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Large Effects of Small Cues: Priming Selfish Economic Decisions

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Large Effects of Small Cues: Priming Selfish Economic Decisions*

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Large Effects of Small Cues: Priming Selfish Economic Decisions

Abstract

We use survey experiments to demonstrate that manipulating participants' perceptions of the context can affect their decisions. We ran three survey experiments in the U.S. and Israel with participants from both economics and non-economics majors. In the experiments, participants face a tradeoff between profit maximization (market norm) and workers' welfare (social norm). Our experimental setup enables us to discriminate between the self-selection and indoctrination effects. Existing studies find that economics and non-economics students make different choices in such situations, which the studies argue is because of differences in personality traits between economics students and others. While such differences might exist, we argue that context also plays an important role. Using priming to manipulate the context, we demonstrate that when participants receive cues signaling that their decision has an economic context, both economics and non-economics students tend to maximize profits. When participants receive cues emphasizing social norms, on the other hand, both economics and non-economics students are less likely to maximize profits. We find that the role of context in determining behavior is at least as large as the baseline differences between economics and non-economics students.

Keywords: Market Norms, Social Norms, Selection, Indoctrination, Self-Interest, Economic Man, Rational Choice, Fairness, Experimental Economics, Laboratory Experiments, Priming, Economists vs. Non-Economists

JEL Codes: A11, A12, A13, A20, B40, C90, C91, D01, D63, D91, P10

“The economics students had a much stronger tendency to maximize profits than did the subjects in other groups ... even if the economics profession attracts certain types of people, the results still suggest that something is wrong in the way we relate to students in our undergraduate programs.”
Ariel Rubinstein (2006, p. C8)

“Hey, guys! Please listen. I would like you to say hello to my good friend, Daniel; Daniel is an economist, but he is a really nice guy.”
(At a party)

1. Introduction

Akerlof and Kranton (2005, 2008) suggest that people follow different norms in different environments. Decisions, therefore, are a function of both the incentives and the environment. This suggests that apparent differences in behavior between people who work in different fields, which are commonly attributed to differences in norms, might actually be attributed, at least partly, to differences in environments. This also suggests that in experimental settings, modifying the context can affect the outcomes.

In this paper, we contribute to the literature by studying the effects of context on participants’ responses by using cues to affect participants’ decisions in a survey experiment that is based on Rubinstein (2006).¹ In Rubinstein (2006), participants were asked to play the role of the vice president of a firm that experiences a decline in profits. The vice president must decide how many workers to lay off, effectively choosing between profit maximization (market norm) and retaining workers who have been with the firm for several years (social norm).

Rubinstein (2006) finds that economics students lay off more workers than non-economics students, concluding that “[Economics studies]... contribute to the shaping of a rather unpleasant ‘economic man’” (p. C9). We argue, however, that the choices of both economics and non-economics students likely depend also on their perceptions of the context.

A participant who focuses on the firm’s profits is likely to follow a market norm by maximizing profits at the cost of laying off many workers. On the other hand, a participant who pays most of her attention to the workers facing a job loss might follow social norms by laying off fewer workers, at the cost of smaller profits.

We therefore argue that by using cues to prime participants in Rubinstein’s survey experiment to focus on either the business or social aspects, we can affect the number of workers that participants lay off. In this, we follow Brosig et al. (2010), who show that it is possible to affect participants’ responses in Rubinstein’s (2006) questionnaire by modifying the framing of the vice president’s problem. In Brosig et al.’s (2010) version,

¹ We use the term “survey experiment” to emphasize that participants were not incentivized for their choices.

participants are informed that the vice president is about to retire. This leads both economics and non-economics students to lay off fewer workers than when the retirement information is not given. Brosig et al. (2010) interpret their findings as suggesting that when participants believe that the vice president's decision is unlikely to affect her/his career, they assign a greater weight to the workers' plight.

We use a different approach. We ran two survey experiments, in which we used word search puzzles *before* introducing the vice-president's question. In experiment 1, half of the participants were randomly assigned a word search puzzle containing neutral words, such as "toolbox," "umbrella," and "garbage bin" (control treatment). The remaining participants solved a puzzle containing words such as "inflation," "monopoly," and "income tax" (economics treatment). In survey experiment 2, we replaced the economics treatment with a communal treatment by substituting economics-related words with words related to communal values, such as "help," "solidarity," and "kindhearted."²

We find that in experiment 1, participants subject to the economics treatment, regardless of their field of study, lay off significantly more workers than participants subject to the control treatment. In experiment 2, we find that participants in the communal treatment, including economics students, lay off fewer workers than participants in the neutral treatment. Our results, therefore, support the hypothesis that context may have a significant effect on participants' choices. Indeed, exposure to words related to economics increased the likelihood that participants would make profit-maximizing choices. Exposure to words related to communal values, on the other hand, decreased their likelihood of making profit-maximizing choices.

We believe that these results are important for several reasons. First, we demonstrate that by manipulating cues, we may be able to change participants' decisions within a given setting. Second, Brosig et al. (2010) show that the decisions of participants in the Rubinstein (2006) setting can be influenced by information about the vice president's career. We show that cues that participants receive *before* answering the vice president's question, and which are not directly related to that question, may achieve a similar result. Thus, we provide evidence in support of Akerlof and Kranton's (2005) hypothesis that context plays an important role in economic decisions. Third, Rubinstein (2006) and others (e.g., Marwel and Ames 1981, Frank et al. 1993 and 1996) suggest that economists

² We also ran a third experiment, a small-scale replication of experiment 1, in response to a reviewer's comment, to assess the robustness of our findings.

and non-economists make decisions based on different values. In particular, they suggest that economists make decisions based on the assumptions of rationality and self-interest.³ Because economists are often at the forefront of policy analysis, market regulation, and economic planning, their policy prescriptions could be inconsistent with welfare maximization if they make decisions based on values that differ from the values of other members of society.

In addition, as Frank et al. (1996, p.187) note, the literature on the differences between economists and non-economists suggests that: “economics training makes... [economists] marginally less likely to cooperate in social dilemmas.” The literature also suggests that compared to non-economists, economists are more likely to defect and to expect that others would defect in social dilemmas (Marwel and Ames 1981, Carter and Irons, 1991, Frank et al. 1993 and 1996). The literature that focuses on differences between economists and non-economists, therefore, suggests that cooperation between economists and other scholars is likely to face obstacles due to differences in norms and expectations.

Indeed, one may look at academic scholarships and academic research projects as public goods, because once a research project is published, all contributors benefit from it (more or less) equally. The findings of Marwel and Ames (1981) and others suggest that when a group of people decides on individual contributions to a public good, economists are more likely to free ride than non-economists. Therefore, when economists cooperate with non-economists on a research project, the economists are more likely than the non-economists to free ride, likely leading to disagreements within the research team.

Yet, our results suggest that context may play a significant role in the decision process of both economics and non-economics students. Our findings, therefore, are reassuring because they suggest that, depending on the context, the differences between economists and non-economists may be smaller than reported in the existing literature.

³ In economics, *rationality* means that individuals have consistent preferences, and when they make a choice, they choose the option that best satisfies these preferences given the constraints they face. This notion of rationality does not require that the preferences be selfish or moral or realistic, etc. In other words, economists’ notion of rationality evaluates choices by their coherence, not by their social desirability. *Self-interest* refers to the pursuit of one’s own objectives, and economics places few restrictions on what these objectives may be. This means that the objectives may include altruism, fairness, adherence to norms, etc. By separating the content of preferences from the logic of choice, economists can analyze a variety of behaviors without the need to make strong claims about motivation. That explains why economists can model cooperation, punishment, or norm compliance using the same rational-choice framework as market exchange. Economic rationality is, therefore, compatible with a wide range of behaviors observed across social contexts. When economic rationality is coupled with constant preferences and self-interest, it is often interpreted narrowly as suggesting that *homo economicus* is always making choices that maximize her/his utility, irrespective of the feelings or the utility of others, irrespective of social norms, etc. See Miller (1999).

The paper is organized as follows. In section 2, we review the literature. In section 3, we describe the survey experiment design. In sections 4 and 5, we present the data and discuss the results from experiments 1 and 2, respectively. In section 6, we address robustness and discuss the results of some additional analyses, including the results of experiment 3. We conclude in section 7 by summarizing the key findings, noting some caveats, and suggesting avenues for future research. The online supplementary web appendix contains details of several robustness tests we ran.

2. Literature review

2.1 *Priming and contextual preferences*

In Akerlof and Kranton (2005, 2008), people follow different norms in different settings. For example, a person might approach a stall at a bazaar and haggle with the seller, even if s/he would never do that in other settings (e.g., at a shopping mall). Similarly, a person who perceives a situation as set in a business environment is likely to seek profit maximization. The same person might make a different decision if s/he were to perceive the situation as an office social gathering.

Research in psychology suggests that the choice of relevant norms depends on the interpretation of the context and is often affected by cues. As Smith et al. (2003, p. G-12) note, cues received before exposure to a situation might lead to *priming*, i.e., the increased accessibility or retrievability of information stored in memory. Priming is particularly important in ambiguous contexts, i.e., situations that can be interpreted in more than one way, because when the context is ambiguous, a cue received before the situation might determine which parts of the environment receive greater attention and, therefore, how the situation is interpreted.

Previous research has shown that priming can affect economic decisions (Kay et al. 2004, Vohs et al. 2006, Wang et al. 2011, Cohn et al. 2014, Bansal et al. 2016).⁴ For example, Liberman et al. (2004) find that participants who played a prisoners' dilemma game that was titled the "Wall Street Game" were significantly more likely to defect than participants who played the same game but with the title, the "Community Game."⁵

⁴ Van Oers et al. (2005) find evidence of context-dependent behavior in birds.

⁵ An alternative model for understanding priming is *top-down thinking*, also known as *schematic processing*. According to top-down thinking, memory is organized in structures known as *schemas*. A *schema* is an organized set of beliefs and knowledge about people, objects, events, and situations. Top-down thinking is the process of searching in memory for the schema that is most consistent with the incoming data. Schemas are useful because they permit us to organize

2.2 Differences between economics and non-economics students

A large body of work, beginning with Marwel and Ames (1981) and Carter and Irons (1991), finds that in incentivized experiments, economics students make different choices than non-economics students: economics students tend to make self-interested, profit-maximizing choices while non-economics students tend to make socially minded choices.⁶ Rubinstein (2006) ran a survey experiment in which participants played the role of a vice president of a firm that faces a drop in profits. Participants were then asked to choose between (a) retaining workers and thereby accepting a drop in profits, or instead (b) laying off the workers to maximize profits. It turns out that economics students (as well as businessmen who studied economics) lay off more workers than other students.

These differences between economics and non-economics students seem to persist after graduation. For example, Caplan (2001, 2002) and van Dalen (2019) conduct surveys and find that years after graduation, economists still hold different beliefs than non-economists.

Frey and Meier (1993) offer two possible explanations for the differences between economics students and students of other disciplines: the *selection hypothesis* and the *indoctrination hypothesis*. According to the selection hypothesis, selfish people choose to study economics and, therefore, the differences between economics and other students exist before the students begin their studies. According to the indoctrination hypothesis, training in economics induces students to act selfishly.

Several studies find support for the selection hypothesis by showing that economics students in their first week of studies make choices that are similar to those of more experienced economics students (Miragaya-Casillas et al., 2023). For example, Cipriani et al. (2009) replicate Rubinstein's (2006) survey and find that economics students in their first week of studies lay off as many workers as more experienced students. Brosig et al. (2010) use an incentivized version of Rubinstein's (2006) questionnaire and find results that support the selection hypothesis. Other papers that find support for the selection hypothesis include Frey and Meier (2003, 2004) and Bauman and Rose (2011), who study the likelihood that students donate to social causes.

enormous amounts of data very efficiently. For example, top-down thinking allows us to readily categorize consumables as either food or drink and then put one on a plate and the other in a glass (Smith et al., p. 646).

⁶ See Frank et al. (1993), Kroncke and Mixon (1993), Frank et al. (1996), Selten and Ockenfels (1998), Cadsby and Maynes (1998), Frank and Schulze (2000), Frey and Meier (2003, 2004), Gandal et al. (2005), Kirchgaessner (2005), Rubinstein (2006), Cipriani et al. (2009), Haucap and Just (2010), Bauman and Rose (2011), Wang et al. (2011), Goossens and Méon (2015), Cappelen et al. (2015), and Ambuehl et al. (2023).

Support for the indoctrination hypothesis is scarcer. Ifcher and Zarghamee (2018), using an incentivized experiment, show that even a one-time economics lesson can lead to more selfish decisions. Bauman and Rose (2011) find support for the selection hypothesis, but they also report that non-economics students who have studied at least one economics course were less likely to donate to social programs than other non-economics students. Goosens and Méon (2015) and Laméris et al. (2023) use surveys to show that, compared with other students, economics students are more supportive of trade from the beginning of their studies, supporting the selection hypothesis. They also find that the differences increase with years of study, supporting the indoctrination hypothesis. Similarly, Hamock et al. (2016) use longitudinal data and show that economics students hold different opinions from other students and that the differences increase over time. In the same vein, Paredes et al. (2025) surveyed students in Chile and found that economics students are more sexist than other students, even before they are exposed to economics courses. The differences become more pronounced among seniors.

Ash et al. (2025) study the indoctrination hypothesis. They show that judges who have taken a course in economics rule against regulatory agencies more often and impose more severe sentences than judges who have not taken an economics course. Their results suggest that training in economics can have large and long-lasting effects on society.⁷

A few studies, however, offer evidence that is inconsistent with economics students being more self-interested than others. Girardi et al. (2018) use survey data with a diff-in-diff approach to examine the effects of studying economics on social preferences and find no evidence of indoctrination. Gerlach (2017) argues that economics students are less likely to cooperate than other students, not because they have a different notion of fairness, but because they are skeptical about the behavior of other players.

Yezer et al. (1996) find that economics students are at least as likely as other students to return envelopes that contain \$10 bills to their owners. Laband and Beil (1999) show that economics professors are no more likely to cheat on their association membership fee payments than professors of other disciplines. Lanteri (2008) finds that the differences between economics and non-economics students in prisoner dilemma games are smaller if the non-economics students know that they are paired with economics students, suggesting that some of the differences can be explained by differences in expectations.

