores.[2]

C. Results

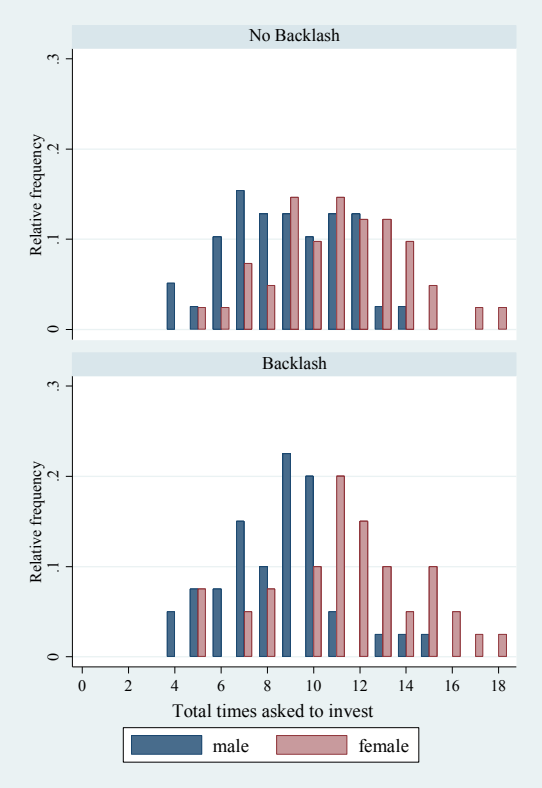
Group Decisions. The distribution of investment time within the two-minute interval is bimodal (see Table B1 in online appendix). Many investments occur in the last two seconds of the round (45.1 percent in the control treatment and 39.6 percent in the backlash treatment) and a significant proportion of investment occurs in the first ten seconds (19.2 percent in the control treatment and 26.2 percent in the backlash treatment). As seen in previous research, the vast majority of groups are successful in making the investment (96.5 percent in the control treatment and 93.5 percent in the backlash treatment).

Requests (Demand-Side Response). As seen in Figure 1, red players make more strategy-method requests of female green players than of male green players in each treatment, (8.87 requests are received by male compared to 11.07 by female green players in the control treatment, $p<0.001$; and 8.50 requests are received by male compared to 11.50 by female green players in the backlash treatment, $p<0.001$)[3], replicating prior findings. However, unlike previous research, this result only holds for male red players: Male red players make more requests of female compared to male green players ($p<0.001$ in control, and $p<0.001$ in backlash) while female red players do not

[2] There are some significant differences in the demographic characteristics of the participants across gender and experimental treatments. We therefore include demographic controls when possible in our analyses.
[3] Unless otherwise noted all tests reported are two-sided subject-level t-tests.

discriminate between male and female green players (p=0.319 in control, and p=0.348 in backlash).[4] Contrary to our expectations, the backlash treatment does not increase gender differences in the number of strategy method requests (see online Appendix Table B2).[5]

Figure 1. Number of requests received in a session (strategy method) by gender



Response to requests (Supply-Side Response). How do green players respond to being asked to invest? Relative to not being asked, getting a request to volunteer significantly increases the probability of making the investment (it increases from 21.0 percent to 54.5 percent in the control treatment, p<0.001; and from 13.0 percent to 67.5 percent in the backlash treatment, p<0.001). There is a 6.2 percentage point difference between the likelihood that female green players versus

[4] These are two-sided one-sample subject-level t-tests of the null hypothesis that the likelihood of asking a female to invest in mixed gender groups is equal to the share of females in the group.

[5] Pooling over both treatments, in a regression of the number of strategy method requests received in a session that controls for the other demographic information on the profiles and uses wild bootstrapped standards errors clustered at the session level, the coefficient on female is 1.638 (std. error=0.691) and does not differ by treatment (coeff.=0.193, std.error=1.099), see online Appendix Table B2.

male green players agree to the request in the control treatment (57.3 percent for female versus 51.1 percent for male green players), and the difference is 17.6 percentage points in the backlash treatment (76.2 percent for female versus 58.6 percent for male green players). In a probit analysis of the probability of investing (Table 1), we find that the increase in volunteering when asked is greater for women than it is for men (though the difference is marginally insignificant), and that this gender difference does not differ by experimental treatment.