⁷ The effect of priming is temporary, quickly dissipating after it is invoked. Indoctrination, in contrast, is more long-lasting, and it can potentially shape the student's views permanently.

3. Experiment design⁸

For our main analysis, we ran two non-incentivized survey experiments. Following Rubinstein (2006), we ran them in both Israel and the U.S.

3.1. Survey experiment 1

In Israel, participants were students at Bar-Ilan University (BIU) and Tel-Aviv University (TAU), and in the U.S., at the University of Texas at San Antonio (UTSA).

At BIU and TAU, we ran the survey experiment by entering classes 15 minutes before the end of the lesson and asking the students to take part in a survey experiment. At UTSA, we ran the survey experiment in the behavioral laboratory of the university.

At the start of the survey experiment, participants were given a questionnaire composed of three parts. The first part was a word search puzzle containing 15 words that participants had to find. They were given 5 minutes for this task and were asked to find as many words as they could. In Israel (the U.S.), participants were awarded NIS 1 (\$ 0.25) for every word they found.⁹

We had two types of puzzles, and participants were randomly assigned to one of them. Participants in the *control* treatment received a puzzle with neutral words, such as “book,” “umbrella,” and “garbage bin.” Participants in the *economics* treatment received a puzzle containing words related to economics, such as “inflation,” “monopoly,” and “income tax.” The words in the two puzzles were chosen such that the total length of the words would be similar, to ensure that the puzzles were of similar difficulty levels.¹⁰

After solving the puzzles, participants proceeded to the second part of the questionnaire, which contained the dilemma question from Rubinstein (2006):

“Assume that you are the vice president of ILJK company. The company provides extermination services and employs administrative workers who cannot be fired and 196 non-permanent workers who do the actual extermination work and can be fired. The company was founded 5 years ago and is owned by three families. The work requires only a low level of skills, so each worker requires only one week of training. All the company’s workers have been with the company for three to five years. The company pays its workers more than the minimum wage. A worker’s wage, which includes

⁸ The project was approved by the Ethics Review Board (ERB) of the Economics Department of Bar-Ilan University.

⁹ At the time we ran the experiment, the average NIS-\$U.S. exchange rate was NIS 3.56 for \$1.

¹⁰ For a copy of the questionnaire and more information about the survey experiments, see Appendix A.

overtime, amounts to about NIS 7,000 per month.¹¹ The company provides its workers with all the benefits required by law.

Until recently, the company was very profitable. As a result of the continuing recession, however, there has been a significant drop in profits, though the company is still in the black. You will soon be attending a meeting of the management at which a decision will be made as to how many workers to lay off. ILJK's Finance Department has prepared the following forecast for annual profits:

Number of Workers who Will Continue to be Employed	Expected Annual Profit in NIS Millions
0	Loss of 8
50	Profit of 1
65	Profit of 1.5
100	Profit of 2
144	Profit of 1.6
170	Profit of 1
196 (no layoffs)	Profit of 0.4

I will recommend continuing to employ 0 50 65 100 144 170 196 of the 196 workers in the company.”¹²

After answering this question, participants filled out the final part of the questionnaire, which contained socio-demographic questions. Upon completion of the questionnaire, we paid participants, and the survey experiment was over.

3.2. Survey experiment 2

In Israel, we ran the survey experiment at BIU, and in the U.S., at a lab at UTSA. In both countries, we followed the same protocols as in survey experiment 1. The only difference was that we replaced the economics treatment with a communal treatment, where participants were assigned a word search puzzle that contained 15 words related to communal values, such as “equality,” “charity,” and “social norm.” As in the survey experiment 1, we chose words such that the total length of the words in the treatments would be similar.

¹¹ In Rubinstein's (2006) study, the average monthly wage was set at NIS 4,500. We raised it to NIS 7,000 because when Rubinstein ran his survey experiments, the minimum wage was NIS 3,335, while during the period we ran our survey experiments, it was NIS 5,300. In the U.S. survey experiments, we set the average wage at \$1,200–\$1,400.

¹² In Israel, we gave the Israeli participants the same table as in Rubinstein (2006). Following Rubinstein (2006) and Cipriani et al. (2010), we exclude observations of participants who retained less than 100 workers, because it is unclear whether they made this decision out of spite or because of a misunderstanding. We, therefore, exclude 39 (30) participants of the Israeli sample of survey experiment 1 (2). In Appendix B, we show that the results do not change if we include these participants. In the U.S., we had fewer participants than in Israel. Therefore, to avoid losing observations, we gave participants only 4 options: retaining 196, 170, 144, or 100 workers because these are the choices that we use in the analysis below.

3.3. A note on the survey experiment design

Some decisions we have made about the survey experiment design deserve further discussion. First, we decided not to incentivize participants. We had two reasons for that. First, we base our survey experiment on Rubinstein (2006), where participants were not incentivized. Therefore, if we had incentivized participants, it would be difficult to compare our work with previous work that used this framework (see also Cipriani et al., 2009). Second, our goal was to test the preferences of economics and non-economics students. If we were to incentivize participants for laying off workers and find that economics students make different choices than non-economics students, we would be unable to tell whether the differences are due to different beliefs about profit maximization or due to the weights that the students assign to monetary payoffs.

Another issue is the possibility that by using a puzzle to prime participants, we have also inadvertently created experimental demand effects. Here we note three points. First, the words we chose for the puzzles are not concerned with laying off workers. Second, before the beginning of each session, we stressed that there is no “right choice.” Third, we ran the survey experiment in two countries (in two different languages) and used different experimenters for each round of the experiment, demonstrating the robustness of our results (and thus mitigating concerns about demand effects).

Finally, we chose to run the survey experiment in two countries, Israel and the U.S., for two reasons. First, we wanted to make our results comparable to Rubinstein (2006), who also ran the survey experiment in Israel and the U.S. Second, the profiles of the students in the two countries are very different. Israeli students tend to be older (because they go through compulsory military service before attending university), are more likely to be married than their U.S. counterparts, and tend to be more conservative. Previous research also suggests that Israeli students tend to be less concerned about inequality than U.S. students.¹³ Running the survey experiment using participants from both Israel and the U.S. allows us, therefore, to test whether the results are robust to differences in beliefs and backgrounds.

4. Data and results of the survey experiment 1

¹³ Differences between Israeli and U.S. participants were first documented by Roth et al. (1991), who found that Israeli participants offered and accepted smaller sums in ultimatum games than U.S. participants. Creedy et al. (1999) find that Israeli participants are less inequality averse than Australian participants. Snir, et al. (2024) ran a survey on the fairness perceptions of price hikes during the COVID pandemic and found differences between the U.S. and Israeli participants.

4.1. Data

Panel 1 of Table 1 presents summary statistics for the participants in survey experiment 1.¹⁴ In Israel (the U.S.), we had 544 (99) participants. The average participant age was 23.3 (22.3). 65.6 % (40.4 %) of participants studied economics,¹⁵ 59.9 % (37.4 %) were women, and 10.3 % (7.1 %) were married.

In Israel, 52.8 % of participants took part in the survey experiment during their first week of studies. 10.8 % of the Israeli participants reported that they voted for center-left or left parties. In the U.S., 40.4 % of participants reported that they voted for the Democratic Party. Israeli (U.S.) participants retained, on average, 133.8 (153.7) of the 196 workers.

4.2. Results

We hypothesize that participants who were exposed to cues related to economics would adopt a market norm and focus on the firm's profits. We therefore expect that participants in the economics treatment will lay off more workers than participants in the control treatment.

Figure 1 depicts the average number of workers that participants retained in each treatment. The vertical lines indicate the standard deviations of the means. In both Israel and the U.S., participants in the economic treatment retained about 10 workers less, on average, than participants in the control treatment. The differences are statistically significant. The t -statistics are 3.81 for Israel ($p < 0.01$), and 2.25 for the U.S. ($p < 0.03$).¹⁶

To assess whether this result is driven by non-economics students, Figure 2 separates the average number of workers retained by economics and non-economics students. Panel A gives the results for Israel, and Panel B, for the U.S. In both countries, both economics and non-economics students who were included in the economic treatment condition retained fewer workers than participants in the control treatment condition. Therefore, it seems that the differences in the number of workers retained are not driven by non-economic students. Rather, they are common across all participants.

As a formal test, we estimate a series of OLS regressions where the dependent variable is the number of workers retained. In the baseline model, the independent

¹⁴ Summary statistics of participants by treatment for both survey experiments are given in Appendix C.

¹⁵ We define a participant as an economics student if s/he studies economics, accounting, business administration, banking and finance, marketing, or management.

¹⁶ See Appendix D for more details about the distribution of participants' responses.

variables are a dummy for the economic treatment, which equals 1 if the participant took part in the economics treatment and 0 otherwise, and a dummy for economics students, which equals 1 if the participant studied economics and 0 otherwise. We report robust standard errors, clustered by sessions. The estimation results are summarized in Table 2.

Column 1 reports the results for Israel, and column 4 for the U.S. We find that in Israel (the U.S.), participants in the economic treatment retained 10.69, $p < 0.01$ (10.27, $p < 0.05$) fewer workers than participants in the control treatment. Therefore, in both countries, exposure to economic cues leads to a significant drop in the number of workers retained. We also find that, in Israel, consistent with previous studies (Rubinstein 2006, Cipriani et al. 2009), economics students retained 13.18 ($p < 0.01$) fewer workers than non-economics students. In the U.S., we do not find statistically significant differences between economics and non-economics students. The coefficient of economics students is negative ($\beta = -7.09$), as expected, but it is not statistically significant ($p > 0.15$).

In both Israel and the U.S., we cannot reject the hypothesis that the coefficient of the economic treatment is the same as the coefficients of economics students. The F -test statistic in Israel (the U.S.) is 0.55 (0.19), with both p -values > 0.46 . It therefore seems that the effect of manipulating the context is about as large as the difference between economics and non-economics students.

In columns 2 (for Israel) and 5 (for the U.S.), we add further controls: Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting left-wing/democrats – a dummy that equals 1 if an Israeli (the U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic party), and 0 otherwise, employment – a dummy that equals 1 if the participant works either part-time or full time, and 0 otherwise, parents with academic degrees – a dummy that equals 1 if both parents of the participant have an academic degree, and 0 otherwise, participant's age in years, and the number of words that participants found in the puzzle.¹⁷

We find that adding these variables has little effect on the main result. The economic treatment coefficients remain almost unchanged and statistically significant.

In columns 3 and 6, we add an interaction term between the economic treatment and economics students. The coefficient of this variable shows whether economics students

¹⁷ In Israel, 6 participants did not answer some of the demographic questions. Therefore, once we add the demographic controls, the sample size is reduced to 538.

are affected by economic treatment differently from other students. In Israel (column 3), we find that the main effect of the economic treatment, -12.46 , remains statistically significant at the 1 % level. In the U.S. (column 6), the size of the main effect of the economic treatment remains almost unchanged relative to the previous columns, -10.37 , and is marginally significant. In both countries, the interaction terms' coefficients are much smaller than the main effects and are not statistically significant.

Therefore, it seems that the effect of the economic treatment is similar across economics and non-economics students. In both Israel and the U.S., priming participants by exposing them to words related to economics leads them to retain fewer workers.

5. Data and results of the survey experiment 2

5.1. Data

Panel B of Table 1 presents summary statistics of participants in the survey experiment 2. In Israel (the U.S.), we had 406 participants (212), with an average age of 26.1 (21.9). 63.8 % (44.8 %) of participants studied economics, 56.9 % (46.2 %) were women, and 14.0 % (6.1 %) were married. In addition, 9.9 % (30.2 %) of the Israeli (U.S.) participants reported that they voted for center-left or left parties (the Democratic Party). We also find that Israeli (U.S.) participants retained, on average, 121.9 (152.6) of the 196 workers.

5.2. Results

We hypothesize that participants who were exposed to cues related to communal values would focus on the workers who are at risk of losing their jobs during a recession. We therefore expect that participants in the communal treatment will lay off fewer workers than participants in the control treatment.

Figure 3 depicts the average number of workers that participants retained in each treatment. The vertical lines indicate the standard deviations of the means. In Israel (the U.S.), participants in the communal treatment retained, on average, 9.3 (8.2) workers more than those in the control treatment. The differences are statistically significant: the t -statistics are 2.76 for Israel ($p < 0.01$), and 2.37 for the U.S. ($p < 0.02$).

To test whether priming by communal values affects economists as much as other students, Figure 4 depicts the average number of workers retained by economics students and by other students, separately. We find that after being primed with communal values, both economics and non-economics students retained more workers than participants in control treatment. This result holds for both Israel and the U.S.

As a formal test, we estimate a series of OLS regressions with robust standard errors, similar to the regressions we report in Table 2. In all regressions, the dependent variable is the number of workers retained. In the baseline model, the only independent variables are dummies for the communal treatment and for economics students. We report robust standard errors, clustered by sessions.

Column 1 (4) of Table 3 reports the results for the Israeli (U.S.) data. We find that in Israel (the U.S.), participants in the communal treatment retained 9.53, $p < 0.01$ (8.37, $p < 0.02$) more workers than participants in the control treatment. Thus, exposure to cues with communal values leads to a significant increase in the number of workers retained.

In Israel, we find again that economics students retain fewer workers than non-economics students ($\beta = -12.21, p < 0.01$). In the U.S., the coefficient of the economics students is positive, but, similar to survey experiment 1, it is not statistically significant ($\beta = 2.57, p > 0.33$). Thus, in both experiments 1 and 2, U.S. economics and non-economics students made decisions that were not significantly different.

In addition, as in the survey Experiment 1, the coefficients of the treatment are not statistically different, in absolute terms, from the coefficients of the dummy of economics students. In Israel (the U.S.), the F -statistic of the test of equal coefficients is 0.61 (1.53), with p -values greater than 0.21 in both cases.

In column 2, we add further controls: woman, married, employment, voting left-wing/democrats, parents with academic degrees, age, and the number of words recalled. All variables are defined as above.

Including these control variables does not change the main result. Participants who were primed with communal values retained more workers than participants in the control treatment. In Israel, they retained 9.38 ($p < 0.01$) more workers. In the U.S., they retained 8.56 ($p < 0.02$) more workers.

In column 3, we add an interaction term between priming by communal values and being economics students. In Israel, the coefficient of the main effect of communal values remains positive, 9.66, and statistically significant ($p < 0.05$). In the U.S., the size of the coefficient of the main effect of communal values remains almost unaffected, 8.66, and marginally significant ($p < 0.07$). In both countries, the coefficients of the interaction terms are small, negative, and statistically insignificant. Therefore, it seems that priming communal values has a positive effect on the number of workers retained, and this effect is not different between economics and non-economics students.

6. Robustness

We ran several robustness tests and found that all our key results still hold. First, we added to the regressions in Tables 2 and 3 fixed effects for the fields of study and the institution where the survey experiment was run to control for heterogeneity between students who study fields other than economics and for possible heterogeneity between students from different institutions. See Appendix E.

Second, in the survey experiment 1, we have data on students in their first week of studies. This allows us to test for the indoctrination effect vs. the selection effect. According to the indoctrination hypothesis, economics students should make different choices than other students only after some exposure to economic ideas and content. Therefore, if the differences between economics students and other students are due to indoctrination, then the differences we find should be more pronounced among experienced students than among freshmen in their first week of school. However, we find evidence only in favor of selection: economics students in their first week of studies lay off as many workers as more experienced economics students. Importantly, adding these controls does not affect our main conclusions. See Appendix F.

Third, we note that OLS regressions might be biased because our dependent variable is not continuous. We use OLS because it is easier to interpret the results. In Appendix G, we show that the results do not change when we employ logit and ordered-logit regressions instead of the OLS regressions that we report in Tables 2 and 3.

Fourth, in Appendix H, we report the distribution of responses by students of different majors.

Fifth, the economic words that we used in experiment 1 may be perceived as associated with negative connotations. The communal words that we use, on the other hand, are likely to be perceived as associated with positive connotations. Therefore, it is possible that participants retain fewer (more) workers in the economic (communal) treatment not because of the economic (communal) norms associated with these words, but because of the negative (positive) feelings associated with them.

To explore this possibility, we ran a third experiment at UTSA. In the experiment, we replaced the economic words/terms that we used in experiment 1 with economic words/terms that are more likely to be perceived as imbued with positive connotations. Consistent with our findings above, we find that (1) participants still retain fewer workers in the economic treatment than in the control treatment, and (2) the effect of the exposure

to economic words is of a similar magnitude as the baseline differences between economics and non-economics students.

However, we find that the priming effect produced by the new, more positively sounding economic words is weaker in comparison to the effect we observed in experiment 1. This suggests that the choice of particular words and their connotations can affect the results of such priming experiments. Nevertheless, our key results continue to hold. See Appendices I and J for the list of the new words we used in the experiment, and for more details about the results we obtained.

Sixth, in Israel, we collected observations by entering classes 15 minutes before the end of the lesson and asking the students to take part in a survey experiment. By doing this, we might have affected participants' responses in two ways. First, given that the majority of the economics students in both of our Israeli samples participated in the survey experiments at the end of economics classes, this could have heightened (reduced) their sensitivity to economic (communal) terms. Second, this might have also primed them in advance of the survey experiment, partly explaining why economics students in Israel, but not in the U.S., lay off more workers than non-economics students.

We offer two possible arguments. First, if the economics students were overly sensitive (insensitive) to economic (communal) terms, then we should have found that their response to economics (communal) terms is stronger (weaker) than the response of non-economics students. Yet, exposure to economics and to communal terms affects economics and non-economics students similarly.

Second, in the second experiment in Israel, we collected some of the observations in courses that are open to students of all fields. These courses are in fields other than economics. Within this subsample, we have both economics and non-economics students who participated in the survey experiment after taking the same classes. This subsample is relatively small. Yet, as we report in Appendix K, we find the same patterns as we find in the full sample. Economics students retain fewer workers than non-economics students, and both economics and non-economics students retain more workers after solving a word search puzzle containing words related to communal values.

7. Conclusions, caveats, and future research

Akerlof and Kranton (2005, 2008) suggest that context can have a large effect on the decision-making process. We test this hypothesis by running three survey experiments, in which participants face a choice between profit maximization (market norm) and the

welfare of workers (social norm). Before participants had to make their choice, we manipulated the cues that participants received.

We find that when participants receive cues with economic connotations, they tend to maximize profits. When they receive cues with communal connotations, in contrast, they are less likely to maximize profits.

Further, previous research suggests that in experiments, economics students tend to maximize profits in situations in which other participants adhere to social norms such as fairness and equality (Frank et al. 1993, Frank et al. 1996, Selten and Ockenfels 1998, Cadsby and Maynes 1998, Frank and Schulze 2000). These findings are often explained by stable personality traits, which are the outcome of either natural inclination (i.e., selection) or economic training (i.e., indoctrination; Frey et al., 1993).

We find, however, that both economics and non-economics students are affected similarly by cues. Thus, whereas past research tended to emphasize the difference between economists and non-economists and attribute the differences to stable personality traits or training, we find that context has a large and similar effect on both groups.¹⁸

We shall note that the cues we employed seem rather mild; students had to search for a few words with economic or communal connotations. Yet these cues were sufficient to affect the choices of both economics and non-economics students. Further, in both survey experiments, the effect of the cues was not statistically significantly different from the baseline difference between economics and non-economics students.

Thus, while the literature explains the behavior of economics students by focusing on their personality traits or training, we find that context also plays an important role in the decisions of both economics and non-economics students. Economics students, therefore, do not focus exclusively on profit maximization irrespective of the context. In experiments in which both economics and non-economics students participate, therefore, small differences in the perceived settings can lead to large effects on the outcomes.

In other words, whereas some authors cite the differences found between economics and non-economics students in lab experiments as evidence that economists are more selfish and less cooperative than non-economists, our results suggest that while there

¹⁸ Research in psychology suggests that there is a natural tendency to explain behavior by focusing on personality traits rather than on situational factors (aka, the fundamental attribution error, Ross, 1977). See also Rubin (2003). Jagelka (2024) shows that psychological personality traits are correlated with economic preferences.

might be baseline differences between economics and non-economics students, context also plays a role in the decision-making process.

Thus, although well-trained economics students might be more likely to identify profit-maximizing strategies and opportunities thanks to either natural inclination or the training they receive, they are not heartless, cold, efficient calculating machines, as it is sometimes argued in the popular media.¹⁹ Depending on the setting, economists can be human, kindhearted, compassionate, and caring.²⁰ Our findings, therefore, offer a more optimistic view of the economics discipline, what we teach and how we teach, and the outcomes of our teaching.

In the context of interdisciplinary research, our findings are reassuring because past research, which highlights the differences in norms between economists and non-economists, suggests that differences in norms might hinder cooperation between economists and non-economists. Our results, on the other hand, which highlight the role of context, suggest that both economists and non-economists respond similarly to contextual cues. Therefore, in the right environment, the differences between economists and others will likely diminish.

Before concluding, we note that while the effect of priming seems to be quite similar across our Israeli and U.S. samples, there are several differences between the decisions of Israeli vs. U.S. participants. First, we find that Israeli students lay off more workers than their U.S. counterparts.²¹ We also find statistically significant differences between economics and non-economics students only in the Israeli sample and in the third U.S. sample. In the first U.S. sample, the differences are in the right direction, but not statistically significant. In the second U.S. sample, economics students retained more workers than non-economics students, although the difference was not statistically significant.

These differences between the Israeli and U.S. students may be explained by (a) differences in norms between Israel and the U.S. (Roth et al., 1991). (b) Differences in the settings between our Israeli and U.S. survey experiments, and (c) differences between

¹⁹ In this respect, Kerschbamer and Müller (2020) find that selfishness is correlated with political preferences. Selfish people are more likely to vote for right-wing parties and are less likely to favor redistribution.

²⁰ Of course, as economics teachers and scholars, we believed all along that this was true. It is, nevertheless, nice to have data that is consistent with it.

²¹ Rubinstein (2006) finds a similar pattern. He finds that Israeli economics students lay off, on average, 76–78 workers, while U.S. economics students lay off 55 workers. However, in Rubinstein's survey experiment, the Israeli students were undergraduate, while the U.S. students were graduate students.

branches of economics (Frey and Meier, 2003), or between the way that economics is taught in different institutions.

In light of these possibilities, as well as the rest of our results, there are several possible avenues for future research. First, it might be interesting to study whether the differences are due to differences in norms across countries (Roth et al., 1991).

Second, it is possible that because we ran the experiment in Israel at the end of classes, participants responded differently from participants in the U.S., who took part in the experiment in a lab. In Appendix K, we provide evidence suggesting that the differences between economics and non-economics students remain even when they participate in the survey experiment after taking the same non-economics class. However, to differentiate between cross-country variations in norms and variation in the experimental setting, it would be useful to redo the Israeli experiment as a lab experiment.

Third, it might be interesting to test whether there are differences across universities or branches of economics in either selection or indoctrination. For example, Frey and Meier (2003) find that Swiss political economics students behave similarly to non-economics students, while business economics students behave more selfishly than other students. Rubinstein (2006) finds that although MBA students take a number of courses in economics, they make choices similarly to non-economists. Therefore, replicating the experiment using samples of students from different branches of economics (e.g., economics, accounting, business, etc.) can shed light on possible differences in norms across branches of economics.

Fourth, since the cues that we used were rather mild, it would be interesting to see the outcome if we were to use stronger priming cues. Fifth, we did not incentivize participants because we were interested in their preferences over profit maximization vs. the workers' welfare. However, in real-world scenarios, managers who decide to lay off workers are usually incentivized to make profit-maximizing decisions. It would, therefore, be interesting to re-run the survey experiment while making participants' payoffs dependent on the firm's profits.

Sixth, in the third experiment, we find results that are consistent with the results we obtained in the first experiment, but they are weaker. It is, therefore, possible that words with positive associations have a different effect than words with negative associations, *ceteris paribus*. Future research could explore this issue further by systematically varying the words used for priming and assessing the sensitivity of the results.

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Table 1. Summary statistics

	A. Survey Experiment 1		B. Survey Experiment 2	
	Israel	U.S.	Israel	U.S.
Workers retained	133.8	153.7	121.9	152.6
% Economics students	65.6 %	40.4 %	63.8 %	44.8 %
% Women	59.9 %	37.4 %	56.9 %	46.2 %
% Married	10.3 %	7.1 %	14.0 %	6.1 %
% Political left/ % Voting Democrats	10.8 %	40.4 %	9.9 %	30.2 %
% Employed	58.3 %	79.8 %	57.8 %	73.1 %
% First week of studies	52.8 %	0.0 %	0.0 %	0.0 %
% having parents with academic degrees	45.0 %	26.3 %	41.5 %	33.0 %
Age	23.3	22.3	26.1	21.9
Words found in puzzle	8.9	10.0	9.3	12.5
Observations	544	99	406	212

Notes:

The table presents summary statistics of participants in the two survey experiments. Panel A gives the summary statistics of participants in the survey experiment 1. Panel B gives the summary statistics of participants in the survey experiment 2. Workers retained is the average response to the question about how many workers participants chose to retain. % Economics students is the % of students studying economics, accounting, business administration, banking and finance, or management. % women is the % of women. % married is the % of married participants. % political left/% voting democrats is the % of participants that vote for center-left/left-wing parties (Israeli data), or that vote for the Democratic party (U.S. data). % employed is the % of participants who work either part-time or full-time. % first week of studies is the % of participants who took part in the survey experiment while in their first week of studies. % having parents with academic degrees is the % of participants whose both parents have academic degrees. Age is participants' age. Words found in the puzzle is the average number of words that participants found in the puzzles.

Table 2. The number of workers retained in the survey experiment 1

	Israel			U.S.		
	(1)	(2)	(3)	(4)	(5)	(6)
Economic treatment	-10.69*** (2.165)	-10.22*** (2.130)	-12.46*** (2.016)	-10.27** (4.813)	-10.84** (4.759)	-10.37* (6.232)
Economics student	-13.18*** (3.277)	-12.87 (3.558)	-14.55*** (3.872)	-7.09 (4.893)	-6.42 (5.005)	-5.81 (5.830)
Woman		-4.32 (3.573)	-4.21 (3.558)		-5.72 (5.400)	-5.72 (5.443)
Married		0.60 (5.140)	0.58 (5.117)		-2.78 (9.029)	-2.68 (9.008)
Voting left-wing/democrats		7.10* (3.657)	7.38* (3.654)		2.03 (4.564)	-2.011 (4.586)
Employment		-4.88** (2.109)	-4.77** (2.150)		12.52* (6.591)	12.51* (6.643)
Parents with academic degrees		0.51 (3.407)	0.54 (3.418)		-3.89 (5.520)	-4.01 (5.464)
Age		0.49 (0.356)	0.50 (0.355)		-0.58 (0.589)	-0.58 (0.603)
# of words found in puzzle		-0.29 (0.357)	-0.30 (0.357)		-0.08 (0.876)	-0.07 (0.887)
Economic treatment × Economics student			3.37 (3.345)			-1.21 (10.091)
Constant	148.00*** (3.213)	143.27*** (11.376)	144.19*** (11.390)	161.58*** (3.135)	169.56*** (17.622)	169.25*** (18.366)
$ \beta_{\text{economic treatment}} = \beta_{\text{economics student}} $	0.55	0.45	0.29	0.19	0.41	0.46
R^2	0.062	0.086	0.087	0.071	0.143	0.162
Observations	544	538	538	99	99	99

Notes:

The table presents the results of OLS regressions with standard errors clustered at the sessions' level. The dependent variable is the number of workers retained. Economic treatment is a dummy variable that equals 1 if the participant took part in the economic treatment and 0 if s/he participated in the control treatment. Economics students is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. The $|\beta_{\text{economic treatment}}| = |\beta_{\text{economics student}}|$ row gives the results of a Wald test of the hypothesis that the absolute value of the coefficient of the economic treatment is equal to the absolute value of the coefficient of the dummy of economics students. The number of observations in columns (2) and (3) is smaller than in column (1) because some participants did not respond to all the demographic questions. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