TABLE 1— PROBABILITY OF INVESTING (PROBIT): ALL GREEN PLAYERS

	Control	Backlash	Both
	(1)	(2)	(3)
Asked to invest	0.283	0.522	0.270
	(0.061)	(0.055)	(0.060)
Female	-0.041	0.102	-0.065
	(0.053)	(0.059)	(0.050)
Female X Asked to invest	0.128	0.131	0.117
	(0.080)	(0.080)	(0.079)
Round	-0.000	0.003	0.001
	(0.007)	(0.007)	(0.005)
Backlash			-0.204
			(0.051)
Backlash X Female			0.153
			(0.063)
Backlash X Asked			0.224
			(0.083)
Backlash X Female X Asked			-0.024
			(0.126)
N	600	600	1200

Notes: Dependent variable: Individual investment decision (1-invest, 0-don't invest). Marginal effects presented in the table. Standard errors clustered on the individual shown in parentheses. The coefficient and standard error of the interaction terms is corrected to account for the nonlinear nature of the estimation. Demographic variables and incentivized measures of risk-seeking and altruism are included as controls in all columns. 80 participants.

Given that women receive more requests to volunteer than men and that they have a greater likelihood of agreeing to requests than men when asked, this implies that if a representative sample of strategy method requests was drawn, together the channels of increased "demand" and increased "supply" would lead women to volunteer 40 percent more than men in the control treatment and 76 percent more than men in the backlash treatment.

Who penalizes and who is penalized for saying "no" to a request to volunteer? Within the backlash condition there are interesting gender differences in the red players' decisions to penalize. When the group fails to make an investment, male red players impose significantly higher penalties on the green player who was asked to invest than do female red players (18.9 cents on average by male, and 6.5 cents on average by female red players, p=0.003, see online Appendix Table B3.) Importantly, the amount of earnings deductions does not differ by the gender of the green player who was asked to invest (p=0.139 for male red players and p=0.190 for female red players). While the size of the penalty differs by the gender of the red player who penalizes, there is no gender difference in the probability of imposing a penalty should the group fail to make the investment (47.9 percent for male red players, and 44.1 percent for female red players, p=0.788).

II. Conclusion

Previous research has found that women spend more time than men on low-promotability tasks, which are tasks that benefit all group members but that each group member prefers someone else completes. This research builds on prior studies and explores the mechanisms that lead to these gender differences. We examine whether gender differences in who is asked to perform these types of tasks and who says "yes" to requests to perform these tasks are exacerbated by the prospect of penalties for declining to do the task. We replicate previous findings (Babcock et al. 2017) that women receive more requests than men to do low-promotability tasks. However, this gender difference is unaffected by the prospect of a penalty for non-compliance. We also replicate the finding that women respond more favorably than men to agree to a request, although again this gender difference is not influenced by the prospect of a penalty.

The fact that the prospect of penalties failed to affect requests or compliance with requests may be driven by the fact that both the frequency and magnitude of observed penalties were small.

The total frequency of positive penalties observed by subjects when the asked person did not invest was 38 percent and meaningful penalties (in excess of 5 cents) were only seen in 61 percent of these cases. Penalties may thus not have been very salient to participants. It may be of interest to examine the role of penalties in environments where it is not a dominant strategy to invest and where the group's rate of success is lower.

We also find large gender differences in the size of penalties imposed for failing to agree to do the task, with men imposing larger penalties than women. This result is intriguing as when men themselves were asked to volunteer, and faced the prospect of a penalty for failing to volunteer, they were less likely than women to agree to the request to volunteer.

Together with Babcock et al. (2017) this research suggests that the mechanisms that lead women to perform more low-promotabililty tasks than men are robust and that interventions may be required to eliminate them. For example, pointing out the inequities generated by these gender differences may change the behavior of requestors and respondents, or imposing minimum targets of participation in these types of tasks might level the playing field for women.

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APPENDIX: FOR ONLINE PUBLICATION

Gender Differences in the Allocation of Low-Promotability Tasks: The Role of Backlash

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Appendix A: Instructions

Instructions

Introduction

Thank you for participating in our study. This is an experiment about decision making. The other people in this room are also participating in the experiment. You must not talk to them or communicate with them in any way. If you have a question please raise your hand and one of us will come to where you are sitting to answer you in private.