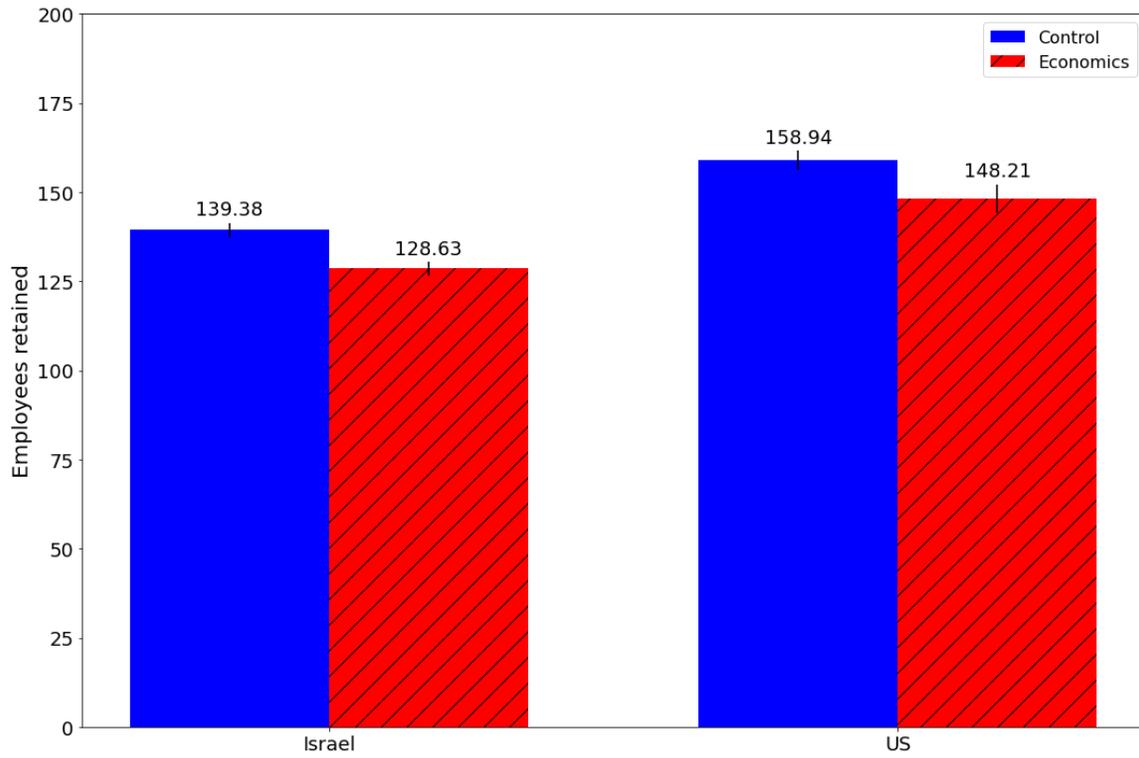
Table 3. The number of workers retained in the survey experiment 2

	Israel			U.S		
	(1)	(2)	(3)	(4)	(5)	(6)
Communal treatment	9.53*** (2.624)	9.38*** (2.333)	9.66** (4.244)	8.37** (3.449)	8.56** (3.468)	8.66* (4.577)
Economics student	-12.21*** (3.335)	-7.53** (3.032)	-7.29* (4.263)	2.57 (3.475)	3.71 (3.553)	3.82 (5.136)
Woman		1.06 (4.327)	1.08 (4.416)		0.80 (3.716)	0.80 (3.722)
Married		1.57 (5.120)	1.58 (5.127)		-1.89 (7.376)	-1.88 (7.427)
Voting left-wing/democrats		11.15** (5.573)	11.17 (5.536)		-4.62 (3.859)	-4.27 (3.859)
Employment		0.86 (2.649)	0.85 (2.647)		0.01 (3.851)	0.02 (3.916)
Parents with academic degrees		1.65 (3.751)	1.66 (3.766)		4.52 (3.590)	4.52 (3.59)
Age		0.61** (0.289)	0.61** (0.290)		0.87*** (0.332)	0.87** (0.334)
# of words found in puzzle		0.22 (0.404)	0.22 (0.422)		-0.656 (0.443)	-0.656 (0.444)
Communal treatment × Economics student			-0.45 (5.418)			-0.23 (7.034)
Constant	130.38*** (3.105)	106.33*** (10.631)	106.19*** (10.324)	147.06*** (3.000)	135.10*** (10.320)	135.06*** (10.479)
$ \beta_{economic\ treatment} = \beta_{economics\ student} $	0.61	0.39	0.11	1.53	1.01	0.99
R^2	0.065	0.108	0.108	0.029	0.074	0.074
Observations	406	406	406	212	212	212

Notes:

The table presents the results of OLS regressions with standard errors clustered at the session level. The dependent variable is the number of workers retained. Communal treatment is a dummy variable that equals 1 if the participant took part in the communal treatment and 0 if s/he participated in the control treatment. Economics student is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if a participant's both parents have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. The $|\beta_{economic\ treatment}| = |\beta_{economics\ student}|$ row gives the results of a Wald test of the hypothesis that the absolute value of the coefficient of the economic treatment is equal to the absolute value of the coefficient of the dummy of economics students. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

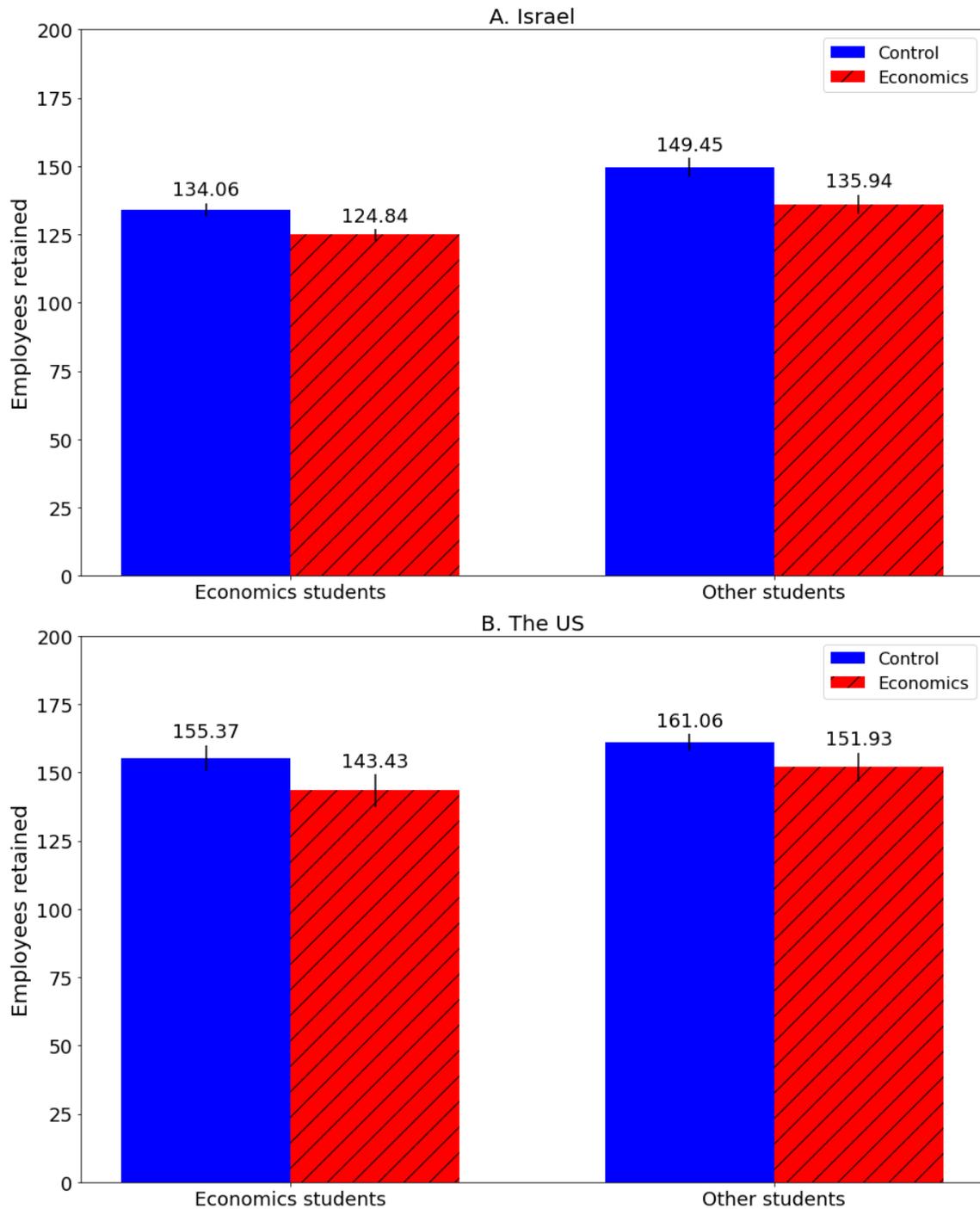
Figure 1. The number of workers retained in the survey experiment 1



Notes:

The average number of workers retained by participants. Vertical lines indicate the standard errors of the means. Number of observations per bar: Israel, control treatment: 263. Israel, economic treatment: 281. U.S., control treatment: 51. US, economic treatment: 48.

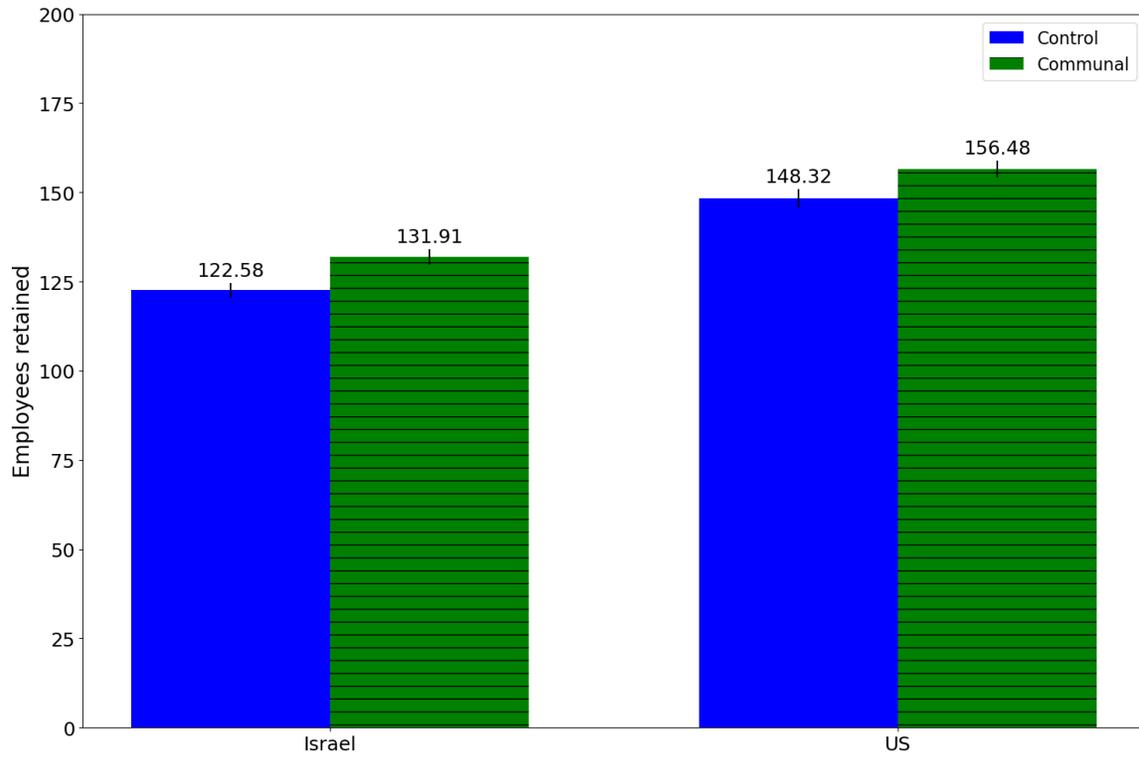
Figure 2. The number of workers retained in the survey experiment 1: Economics students vs. other students



Notes:

The number of workers retained by participants. Panel A gives the results for the Israeli data. Panel B gives the results for the U.S. data. Vertical lines indicate the standard errors of the means. Number of observations per bar: Israel, economics students, control treatment: 172. Israel, economics students, economics treatment: 185. Israel, non-economics students, control treatment: 91. Israel, non-economics students, economics treatment: 96. U.S., economics students, control treatment: 19. U.S., economics students, economics treatment: 21. U.S., non-economics students, control treatment: 32. U.S., non-economics students, economics treatment: 27.

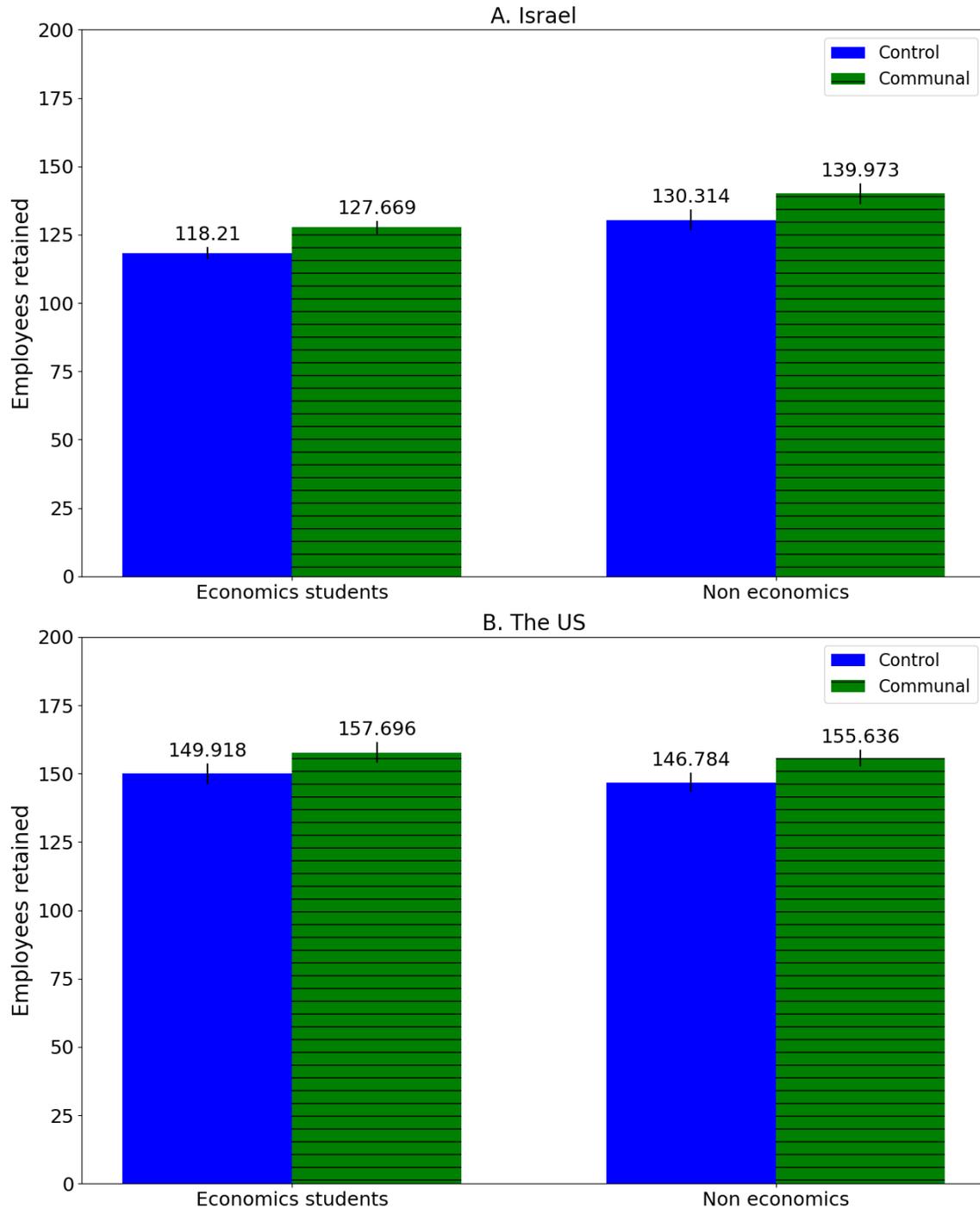
Figure 3. The number of workers retained in the survey experiment 2



Notes:

The average number of workers retained by participants. Vertical lines indicate the standard errors of the means. Number of observations per bar: Israel, control treatment: 210. Israel, communal treatment: 226. U.S., control treatment: 100. U.S., communal treatment: 112.