During the experiment you will make decisions in 10 rounds. In each round you will be randomly matched with three other people to form a group of four. Your earnings will depend on the decisions made by you and by your group members. At the end of the experiment you will be paid in private and in cash. Your payment will equal the sum of your earnings from each of the 10 rounds plus $6 for showing up to the experiment.

Identity and roles

We will use the information you provided at the beginning of the experiment to create your individual profile. In each round we will show you the individual profiles of the three other group members you are matched with. At the beginning of each round you and your group members will be randomly assigned roles. One member of the group will be assigned the role of red player and the remaining three members of the group will be assigned the role of green players. Green players form an investment group and can make an investment. The red player cannot make an investment. The earnings of all four group members depend on the investment choices made by the three green players.

Decisions and Earnings

In each round the three green players form an investment group and have 120 seconds to individually decide whether to invest in the group account. The round ends when the 120 seconds are up or when someone invests. If no one invests, each group member earns $1 for the round. If a green player invests before the 120 seconds are up, then that individual earns $1.25 for the round and the other group members each earn $2 for the round. If multiple green players invest at the exact same time, then it is randomly determined which player's investment choice counts and therefore which player earns $1.25.

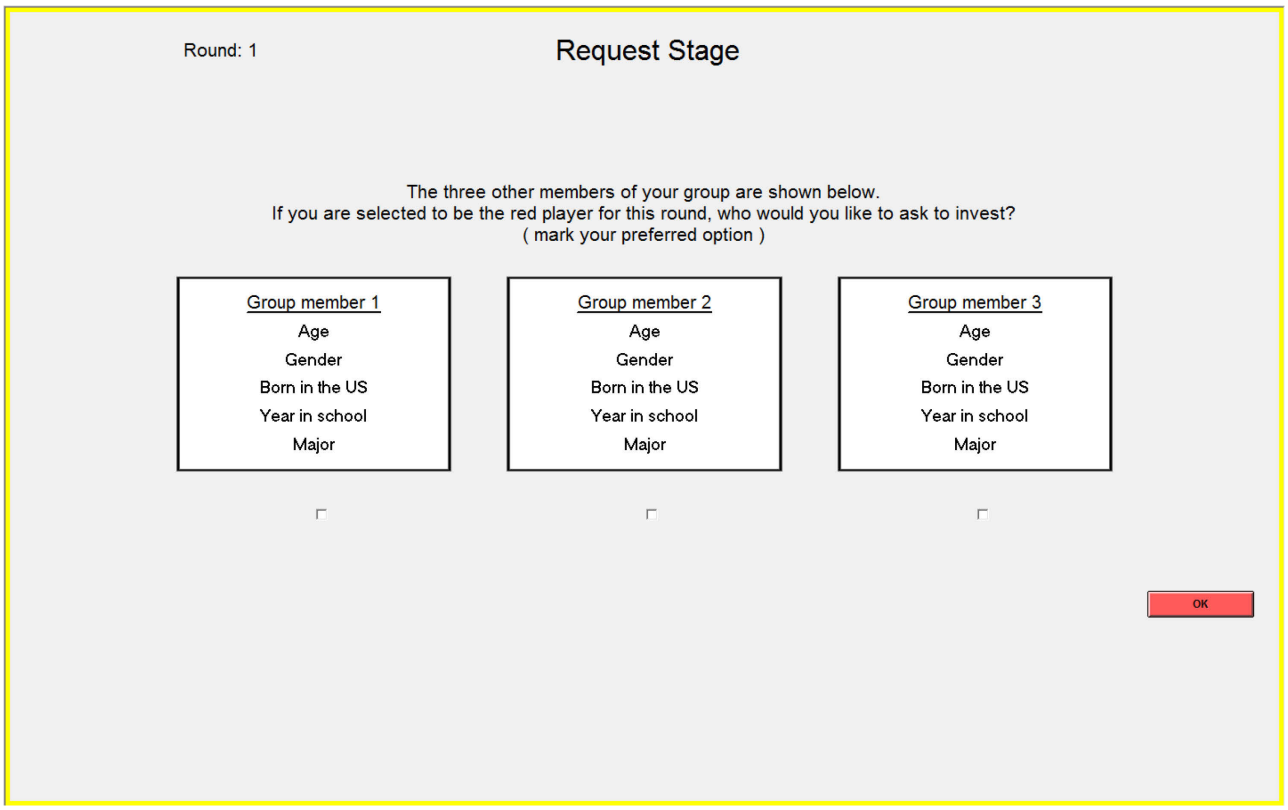
If you are selected to be a red player, you earn $2 if a green player invests and you earn $1 if no green player invests. As a red player you cannot invest. However, as the red player you can ask a green player to invest. In each round you will indicate which player you would like to ask before it is determined whether you are the red player. That is, prior to knowing your role, all members will indicate which green player they would like to ask to invest.

[BACKLASH: Conditional on the outcome of the investment round, you will also make a decision about whether and how you would like to decrease the earnings of the green player you asked to invest. It will cost you 1 cent to deduct 3 cents from the earnings of the group member you asked to invest. For example, if you deduct 30 cents from the earnings of the green player you asked to invest, your earnings will decrease by 10 cents and the green player's earnings will decrease by 30 cents. You can deduct up to 75 cents of the green player's earnings.]

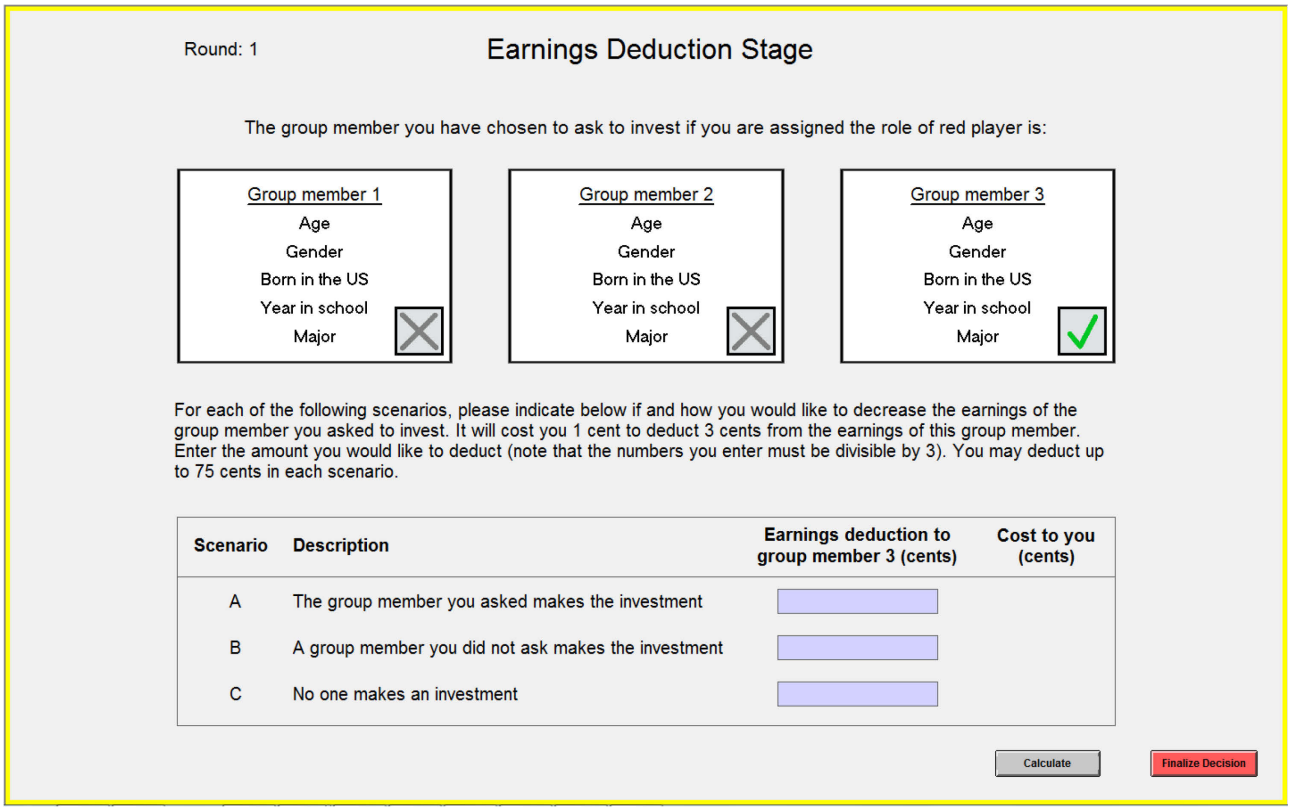
When the round begins, one group member is randomly selected to be the red player, and it is revealed which green player the red player asked to invest. After each round all participants learn if an investment was made and whether the green player who was asked to invest made the investment. [BACKLASH: Conditional on the outcome of the investment round, all players learn if and how much the red player chose to decrease the earnings of the green player who was asked to invest.]