Figure 4. The number of workers retained in the survey experiment 2:
Economics students vs. other students



Notes:

The number of workers retained by participants. Panel A shows the results for the Israeli data. Panel B shows the results for the U.S. data. Vertical lines indicate the standard errors of the means. Number of observations per bar: Israel, economics students, control treatment: 124. Israel, economics students, communal treatment: 139. Israel, non-economics students, control treatment: 70. Israel, non-economics students, communal treatment: 73. U.S., economics students, control treatment: 49. U.S., economics students, communal treatment: 46. U.S., non-economics students, control treatment: 51. U.S., non-economics students, communal treatment: 66.

Large Effects of Small Cues: Priming Selfish Economic Decisions

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Appendix A. Survey experiment procedures

Experiment 1. Procedure

In Israel, participants were students at Bar-Ilan University (BIU) and Tel-Aviv University (TAU). In the U.S., participants were students at the University of Texas at San Antonio (UTSA).

At BIU and TAU, we ran the survey experiment from November 2015 to June 2016 by entering classes 15 minutes before the end of the lesson and asking the students to take part in a survey experiment. After we ran the experiment in Israel, we decided to run the experiment in the U.S. as well, to check the robustness of the results, and to make them comparable with Rubinstein (2006). We, therefore, ran the experiment at UTSA in November 2019, in the behavioral laboratory of the University.

Survey Experiment 1. Questionnaires

Survey experiment 1. Control treatment (Same as in experiment 2)

Word search task - 5 min to find 15 terms

Laptop	_____	Street	_____
Toolbox	_____	Glasses	_____
Garbage bin	_____	Electric gate	_____
Book	_____	Desk	_____
Game console	_____	Carpet	_____
Window	_____	Night lamp	_____
Umbrella	_____	Car	_____
Toothbrush	_____		

E	B	T	B	O	O	K	M	L	A	I	O	L	I	T	S	U
R	U	M	B	R	E	L	L	A	T	E	A	O	L	R	T	T
T	G	D	F	G	V	S	V	A	C	P	X	K	I	E	R	O
G	C	A	R	G	C	O	D	D	T	C	V	R	T	T	E	O
I	R	G	M	E	K	R	W	O	T	A	C	E	R	A	E	T
N	E	F	E	E	A	E	P	O	A	P	E	W	A	G	T	H
I	M	V	V	A	C	C	U	K	C	M	W	D	G	C	G	B
G	O	L	I	N	R	O	M	O	G	A	A	F	L	I	F	R
H	F	F	R	A	N	D	N	R	O	I	I	G	A	R	I	U
T	W	T	E	P	R	A	C	S	D	L	U	C	S	T	U	S
L	M	O	X	O	N	I	E	R	O	K	D	X	S	C	H	H
A	B	N	D	R	T	G	A	S	G	L	X	Z	E	E	V	W
M	M	A	L	N	P	A	C	K	A	F	E	N	S	L	E	G
P	U	R	U	K	I	R	L	I	A	T	W	J	A	E	R	J
R	U	L	L	E	M	W	T	O	L	O	B	M	B	B	T	L
B	L	O	O	F	E	A	D	G	X	O	B	L	O	O	T	P
W	D	E	S	K	R	G	A	R	B	A	G	E	B	I	N	O

I found _____ of the 15 words listed above.

Questions

(There is no right or wrong answer.)

Question 1

Assume that you are the vice president of ILJK Company. The company provides extermination services and employs administrative workers who cannot be fired and 196 non-permanent workers who do the actual extermination work and can be fired. The company was founded 5 years ago and is owned by three families. The work requires only a low level of skills, so each worker requires only one week of training. All of the company's employees have been with the company for three to five years. The company pays its workers more than the minimum wage. A worker's wage, which includes overtime, amounts to between \$1,800 to \$2,000 per month. The company provides its employees with all the benefits required by law.

Until recently, the company was very profitable. As a result of the continuing recession, however, there has been a significant drop in profits, though the company is still in the black. You will soon be attending a meeting of the management at which a decision will be made as to how many workers to lay off. ILJK's Finance Department has prepared the following forecast of annual profits:

Number of workers who will continue to be employed	Expected annual profit in \$ Millions
100 (96 workers will be laid off)	Profit of 2
144 (52 workers will be laid off)	Profit of 1.6
170 (26 workers will be laid off)	Profit of 1
196 (no layoffs)	Profit of 0.4

I will recommend continuing to employ 100 144 170 196 workers in the company

Question 2

What do you think would be the choice of a real vice president in Question 1? I think that he would recommend continuing to employ

100 144 170 196 workers in the company

Question 3

A hardware store has been selling snow shovels for \$17.99. The morning after a large snowstorm, the store raises the price to \$22.99. This action is:

Completely fair Acceptable Unfair Very unfair

Question 4

At a sight-seeing point, reachable only on foot, a well has been tapped. The bottled water is sold to thirsty hikers. The price is \$1.49 per bottle. Daily production and therefore the stock are 100 bottles. On a particularly hot day, the supplier raises the price to \$2.99 per bottle. This action is:

Completely fair Acceptable Unfair Very unfair

Question 5

The gap between the rich and the poor should be reduced significantly:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Question 6

Environment-friendly corporations should be rewarded by the government:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Age: _____

Gender:

Male Female

Marital status:

Single Married Divorced Widower Other: _____

Racial or ethnic origin:

American Indian or other Native American Asian or Pacific Islander
 Black or African American Caucasian (other than Hispanic) Hispanic Other

Status in the college:

Freshman Sophomore Junior Senior Graduate student Other

Your major (or anticipated major): _____

Did either of your parents graduate from college?

No Yes, both parents Yes, mother only Yes, father only

Do you work?

No Yes, part-time Yes, full-time

Have you taken any courses in economics?

No Yes, 1–2 Yes, 3–4 Yes, more than 4

Do you describe yourself as:

Democrat Republican Independent Other / I don't know

Hanging out with friends (hours per week):

1 2 3 4 5 6 or more

Do you recycle any one of the following: plastic/paper/newspaper/glass/batteries/etc.

Yes No

Did you volunteer in any setting during the last 12 months?

Yes No

Survey Experiment 1. Economics treatment

Word search mission- 5 min to find 15 terms

Inflation	_____	Prime Rate	_____
Recession	_____	Income Tax	_____
Price	_____	Cost	_____
Exchange Rate	_____	Demand	_____
Budget Deficit	_____	Minimum Wage	_____
Monopoly	_____	Supply	_____
Premia	_____	Market	_____
Unemployment	_____		

Q	Y	K	D	E	M	A	N	D	T	U	L	I	B	O	C	E
I	U	N	E	M	P	L	O	Y	M	E	N	T	S	X	O	R
R	T	B	R	A	N	D	I	O	T	F	S	Y	E	K	M	E
B	L	L	Q	U	A	N	N	E	L	H	O	T	X	E	P	M
U	A	U	A	S	L	O	I	A	P	L	I	O	C	G	E	A
D	N	V	B	S	P	P	T	H	P	O	Y	L	H	A	A	S
G	D	Q	N	O	A	I	L	J	U	A	T	O	A	W	I	U
E	B	Z	L	S	O	D	I	R	T	N	W	Y	N	M	B	P
T	R	Y	A	N	Q	T	M	W	F	D	C	I	G	U	I	P
D	U	G	I	L	S	W	Q	A	E	G	A	T	E	M	V	L
E	X	E	T	B	I	E	C	I	R	P	R	R	R	I	P	Y
F	B	A	R	E	T	R	I	I	E	K	P	A	A	N	R	L
I	R	E	C	E	S	S	I	O	N	A	E	C	T	I	E	U
C	P	R	D	I	U	C	E	U	M	A	N	T	E	M	M	S
I	I	B	E	T	A	R	E	M	I	R	P	E	Y	R	I	B
T	O	X	A	T	E	M	O	C	N	I	P	M	O	N	A	U
X	C	A	T	M	A	R	D	U	N	A	L	C	O	S	T	G

I found _____ of the 15 words listed above.

Questions

(There is no right or wrong answer.)

Question 1

Assume that you are the vice president of ILJK Company. The company provides extermination services and employs administrative workers who cannot be fired and 196 non-permanent workers who do the actual extermination work and can be fired. The company was founded 5 years ago and is owned by three families. The work requires only a low level of skills, so each worker requires only one week of training. All of the company's employees have been with the company for three to five years. The company pays its workers more than the minimum wage. A worker's wage, which includes overtime, amounts to between \$1,200–\$1,440, per month. The company provides its employees with all the benefits required by law.

Until recently, the company was very profitable. As a result of the continuing recession, however, there has been a significant drop in profits though the company is still in the black. You will soon be attending a meeting of the management at which a decision will be made as to how many workers to lay off. ILJK's Finance Department has prepared the following forecast of annual profits:

Number of workers who will continue to be employed	Expected annual profit in \$ Millions
100 (96 workers will be laid off)	Profit of 2
144 (52 workers will be laid off)	Profit of 1.6
170 (26 workers will be laid off)	Profit of 1
196 (no layoffs)	Profit of 0.4

I will recommend continuing to employ 100 144 170 196 workers in the company

Question 2

What do you think would be the choice of a real vice president in Question 1? I think that he would recommend continuing to employ

100 144 170 196 workers in the company

Question 3

A hardware store has been selling snow shovels for \$17.99. The morning after a large snowstorm, the store raises the price to \$22.99. This action is:

Completely fair Acceptable Unfair Very unfair

Question 4

At a sight-seeing point, reachable only on foot, a well has been tapped. The bottled water is sold to thirsty hikers. The price is \$1.49 per bottle. Daily production and therefore the stock are 100 bottles. On a particularly hot day, the supplier raises the price to \$2.99 per bottle. This action is:

Completely fair Acceptable Unfair Very unfair

Question 5

The gap between the rich and the poor should be reduced significantly:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Question 6

Environment-friendly corporations should be rewarded by the government:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Age: _____

Gender:

Male Female

Marital status:

Single Married Divorced Widower Other: _____

Racial or ethnic origin:

American Indian or other Native American Asian or Pacific Islander
 Black or African American Caucasian (other than Hispanic) Hispanic Other

Status in the college:

Freshman Sophomore Junior Senior Graduate student Other

Your major (or anticipated major): _____

Did either of your parents graduate from college?

No Yes, both parents Yes, mother only Yes, father only

Do you work?

No Yes, part-time Yes, full-time

Have you taken any courses in economics?

No Yes, 1–2 Yes, 3–4 Yes, more than 4

Do you describe yourself as:

Democrat Republican Independent Other / I don't know

Hanging out with friends (hours per week):

1 2 3 4 5 6 or more

Do you recycle any one of the following: plastic/paper/newspaper/glass/batteries/etc.

Yes No

Did you volunteer in any setting during the last 12 months?

Yes No

Survey Experiment 2. Procedure

After we ran survey experiment 1 in Israel and the U.S., we decided to run a survey experiment 2. However, because of the outbreak of the COVID-19 pandemic, we had to postpone the experiments until all restrictions were lifted, and students returned to the campus in large numbers. In Israel, we ran the survey experiment at BIU from December 2024 to January 2025. In the U.S., we ran the survey experiment in April 2023 at the behavioral lab at University of Texas, San Antonio (UTSA).

Survey Experiment 2. Questionnaires

Survey Experiment 2. Communal treatment

Word search task - 5 min to find 15 terms

Equality	_____	Kindhearted	_____
Mutual trust	_____	Social Norm	_____
Kindness	_____	Caring	_____
Solidarity	_____	Compassion	_____
Altruism	_____	Painful	_____
Charity	_____	Humane	_____
Basic Needs	_____	Help	_____
Fairness	_____		

Q	Y	K	H	U	M	A	N	E	T	U	L	X	B	T	C	E
C	O	M	P	A	S	S	I	O	N	C	E	B	S	N	O	R
K	T	B	R	A	N	D	I	F	T	Q	S	Y	S	T	X	E
I	L	L	Q	U	A	N	C	E	U	H	O	T	O	E	P	M
N	A	U	A	S	L	H	I	A	P	L	I	O	C	T	E	A
D	N	V	B	S	A	P	L	H	P	O	Y	L	I	S	A	F
H	D	Q	N	R	A	I	L	J	U	A	T	O	A	U	I	A
E	B	Z	I	S	T	D	I	R	T	N	W	Y	L	R	B	I
A	R	T	A	Y	Q	T	F	W	F	D	C	I	N	T	I	R
R	Y	G	I	L	S	W	Q	P	E	G	A	T	O	L	V	N
T	S	S	E	N	D	N	I	K	A	K	R	R	R	A	C	E
E	B	A	R	E	T	R	I	I	E	I	P	A	M	U	C	S
D	A	L	T	R	U	I	S	M	N	A	N	C	F	T	A	S
T	P	R	D	I	U	C	E	U	M	A	N	F	D	U	R	I
P	I	B	A	S	I	C	N	E	E	D	S	F	U	M	I	B
A	O	N	Y	T	I	R	A	D	I	L	O	S	O	L	N	U
X	C	A	T	M	A	R	D	U	H	E	L	P	R	S	G	G

I found _____ of the 15 words listed above.