Request Screen

Below you see a screenshot of the request stage. In the upper left corner you see the round number. The profiles of the three other members of your group are shown below. The order of the profiles and their group member number differs within the group. You can indicate who you would like to ask to invest by marking your preferred option. Your choice is only revealed to the other members of your group if you are randomly assigned the role of red player.



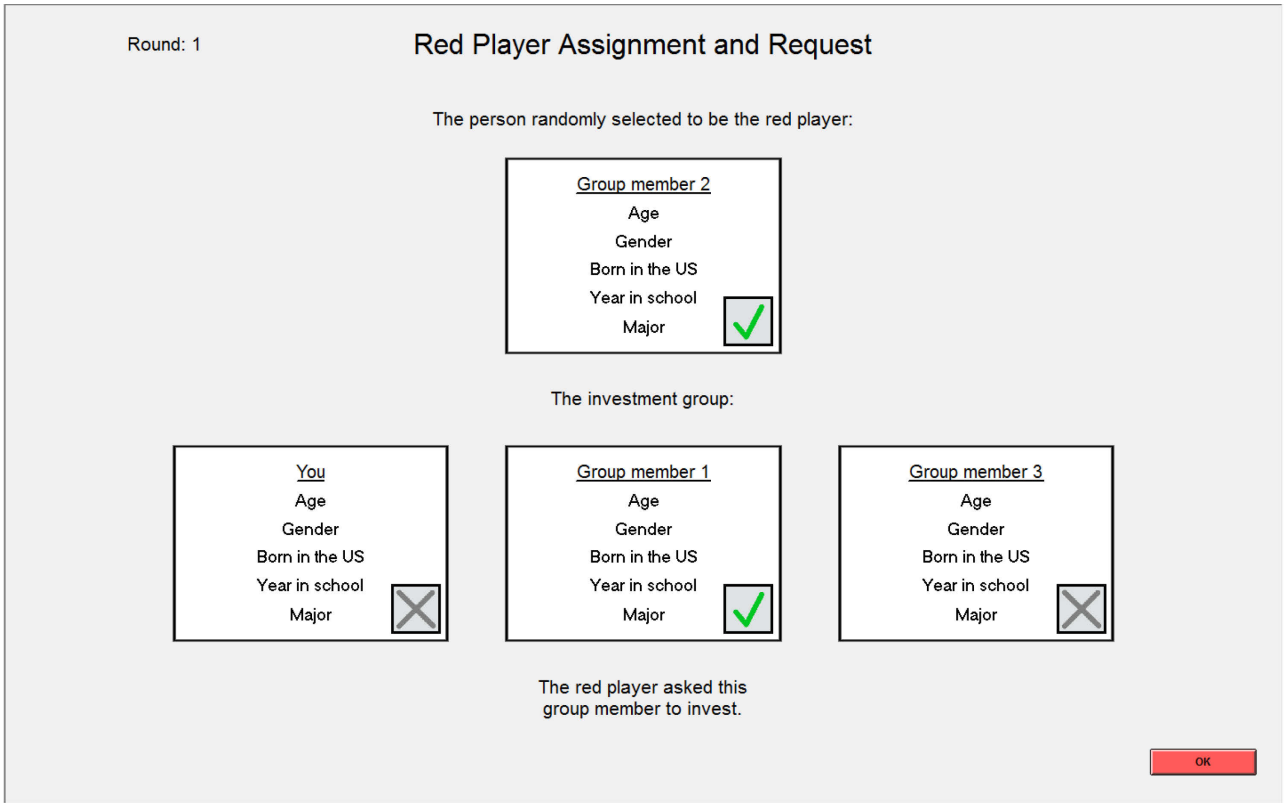
[BACKLASH: **Earnings Deduction Screen**
The earnings deduction screen indicates which group member you would like to ask to invest if you are assigned the role of red player. The screen also gives you the opportunity to decrease this player's earnings conditional on all possible outcomes of the investment round. It will cost you 1 cent to deduct 3 cents from the earnings of the group member you asked to invest. The deductions that you make must be divisible by 3. You can deduct up to 75 cents in each possible scenario.



At the bottom of the screen there is "Calculate" button. When you have entered deductions for all three scenarios you may push it to learn the cost that you will incur to decrease the earnings of the green player you asked to invest. You can revise deductions and recalculate costs until you are ready to finalize your decision. Once you have made your decision click the "Finalize Decision" button to proceed.]

Red Player Assignment Screen

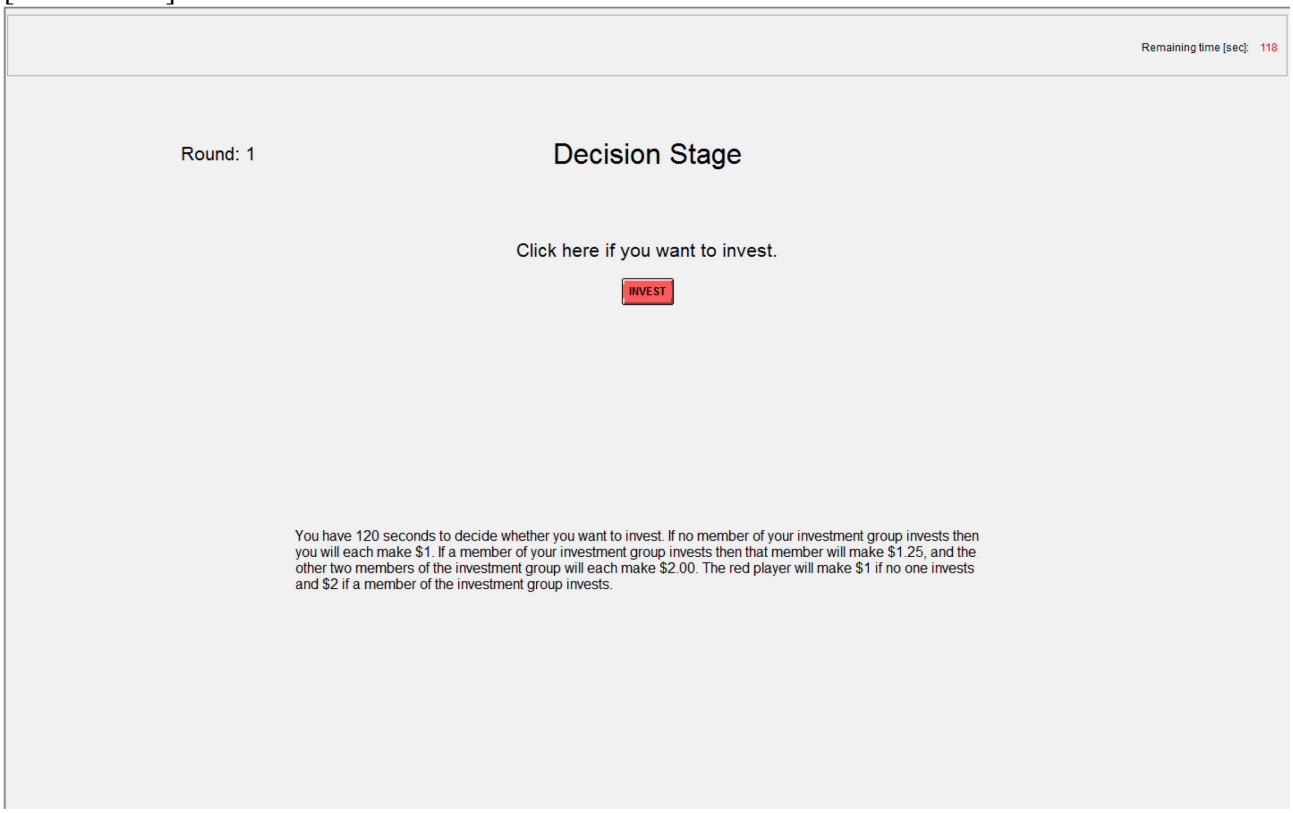
The computer randomly selects one group member to be assigned the role of red player. The remaining three group members are assigned the role of green players. A sample of the screenshot revealing this information is shown below. The red player's profile is shown on the first row and the profiles of the three green players forming the investment group are shown on the second row. Investments can only be made by green players, who form the investment group. Any member of the investment group may invest. The screen also reveals which green player the red player asked to invest in the round.