Questions

(There is no right or wrong answer.)

Question 1

Assume that you are the vice president of ILJK Company. The company provides extermination services and employs administrative workers who cannot be fired and 196 non-permanent workers who do the actual extermination work and can be fired. The company was founded 5 years ago and is owned by three families. The work requires only a low level of skills, so each worker requires only one week of training. All of the company's employees have been with the company for three to five years. The company pays its workers more than the minimum wage. A worker's wage, which includes overtime, amounts to between \$1,200–\$1,440, per month. The company provides its employees with all the benefits required by law.

Until recently, the company was very profitable. As a result of the continuing recession, however, there has been a significant drop in profits though the company is still in the black. You will soon be attending a meeting of the management at which a decision will be made as to how many workers to lay off. ILJK's Finance Department has prepared the following forecast of annual profits:

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170 (26 workers will be laid off)	Profit of 1
196 (no layoffs)	Profit of 0.4

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Question 2

What do you think would be the choice of a real vice president in Question 1? I think that he would recommend continuing to employ

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Question 3

A hardware store has been selling snow shovels for \$17.99. The morning after a large snowstorm, the store raises the price to \$22.99. This action is:

Completely fair Acceptable Unfair Very unfair

Question 4

At a sight-seeing point, reachable only on foot, a well has been tapped. The bottled water is sold to thirsty hikers. The price is \$1.49 per bottle. Daily production and therefore the stock are 100 bottles. On a particularly hot day, the supplier raises the price to \$2.99 per bottle. This action is:

Completely fair Acceptable Unfair Very unfair

Question 5

The gap between the rich and the poor should be reduced significantly:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Question 6

Environment-friendly corporations should be rewarded by the government:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Age: _____

Gender:

Male Female

Marital status:

Single Married Divorced Widower Other: _____

Racial or ethnic origin:

American Indian or other Native American Asian or Pacific Islander
 Black or African American Caucasian (other than Hispanic) Hispanic Other

Status in the college:

Freshman Sophomore Junior Senior Graduate student Other

Your major (or anticipated major): _____

Did either of your parents graduate from college?

No Yes, both parents Yes, mother only Yes, father only

Do you work?

No Yes, part-time Yes, full-time

Have you taken any courses in economics?

No Yes, 1–2 Yes, 3–4 Yes, more than 4

Do you describe yourself as:

Democrat Republican Independent Other / I don't know

Hanging out with friends (hours per week):

1 2 3 4 5 6 or more

Do you recycle any one of the following: plastic/paper/newspaper/glass/batteries/etc.

Yes No

Did you volunteer in any setting during the last 12 months?

Yes No

A note on the questionnaires

In the U.S., in both survey experiments 1 and 2, we used the above table to list the number of workers retained and the corresponding profit forecasts. In Israel, we used the same table as in Rubinstein (2006), which is as follows:

Number of Workers Who Will Continue to be Employed	Expected Annual Profit in NIS Millions
0	Loss of 8
50	Profit of 1
65	Profit of 1.5
100	Profit of 2
144	Profit of 1.6
170	Profit of 1
196 (no layoffs)	Profit of 0.4

I will recommend continuing to employ 0 50 65 100 144 170 196 of the 196 workers in the company.

Appendix B. Including participants who retained fewer than 100 workers

In both Israeli samples, we had some participants who retained fewer than 100 workers. We had 39 such participants in Survey Experiment 1, and 30 in Survey Experiment 2. In the paper, we report the results we obtained after we had excluded these participants from the analysis, because it is hard to know whether they intended to retain a few workers or whether they got confused and thought that they had to choose how many workers to lay off (Rubinstein, 2006).

In this appendix, we report the results when we do not exclude these participants. Table B1 reports the results of OLS regressions. The dependent variable is the number of workers retained. The independent variables are (as in column 2 in Tables 2 and 3, in the paper): a dummy for the economic/communal treatment, which equals 1 if the participant took part in the economics/communal treatment and 0 otherwise, and a dummy for economics students, which equals 1 if the participant studied economics and 0 otherwise, Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting left-wing (democrats) – a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic Party), and 0 otherwise, employment – a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise, academic – a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise, participant’s age in years, and the number of words that participants found in the puzzle. We report robust standard errors, clustered by sessions.

We find that in both regressions, the results are qualitatively similar to those we report in the paper. Column 1 reports the results of Survey Experiment 1. We find that when we include all participants, the coefficient of the economic treatment is -6.74 ($p < 0.05$). Column 2 reports the results of the Survey Experiment 2. We find that when we include all participants, the coefficient of the communal treatment is 10.74 ($p < 0.01$).

We conclude that including participants who retained fewer than 100 workers does not change the results we report in the paper.

Table B1. OLS regressions: including participants who fired more than 100 workers

	(1)	(2)
Economic/communal treatment	-6.74** (3.062)	10.74*** (2.454)
Economics student	-11.72*** (3.217)	-2.02 (3.732)
Woman	-4.29 (3.217)	2.80 (3.981)
Married	4.93 (5.331)	4.50 (4.452)
Voting left-wing/democrats	6.63 (4.963)	12.68** (6.17)
Employment	-6.01* (3.155)	1.80 (3.272)
Parents with academic degrees	1.26 (3.077)	1.81 (4.073)
Age	0.63* (0.359)	0.70** (0.315)
# of words found in puzzle	-0.30 (0.546)	0.40 (0.476)
Constant	132.27*** (11.083)	90.50*** (12.539)
R^2	0.06	0.08
Observations	577	436

Notes

The table presents the results of OLS regressions with standard errors clustered at the sessions' level. The dependent variable is the number of employees retained. Economic/communal treatment is a dummy variable that equals 1 if the participant took part in the economic/communal treatment and 0 if s/he participated in the control treatment. Economics student is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman, and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic Party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. Column 1 gives the results of a regression using data from the first survey experiment we ran in Israel. Column 2 gives the results of a regression using data from the second survey experiment we ran in Israel. The data includes observations of participants who retained fewer than 100 workers. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Appendix C. Summary statistics of participants, by treatment

Tables C1–C4 give the summary statistics of participants in the two survey experiments, by treatment. Tables C1 and C2 give the summary statistics for survey experiment 1. Table C1 gives the summary statistics for the Israeli participants, and Table C2 for the U.S. participants. Tables C3 and C4 give the summary statistics for survey experiment 2. Table C3 gives the summary statistics for the Israeli participants, and Table C4 for the U.S. participants.

The figures in the tables suggest that the assignment of participants to treatment and control groups was indeed random, as the differences between the two groups in all treatments are usually small and not statistically significant.

However, in both Israeli treatments, there is a difference in the number of words found between participants in the treatment groups and the control groups. These differences should work against finding a priming effect because in both experiments, participants in the treatment groups found fewer words than those in the control group, potentially diminishing the effect of priming. Our results can therefore be interpreted as a conservative estimate of the effect of priming on participants' choices.

Table C1. Israel, survey experiment 1 – economics treatment

	Control	Economics	z-value
Workers retained	139.4	128.6	3.75***
% Economics students	65.4%	65.8%	-0.11
% Women	60.1%	59.8%	0.07
% Married	12.2%	8.5%	1.39
% Political left/ % Voting Democrats	10.6%	11.0%	-0.14
% Employed	53.2%	63.0%	-2.30**
% First week of studies	53.2%	52.3%	0.21
% having parents with academic degrees	42.6%	47.0%	-1.03
Age	23.4	23.2	-0.39
Words found in the puzzle	9.3	8.5	4.22***
Observations	263	281	

Notes

The table presents summary statistics of participants in the first Israeli survey experiment. Column 1 gives the summary statistics of participants in the control treatment. Column 2 gives the summary statistics of participants in the economics treatment. Column 3 gives the results of the Wilcoxon rank sum test comparing the distributions. Workers retained is the average response to the question about how many workers participants chose to retain. % Economics students is the % of students studying economics, accounting, business administration, banking and finance, or management. % women is the % of women. % married is the % of married participants. % political left is the % of participants that vote for center-left/left-wing parties. % employed is the % of participants who work either part-time or full-time. Age is the average age of participants. % first week of studies is the % of participants who took part in the survey experiment while in their first week of studies. % having parents with academic degrees is the % of participants whose both parents have an academic degree. Age is the average age of participants. Words found in the puzzle is the average number of words that participants found in the puzzles. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C2. U.S., survey experiment 1 – economics treatment

	Control	Economics	z-value
Workers retained	158.9	148.2	1.71*
% Economics students	37.3%	43.8%	-0.66
% Women	37.3%	37.5%	-0.03
% Married	7.8%	6.3%	0.73
% Political left/ % Voting Democrats	45.1%	35.4%	0.98
% Employed	82.4%	77.1%	0.65
% having parents with academic degrees	37.3%	14.6%	2.5**
Age	22.4	22.3	-0.70
Words found in the puzzle	10.0	9.9	0.02
Observations	51	48	

Notes

The table presents summary statistics of participants in the first US survey experiment. Column 1 gives the summary statistics of participants in the control treatment. Column 2 gives the summary statistics of participants in the economics treatment. Column 3 gives the results of the Wilcoxon rank sum test comparing the distributions. Workers retained is the average response to the question about how many workers participants chose to retain. % Economics students is the % of students studying economics, accounting, business administration, banking and finance, or management. % women is the % of women. % married is the % of married participants. % voting democrats is the % of participants that vote for the Democratic Party. % employed is the % of participants who work either part-time or full-time. Age is the average age of participants. % having parents with academic degrees is the % of participants whose both parents have an academic degree. Age is the average age of participants. Words found in the puzzle are the average number of words that participants found in the puzzles. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.10$.

Table C3. Israel, survey experiment 2 – communal treatment

	Control	Communal	<i>z</i> -value
Workers retained	116.5	127.1	-2.88***
% Economics students	62.4%	65.0%	-0.48
% Women	58.6%	55.3%	0.59
% Married	11.4%	16.4%	-0.89
% Political left/ % Voting Democrats	10.0%	9.7%	0.05
% Employed	60.0%	55.8%	0.77
% having parents with academic degrees	38.6%	44.2%	-1.02
Age	25.9	26.3	-0.99
Words found in the puzzle	9.9	8.7	3.64***
Observations	210	226	

Notes

The table presents summary statistics of participants in the second Israeli survey experiment. Column 1 gives the summary statistics of participants in the control treatment. Column 2 gives the summary statistics of participants in communal treatment. Column 3 gives the results of the Wilcoxon rank sum test comparing the distributions. Workers retained is the average response to the question about how many workers participants chose to retain. % Economics students is the % of students studying economics, accounting, business administration, banking and finance, or management. % women is the % of women. % married is the % of married participants. % political left is the % of participants that vote for center-left/left-wing parties. % employed is the % of participants who work either part-time or full-time. Age is the average age of participants. % having parents with academic degrees is the % of participants whose both parents have an academic degree. Age is the average age of participants. Words found in the puzzle are the average number of words that participants found in the puzzles. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.10$.

Table C4. U.S., survey experiment 2 – communal treatment

	Control	Communal	<i>z</i> -value
Workers retained	148.3	156.5	-2.17**
% Economics students	49.0%	41.1%	-14.5***
% Women	41.0%	50.9%	1.16
% Married	7.0%	5.3%	-1.44
% Political left/ % Voting Democrats	26.0%	33.9%	0.50
% Employed	74.0%	72.3%	-1.25
% having parents with academic degrees	32.0%	33.9%	0.28
Age	21.6	22.1	-0.30
Words found in the puzzle	12.1	12.8	-0.31
Observations	100	112	

Notes

The table presents summary statistics of participants in the second US survey experiment. Column 1 gives the summary statistics of participants in the control treatment. Column 2 gives the summary statistics of participants in communal treatment. Column 3 gives the results of the Wilcoxon rank sum test comparing the distributions. Workers retained is the average response to the question about how many workers participants chose to retain. % Economics students is the % of students studying economics, accounting, business administration, banking and finance, or management. % women is the % of women. % married is the % of married participants. % voting democrats is the % of participants that vote for the Democratic Party. % employed is the % of participants who work either part-time or full-time. Age is the average age of participants. % having parents with academic degrees is the % of participants whose both parents have an academic degree. Age is the average age of participants. Words found in the puzzle are the average number of words that participants found in the puzzles. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.10$.

Appendix D. Distribution of responses

In the main part of the survey experiment, participants were asked to respond to the question of how many workers they would like to lay off. Tables D1 and D2 report the distribution of the responses in the first and second survey experiments, respectively.

From Table D1, it can be seen that when participants are primed with economic terms, they tend to retain fewer workers. This is true for both economic and non-economic students, and it happens in both Israel and the U.S. In particular, the share of participants who choose to maximize profit by retaining only 100 workers increases in all groups. Among Israeli non-economics students, the share increases from 25.27% to 44.79%. Among Israeli economics students, the share increases from 40.12% to 55.68%. Among U.S. non-economics students, the share increases from 0.00% to 14.81%. Among U.S. economics students, the share increases from 5.26% to 23.81%.

From Table D2, it can be observed that when participants are primed with terms imbued with social values, they tend to retain more workers. Again, this is true for both economics and non-economics students, and it happens in both Israel and the U.S. In particular, the share of participants who choose to maximize profit by retaining 100 workers decreases in all groups. Among Israeli non-economics students, the share decreases from 30.00% to 17.57%. Among Israeli economics students, the share decreases from 36.36% to 20.87%. Among U.S. non-economics students, the share decreases from 15.69% to 7.69%. Among U.S. economics students, the share decreases from 14.29% to 8.70%.