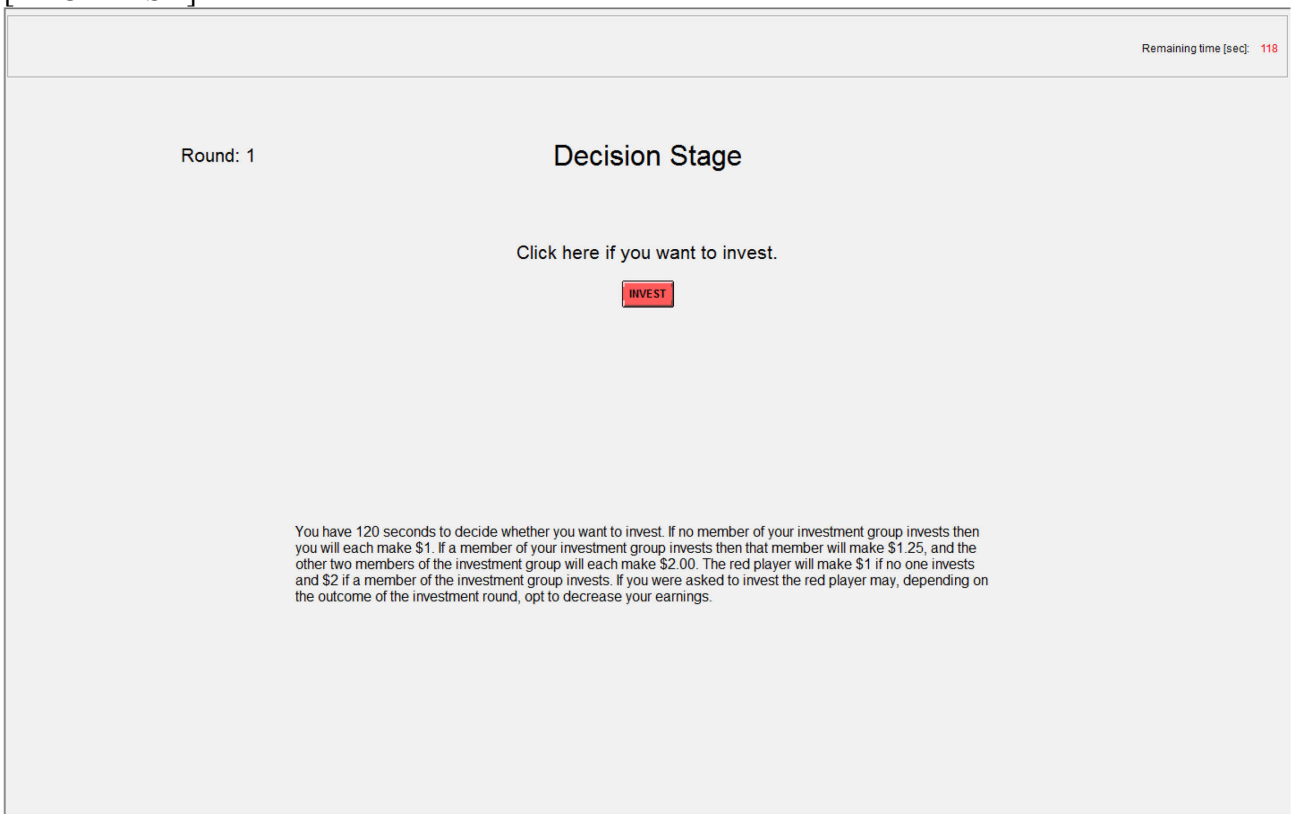
Decision Screen

The decision screen records the investment decisions for the green players. Listed in the upper right corner is the number of seconds that remain in a round. The button in the center of the screen is used to make your investment decision. Please click this button if you want to invest. The round ends and the decision screen disappears as soon as you or a member of your investment group chooses to invest.