Table D1. Distribution of responses, survey experiment 1

Workers retained	Israel			
	Non-priming		Priming	
	Non-economics	Economics	Non-economics	Economics
100	25.27%	40.12%	44.79%	55.68%
144	30.77%	37.79%	20.83%	28.65%
170	24.18%	14.53%	23.96%	10.81%
196	19.78%	7.56%	10.42%	4.86%
Workers retained	U.S.			
	Non-priming		Priming	
	Non-economics	Economics	Non-economics	Economics
100	0.00%	5.26%	14.81%	23.81%
144	46.88%	47.37%	40.74%	38.10%
170	40.63%	42.11%	33.33%	38.10%
196	12.50%	5.26%	11.11%	0.00%

Table D2. Distribution of responses, survey experiment 2

Workers retained	Israel			
	Non-priming		Priming	
	Non-economics	Economics	Non-economics	Economics
100	30.00%	36.36%	17.57%	20.87%
144	37.50%	32.73%	41.89%	32.17%
170	22.50%	22.73%	32.43%	27.83%
196	10.00%	8.18%	8.11%	19.13%
Workers retained	U.S.			
	Non-priming		Priming	
	Non-economics	Economics	Non-economics	Economics
100	15.69%	14.29%	7.69%	8.70%
144	50.98%	44.90%	49.23%	39.13%
170	29.41%	34.69%	30.77%	36.96%
196	3.92%	6.12%	12.31%	15.22%

Appendix E. Controlling for fields of study

In both Israel and the U.S., we asked participants about their field of study, and we can therefore use their answers as controls in the regressions that we estimate.

In Table E1, we report the results of estimating regressions similar to the ones we estimate in the paper. The dependent variable is the number of workers retained. The independent variables include: a dummy for the economic treatment, which equals 1 if the participant took part in the economics treatment and 0 otherwise, and a dummy for economics student, which equals 1 if the participant studied economics and 0 otherwise, Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting left-wing/democrats – a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he voted for left or center-left parties (voted for the Democratic party), and 0 otherwise, employment – a dummy that equals 1 if the participant works either part or full time, and 0 otherwise, academic – a dummy that equals 1 if both parents of the participant have an academic degree, and 0 otherwise, participant's age in years, the number of words that participants found in the puzzle and fixed effects for fields of study.

For the Israeli data, in survey experiment 1, we also added a fixed effect for the university where the experiment took place (Bar-Ilan University vs. Tel-Aviv University). We estimate the regression using OLS with robust standard errors. We cluster the standard errors by sessions.

Columns 1 and 3 report the results of survey experiment 1 using the Israeli and US data, respectively. We find that the values of the coefficient of interest remain similar to the values that we report in the paper. For the Israeli data, the coefficient of the economic treatment is -10.36 , implying that participants in the economic treatment retained 10.36 ($p < 0.01$) fewer workers than participants in the control treatment. For the U.S. data, the coefficient of the economic treatment is -9.39 , and it is marginally significant ($p < 0.10$).

Columns 2 and 4 report the results of survey experiment 2 using the Israeli and US data, respectively. In Israel, participants in the social treatment retained 9.08 ($p < 0.01$) more workers than participants in the control treatment. In the U.S., participants in the social treatment retained 7.81 more workers, and it is statistically significant ($p < 0.05$).

Table E1. Number of workers retained, controlling for the field of study and institution

	Israel		US	
	(1)	(2)	(3)	(4)
Economic/communal treatment	-10.36*** (2.207)	9.08*** (2.172)	-9.39* (5.485)	7.81** (3.461)
Economics student	-14.42*** (1.450)	-4.05 (4.683)	9.23 (7.428)	-4.52 (5.849)
Woman	-5.56 (4.745)	1.50 (4.471)	-9.84 (6.429)	-0.86 (3.886)
Married	-0.45 (5.132)	5.41 (5.572)	-5.96 (9.495)	-3.13 (7.414)
Voting left-wing/democrats	7.48** (3.510)	11.55** (5.572)	-2.64 (5.219)	-3.23 (4.224)
Employment	-5.47 (2.311)	1.63 (3.028)	9.37 (7.126)	-0.97 (4.059)
Parents with academic degrees	-0.23 (3.187)	1.44 (3.918)	-9.34 (6.849)	4.70 (3.662)
Age	0.42 (0.406)	0.62* (0.344)	-0.27 (0.853)	0.86** (0.342)
# of words found in puzzle	-0.36 (0.359)	0.26 (0.431)	-0.149 (1.034)	-0.74 (0.463)
Constant	146.70*** (11.332)	101.29 (12.704)	153.19*** (20.856)	133.48*** (11.277)
Fixed effects for majors	√	√	√	√
Fixed effect for university	√	√		
R ²	0.113	0.159	0.353	0.091
Observations	538	406	99	212

Notes

The table presents the results of OLS regressions with standard errors clustered at the sessions' level. The dependent variable is the number of employees retained. Economic/communal treatment is a dummy variable that equals 1 if the participant took part in the economic/communal treatment and 0 if s/he participated in the control treatment. Economics students is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman, and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. All the regressions include fixed effects for participants' majors. The regressions for the Israeli data also include fixed effects for the student's college/university. Column 1 gives the results of a regression using data from the first survey experiment we ran in Israel. Column 2 gives the results of a regression using data from the second survey experiment we ran in Israel. Column 3 gives the results of a regression using data from the first survey experiment we ran in the U.S. Column 4 gives the results of a regression using data from the second survey experiment we ran in the U.S. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Appendix F. Selection vs. indoctrination

In the first survey experiment we ran in Israel, we collected data from students in the first week of studies, as well as from more experienced students. This allows us to discriminate between selection and indoctrination hypotheses. Under the selection hypothesis, economics students in the first week of studies are expected to make decisions similar to more experienced students. Under the indoctrination hypothesis, economics students are expected to make different choices than other students only after some exposure to economic ideas and content.

In Table F1, we report the results of an OLS regression with robust standard errors, similar to the one we estimate in the paper. The dependent variable is the number of workers retained.

The independent variables include: a dummy for the economics/communal treatment, which equals 1 if the participant took part in the economics/communal treatment and 0 otherwise, and a dummy for economics student, which equals 1 if the participant studied economics and 0 otherwise, Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting left-wing/democrats – a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic party), and 0 otherwise, employment – a dummy that equals 1 if the participant works either part or full time, and 0 otherwise, academic – a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise, the participant's age in years, and the number of words that participants found in the puzzle.

In column 1, we also add control for freshmen in their first week of studies (whether they major in economics or in another field). We find that students in their first week of studies retain 5.56 employees more than more experienced students ($p < 0.07$). This does not affect our main findings: Participants in the economics treatment retain 10.11 ($p < 0.01$) fewer employees than participants in the control treatment. In addition, economics students retain 13.80 ($p < 0.01$) fewer employees than non-economics students.

In column 2, we add an interaction for economics students in their first week of studies. This does not change the main findings: Participants in the economics treatment retain 10.12 ($p < 0.01$) fewer employees than participants in the control treatment. Economics students retain 13.33 ($p < 0.05$) fewer employees than non-economics

students. The coefficient of economics students in the first week of studies is small, -0.98 , and not statistically significant ($p > 0.87$).

Therefore, it seems that economics students retain fewer employees than non-economics students, and this difference exists even among students who only began their studies. Our results, therefore, support the selection hypothesis rather than the indoctrination hypothesis. In addition, controlling for that does not change the conclusion that participants in the economics treatment retain fewer employees than participants in the control treatment.

Table F1. Number of workers retained, controlling for students in their first week of studies

	(1)	(2)
Economic treatment	-10.11*** (2.261)	-10.12*** (2.259)
Economics student	-13.80*** (3.223)	-13.33** (6.138)
Woman	-4.37 (3.679)	-4.39 (3.714)
Married	1.16 (5.206)	1.20 (5.189)
Voting left-wing/democrats	7.11* (3.574)	7.17* (3.600)
Employment	-4.09* (2.140)	-4.13* (2.215)
Parents with academic degrees	0.18 (3.164)	0.21 (3.207)
Age	0.60 (0.400)	0.59 (0.385)
# of words found in puzzle	-0.21 (0.335)	-0.21 (0.335)
First week of studies	5.56* (2.930)	6.19 (5.378)
Economics student × First week of studies		-0.98 (6.225)
Constant	137.06*** (13.172)	136.98*** (13.385)
R^2	0.092	0.092
Observations	538	538

Notes

The table presents the results of OLS regressions with standard errors clustered at the sessions' level. The dependent variable is the number of employees retained. Economic treatment is a dummy variable that equals 1 if the participant took part in the economic treatment and 0 if s/he participated in the control treatment. Economics student is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic Party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. The first week of studies is a dummy for freshmen in their first week of studies. The regression uses data from the first survey experiment we ran in Israel. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Appendix G. Nonlinear regressions

In the paper, we report the results of OLS regressions of the number of employees retained. This has the advantage of ease of interpretation. The results of OLS regressions might be misleading, however, because participants had to choose from a small set of options: They could retain 100, 144, 170, or 196 workers.

To show that our results do not depend on the estimation methodology, we present the results of two alternative analyses. First, we present the results of logit estimation. The dependent variable is a dummy that equals 1 if participants retained 100 workers, and 0 if they retained more than 100. The independent variables are as in column 2 in the paper: a dummy for the economic/communal treatment, which equals 1 if the participant took part in the economics/communal treatment and 0 otherwise, and a dummy for economics students, which equals 1 if the participant studied economics and 0 otherwise, Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting left-wing/democrats – a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic Party), and 0 otherwise, employment – a dummy that equals 1 if the participant works either part or full time, and 0 otherwise, academic – a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise, the participant's age in years, and the number of words that participants found in the puzzle. We report robust standard errors, clustered by sessions.

The results are summarized in Table G1. Columns 1 and 3 report the results of the first survey experiment in Israel and the U.S., respectively. We find that in both countries, the coefficient of economic treatment is positive and statistically significant. It is 0.70 ($p < 0.01$) in Israel and 2.38 ($p < 0.03$) in the U.S. Thus, exposure to economic treatment increases the likelihood that a participant would choose to retain (only) 100 workers.

Columns 2 and 4 report the results of the second survey experiment for Israel and the U.S., respectively. We find that in both countries, the coefficient of the communal treatment is negative. In Israel, the coefficient is -0.64 ($p < 0.01$), and in the U.S., the coefficient is -0.75 ($p < 0.10$). The results, therefore, indicate that exposure to communal treatment reduces the likelihood that a participant would choose to retain 100 workers.

Second, we present the results of an ordered-logit regression. See Table G2. The dependent variable is the number of workers retained. The independent variables are the same as in Table G1. Columns 1 and 3 report the results of Survey Experiment 1 for Israel and the U.S., respectively. We find that in both countries, the coefficient of the economic treatment is negative. It is -0.60 ($p < 0.01$) in Israel, and -0.73 ($p < 0.10$) in the U.S.

Therefore, the results of the ordered logit regressions are qualitatively similar to the OLS regression results we report in the paper. Exposure to economic treatment increases the likelihood that participants retain a small number of workers and reduces the likelihood that they retain a large number of workers.

Columns 2 and 4 report the results of Survey Experiment 2 for Israel and the U.S., respectively. We find that in both countries, the coefficient of the economic treatment is positive. It is 0.63 ($p < 0.01$) in Israel, and 0.60 ($p < 0.01$) in the U.S.

Therefore, the results of the ordered logit regressions are qualitatively similar to the OLS regressions we report in the paper. Exposure to economic treatment increases the likelihood that participants retain a small number of workers. Exposure to communal treatment, on the other hand, increases the likelihood that they retain a large number of workers.

Table G1. Logit regressions of retaining 100 workers (vs. retaining more)

	Israel		U.S.	
	(1)	(2)	(3)	(4)
Economic/communal treatment	0.70*** (0.134)	-0.64*** (0.145)	2.38** (1.033)	-0.75* (0.462)
Economics student	0.52** (0.213)	0.37 (0.252)	0.90 (0.999)	-0.16 (0.455)
Woman	0.28 (0.235)	-0.19 (0.331)	1.73** (0.836)	-0.12 (0.477)
Married	-0.07 (0.310)	-0.32 (0.358)	0.27 (0.790)	-0.03 (1.132)
Voting left-wing/democrats	-0.73*** (0.237)	-0.65** (0.314)	-2.08 (1.270)	0.12 (0.488)
Employment	0.24* (0.133)	0.11 (0.190)	1.59 (1.060)	0.09 (0.488)
Parents with academic degrees	0.04 (0.264)	-0.19 (0.238)	0.56 (0.928)	-0.92 (0.585)
Age	-0.01 (0.030)	-0.02 (0.018)	0.13 (0.084)	-0.11 (0.073)
# of words found in puzzle	0.02 (0.026)	-0.02 (0.029)	-0.04 (0.197)	0.14** (0.069)
Constant	-1.19 (0.846)	1.09 (0.751)	-6.27** (2.270)	-1.02 (1.751)
χ^2	53.8	114.6	28.1	19.8
Observations	538	406	99	212

Notes

The table presents the results of logistic regressions with standard errors clustered at the sessions' level. The dependent variable is a dummy that equals 1 if the participant retained 100 workers, and 0 otherwise. Economic/communal treatment is a dummy variable that equals 1 if the participant took part in the economic/communal treatment and 0 if s/he participated in the control treatment. Economics student is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman, and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic Party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. Column 1 gives the results of a regression using data from the first survey experiment we ran in Israel. Column 2 gives the results of a regression using data from the second survey experiment we ran in Israel. Column 3 gives the results of a regression using data from the first survey experiment we ran in the U.S. Column 4 gives the results of a regression using data from the second survey experiment we ran in the U.S. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Table G2. Ordered logit regressions of the number of workers retained

	Israel		U.S.	
	(1)	(2)	(3)	(4)
Economic/communal treatment	-0.60*** (0.126)	0.63*** (0.147)	-0.73* (0.383)	0.60** (0.266)
Economics student	-0.77*** (0.0211)	-0.49** (0.214)	-0.34 (0.397)	0.35 (0.283)
Woman	-0.24 (0.202)	0.14 (0.306)	-0.29 (0.443)	0.06 (0.291)
Married	-0.01 (0.293)	0.11 (0.349)	-0.38 (0.842)	-0.16 (0.588)
Voting left-wing/democrats	0.35* (0.194)	0.67* (0.366)	-0.39 (0.403)	-0.34 (0.298)
Employment	-0.30 (0.130)	0.05 (0.181)	1.21** (0.563)	-0.06 (0.295)
Parents with academic degrees	0.01 (0.205)	0.12 (0.254)	-0.27 (0.461)	0.21 (0.283)
Age	0.05* (0.024)	0.04** (0.022)	-0.03 (0.050)	0.07** (0.027)
# of words found in puzzle	-0.02 (0.022)	0.015 (0.027)	-0.03 (0.073)	-0.04 (0.035)
χ^2	61.5	92.1	22.1	19.4
Observations	538	406	99	212

Notes

The table presents the results of ordered-logit regressions with standard errors clustered at the sessions' level. The dependent variable is the number of employees retained. Economic/communal treatment is a dummy variable that equals 1 if the participant took part in the economic/communal treatment and 0 if s/he participated in the control treatment. Economics student is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman, and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing/democrats is a dummy that equals 1 if an Israeli (U.S.) participant responded that s/he votes for left or center-left parties (votes for the Democratic Party), and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. Column 1 gives the results of a regression using data from the first survey experiment we ran in Israel. Column 2 gives the results of a regression using data from the second survey experiment we ran in Israel. Column 3 gives the results of a regression using data from the first survey experiment we ran in the U.S. Column 4 gives the results of a regression using data from the second survey experiment we ran in the U.S. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Appendix H. The average number of workers retained by the field of study

Table H1 gives the number of workers retained by the field of study. Column 1 gives the results of the Israeli sample in the survey experiment 1. Column 2 gives the results of the U.S. sample in survey experiment 1. Column 3 gives the results of the Israeli sample in survey experiment 2. Column 4 gives the results of the U.S. sample in survey experiment 2.