[CONTROL]



[BACKLASH]



Summary

1. The experiment consists of 10 rounds.
2. At the beginning of each round you see the profiles of the three other members of your group.
3. One group member is randomly assigned the role of red player and the three others are assigned the role of green players.
4. Green players form an investment group and any green player can invest. The red player cannot invest. All group members are affected by the green players' investment choices.
5. Members of the investment group have 120 seconds to decide whether to invest. The round ends once someone chooses to invest or when the 120 seconds are up.
6. If no one invests, each group member earns $1 for the round. If someone invests, that person earns $1.25 and the three other group members each earn $2.
7. Before selecting which member is assigned the role of red player, everyone must indicate which group member they want to ask to invest if they are selected to be the red player. [BACKLASH: In addition, for each outcome of the investment round, everyone must choose an amount between 0 and 75 cents that they wish to deduct from the earnings of this green player. It costs 1 cent to deduct 3 cents from the earnings of this player.]
8. Before each round the computer reveals which group member was randomly selected to be a red player and which group member was asked by the red player to invest.
9. When the round ends you learn whether an investment was made and whether it was made by the green player who was asked to invest. [BACKLASH: In addition, you learn how much the red player chose to deduct from the green player who was asked to invest.]

Please raise your hand if you have any questions before we begin.

Appendix B: Tables

Table B1. Distribution of investment times by treatment

	Control			Backlash		
Seconds remaining at time of investment	Rounds 1-10	Rounds 1-5	Rounds 6-10	Rounds 1-10	Rounds 1-5	Rounds 6-10
Less than 1	0.5	0.0	1.1	1.6	1.1	2.1
1	23.8	12.2	35.8	25.7	11.0	39.6
2	20.7	17.4	24.2	12.3	14.3	10.4
3-10	12.4	14.3	10.5	8.6	8.8	8.3
11-20	3.6	4.1	3.2	1.6	2.2	1.0
21-30	1.6	2.0	1.1	2.1	1.1	3.1
31-40	2.1	2.0	2.1	0.5	1.1	0.0
41-50	1.0	1.0	1.1	1.6	2.2	1.0
51-60	2.6	3.1	2.1	1.6	3.3	0.0
61-70	1.6	3.1	0.0	1.6	2.2	1.0
71-80	1.0	2.0	0.0	3.2	4.4	2.1
81-90	1.6	3.1	0.0	2.7	3.3	2.1
91-100	5.2	9.2	1.1	4.8	7.7	2.1
101-110	3.1	4.1	2.1	5.9	9.9	2.1
111-120	19.2	22.5	15.8	26.2	27.5	25.0
Percent groups investing	96.5	98.0	95.0	93.5	91.0	96.0
N group decisions	200	100	100	200	100	100

Table B2. Requests received via the strategy method (OLS)

	Control	Backlash	Both
	(1)	(2)	(3)
Female	1.521	1.924	1.638
	(0.790)	(1.050)	(0.691)
Age	0.718	0.468	0.486
	(1.059)	(0.919)	(0.528)
Born in the US	-2.509	-2.240	-2.334
	(2.028)	(0.699)	(1.260)
Year in school	0.364	0.603	0.647
	(0.675)	(1.755)	(0.562)
Business major	-1.911	0.862	-0.193
	(1.147)	(0.563)	(1.449)
Other major	-3.594	-0.801	-1.883
	(3.034)	(1.609)	(1.502)
Backlash			-0.243
			(0.355)
Female X Backlash			0.193
			(1.099)
Constant	0.341	1.482	2.416
	(12.313)	(4.750)	(6.882)
N	80	80	160

Note: Wild bootstrapped standard errors clustered at the session level shown in parentheses.

Table B3. Mean earnings deductions when no one invests, Backlash treatment

	Male	Female	P-value
Deductions by gender of red player	18.893	6.412	0.003
(std. error)	(1.374)	(0.673)	
Deductions by male red player by gender of the green player asked	18.105	19.331	0.139
(std. error)	(2.233)	(1.743)	
Deductions by female red player by gender of the green player asked	7.020	5.823	0.190
(std. error)	(0.963)	(0.941)	

Notes: Two-sided subject-level t-test p-values reported in table.