Note that the number of responses can be greater than the number of participants. This happens because some participants indicated that they are double-majoring.

Table H1. The average number of workers retained by the field of study

	Israel				U.S.			
	Survey Experiment 1		Survey Experiment 2		Survey Experiment 1		Survey Experiment 2	
	Mean	<i>N</i>	Mean	<i>N</i>	Mean	<i>N</i>	Mean	<i>N</i>
Economics	129.3	357	123.2	263	149.1	40	153.7	95
Brain Science	144.9	15						
Law	123.6	32						
Mathematics	145.7	14						
Political Science	146.4	23	143.1	24				
Social Work	146.3	38						
Sociology	147.0	65						
Architecture					144.0	1		
Biology					170.0	1		
Communication					154.4	5		
Construction Science					145.6	5		
Criminal Justice					144.0	2		
Cyber + Info. Systems					170.0	1		
Cyber Security					166.8	8		
English			123.3	3	144.0	1		
Global Affairs					196.0	1		
Human Resources					144.0	2		
Kinesiology					196.0	1		
Liberal Arts: Music					144.0	1		
Marketing					161.0	25		
Mechanical Engineering					100.0	1		
Media Communication					100.0	1		
Medical Humanities					170.0	1		
Multidisciplinary Studies					144.0	1		
Psychology					144.0	1		
Sports Management					144.0	1		
Archaeology			196.0	1				
Biotechnology			157.0	2				
Linguistics			114.7	3				
Geography			131.6	10				
History			146.9	11				
Engineering			139.5	4				
Education			123.2	20				
Jewish Studies			196.0	1				
Social Sciences			154.0	6				
Gender Studies			100.0	1				
Computer Science			100.0	2				
Librarian			139.5	4				
Humanities			144.0	1				
Middle East			131.6	5				
Health Studies			144.0	1				
Information technology							146.0	4
Other - BA							154.9	76
Other – MA and PhD							146.0	37

Appendix I. Survey Experiment 3 – Alternative economic words

As a robustness check, we take another look at the words that we used in the economic treatment. The words that we used, such as inflation, recession, budget deficit, income tax, monopoly, unemployment, etc. (see Appendix A), may be perceived as words that are imbued with negative connotations. The words that we use for the communal treatment, on the other hand, such as equality, mutual trust, kindness, solidarity, etc., are likely to be perceived as words that are imbued with positive connotation. It is possible, therefore, that participants retain fewer workers when exposed to our economic terms, not because of the correlation of these words with economics, but because they are associated with negative feelings. Similarly, participants may retain more workers when exposed to communal terms not because of their correlation to social values, but because they are associated with positive feelings.

To control for this, we ran another survey experiment, similar to experiment 1. In this round, however, we used different economic words than in Survey Experiment 1. We chose 15 new words from the world of economics that we believe have more positive connotations: productivity, enterprise, profit, sale, wealth, etc.¹

We ran the experiment in the behavioral laboratory of the University of Texas at San Antonio (UTSA) in September 2025. Except for the list of words that we used for the economic treatment, we followed the same procedure that we followed in UTSA for Survey Experiments 1 and 2. We also made sure, like before, that the total length of the economic words is the same as the length of the words of the control treatment.

Table I1 gives summary statistics of the participants. In total, we had 192 participants. The average age of the participants was 21.2. 67.7% of participants studied economics,² 51.6% were women, and 2.6% were married. 33.9% of the participants reported that they voted for the Democratic Party. Participants retained, on average, 152.7 of the 196 workers.

Using this data, we estimate a series of OLS regressions similar to the ones we reported in Tables 2 and 3 in the paper. The dependent variable in all the regressions is the number of workers retained. In the baseline model, the independent variables are a dummy for economic treatment, which equals 1 if the participant took part in the

¹ See Appendix J for details of this experiment.

² We define a participant as an economics student if s/he studies economics, accounting, business administration, banking and finance, or management.

economic treatment and 0 otherwise, and a dummy for economics students, which equals 1 if the participant studied economics and 0 otherwise. We report robust standard errors. The estimation results are summarized in column 1 of Table I2.

We find that participants in the economic treatment retained 6.12, $p < 0.10$, fewer workers than participants in the control treatment. Therefore, exposure to economic cues leads to a drop in the number of workers retained. We also find that, consistent with previous studies (Rubinstein 2006, Cipriani et al. 2009), economics students retained 9.54 ($p < 0.01$) fewer workers than non-economics students.

Further, we cannot reject the hypothesis that the coefficient of the economic treatment is not significantly different from the coefficients of economics students. The F -test statistic is 0.45 ($p > 0.50$). It therefore seems that the effect of manipulating the context is about as large as the difference between economics and non-economics students.

In column 2, we add further controls: Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting democrats – a dummy that equals 1 if a participant responded that s/he votes for the Democratic party, and 0 otherwise, employment – a dummy that equals 1 if the participant works either part-time or full time, and 0 otherwise, academic – a dummy that equals 1 if both parents of the participant have an academic degree, and 0 otherwise, participant's age in years, and the number of words that participants found in the puzzle. 15 participants did not respond to all the demographic questions. Therefore, the sample size in columns 2 and 3 is 177.

We find that adding these variables has little effect on the main result. The economic treatment coefficients remain almost unchanged and statistically significant at the 10% level.

In column 3, we add an interaction term between the economic treatment and economics students. The coefficient of this variable shows whether economics students are affected by the economic treatment differently from other students. We find that the main effect of the economic treatment, -7.18 , remains statistically significant at the 10% level. The interaction term's coefficient is much smaller than the main effect and is not statistically significant.

It, therefore, seems that using different words related to economics does not change our key finding. Participants who are exposed to economic terms, whether they are imbued with positive or negative connotations, retain fewer workers than participants

who are in the control group.

However, the effect of economic treatment is now smaller than that in Survey Experiment 1. In Survey Experiment 1, in the U.S., we found (see Table 2 in the paper) that participants in the economic treatment retained 10 fewer workers than the participants in the control treatment. Now, after using economic terms with more positive connotations, we find that the participants in the economic treatment retain 6–7 fewer workers than in the control treatment. Also, in two of the three regressions, the estimated coefficients were significant at 5% level. Now they are significant only at the 10% level. Thus, when we use economic terms with more positive connotations, the effect of priming remains, but it now seems to be weaker.

Table II. Summary statistics

	Total	Control	Economics
Workers retained	152.7	156.0	148.4
% Economics students	67.7%	60.9%	76.8%
% Women	51.6%	49.1%	54.9%
% Married	2.6%	3.6%	1.2%
% Voting Democrats	33.9%	33.6%	34.1%
% Employed	76.6%	76.4%	76.8%
% having parents with academic degrees	30.2%	35.5%	23.2%
Age	21.2	21.2	21.2
Words found in the puzzle	9.93	10.18	9.60
Observations	192	110	82

Notes

The table presents summary statistics of participants in the third survey experiment. Column 1 gives the summary statistics of all the participants. Column 2 gives the summary statistics of participants in the control treatment. Column 3 gives the summary statistics of participants in the economic treatment. Workers retained is the average response to the question about how many workers participants chose to retain. % Economics students is the % of students studying economics, accounting, business administration, banking and finance, or management. % women is the % of women. % married is the % of married participants. % voting democrats is the % of participants who vote for the Democratic Party. % employed is the % of participants who work either part-time or full-time. % having parents with academic degrees is the % of participants whose both parents have an academic degree. Age is the average age of participants. Words found in the puzzle is the average number of words that participants found in the puzzles. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.10$.

Table I2. The number of workers retained in the survey experiment 3

	(1)	(2)	(3)
Economic treatment	-6.12* (3.440)	-6.45* (3.729)	-7.18* (4.345)
Economics student	-9.54*** (3.179)	-8.35** (3.848)	-8.73* (4.998)
Woman		-0.68 (3.666)	-0.63 (3.715)
Married		6.28 (8.157)	6.19 (8.185)
Voting democrats		0.29 (3.919)	0.28 (3.926)
Employment		-0.05 (4.603)	-0.01 (4.659)
Parents with academic degrees		8.06* (4.183)	8.00* (4.214)
Age		-0.12 (0.447)	-0.13 (0.450)
# of words found in puzzle		-0.01 (0.477)	-0.02 (0.480)
Economic treatment × Economics student			1.02 (6.612)
Constant	161.81*** (2.488)	161.27*** (11.065)	161.61*** (11.342)
$ \beta_{\text{economic treatment}} $ = $ \beta_{\text{economics student}} $	0.45	0.12	0.11
R^2	0.059	0.086	0.086
Observations	192	177	177

Notes:

The table presents the results of OLS regressions with standard errors clustered at the sessions' level. The dependent variable is the number of workers retained. Economic treatment is a dummy variable that equals 1 if the participant took part in the economic treatment and 0 if s/he participated in the control treatment. Economics students is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting democrats is a dummy that equals 1 if a participant responded that s/he votes for the Democratic party, and 0 otherwise. Employment is a dummy that equals 1 if the participant works either part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if both parents of the participant have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. The $|\beta_{\text{economic treatment}}| = |\beta_{\text{economics student}}|$ row gives the results of a Wald test of the hypothesis that the absolute value of the coefficient of the economic treatment is equal to the absolute value of the coefficient of the dummy of economics students. The number of observations in columns (2) and (3) is smaller than in column (1) because some participants did not respond to all the demographic questions. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Appendix J. Survey experiment 3 procedure

We conducted the survey experiment in the behavioral laboratory of the University of Texas at San Antonio (UTSA) in September 2025. Except for the list of new words that we used for the economic treatment, we followed the same procedure that we followed in UTSA for Survey Experiments 1 and 2. A copy of the questionnaire that we used for the treatment group is given below. The questionnaire that we used for the control group is the same as in Appendix A.

Word search task - 5 min to find 15 terms

Incentive _____
 Productivity _____
 Enterprise _____
 Investment _____
 Surplus _____
 Capital _____
 Revenue _____
 Entrepreneur _____

Profit _____
 Wealth _____
 Sale _____
 Asset _____
 Bonus _____
 Growth _____
 Credit _____

Q	Y	K	G	R	O	W	T	H	T	U	L	I	B	T	C	E
R	T	E	S	S	A	B	O	N	U	S	N	B	S	N	O	R
E	T	B	R	A	N	D	I	F	T	C	S	Y	W	T	X	E
V	L	L	Q	U	A	N	C	E	E	H	O	T	E	Y	P	N
E	A	U	A	S	L	A	I	N	P	L	I	O	A	T	E	T
N	N	V	B	S	P	P	T	H	P	O	Y	L	L	I	A	R
U	D	Q	N	I	A	I	L	J	U	A	T	O	T	V	I	E
E	B	Z	T	S	V	D	I	R	T	N	W	Y	H	I	B	P
A	R	A	S	E	Q	T	F	W	F	D	C	I	E	T	I	R
R	L	G	I	U	S	W	Q	P	E	G	A	T	L	C	V	E
E	S	I	R	P	R	E	T	N	E	K	R	R	A	U	C	N
E	B	A	R	E	T	P	I	I	E	I	P	A	S	D	C	E
D	A	L	T	R	U	I	L	M	N	A	N	C	F	O	A	U
T	P	R	D	I	U	C	E	U	M	A	N	F	D	R	R	R
P	E	T	I	F	O	R	P	E	S	D	S	F	U	P	I	B
A	O	N	I	N	V	E	S	T	M	E	N	T	O	L	N	U
X	C	A	T	M	A	R	D	T	I	D	E	R	C	S	G	G

I found _____ of the 15 words listed above

Questions

(There is no right or wrong answer.)

Question 1

Assume that you are the vice president of ILJK Company. The company provides extermination services and employs administrative workers who cannot be fired and 196 non-permanent workers who do the actual extermination work and can be fired. The company was founded 5 years ago and is owned by three families. The work requires only a low level of skills so that each worker requires only one week of training. All of the company's employees have been with the company for three to five years. The company pays its workers more than minimum wage. A worker's wage, which includes overtime, amounts to between \$1,800 to \$2,000 per month. The company provides its employees with all the benefits required by law.

Until recently, the company was very profitable. As a result of the continuing recession, however, there has been a significant drop in profits though the company is still in the black. You will soon be attending a meeting of the management at which a decision will be made as to how many workers to lay off. ILJK's Finance Department has prepared the following forecast of annual profits:

Number of workers who will continue to be employed	Expected annual profit in \$ Millions
100 (96 workers will be laid off)	Profit of 2
144 (52 workers will be laid off)	Profit of 1.6
170 (26 workers will be laid off)	Profit of 1
196 (no layoffs)	Profit of 0.4

I will recommend continuing to employ 100 144 170 196 workers in the company

Question 2

What do you think would be the choice of a real vice president in Question 1? I think that he would recommend continuing to employ

100 144 170 196 workers in the company

Question 3

A hardware store has been selling snow shovels for \$17.99. The morning after a large snowstorm, the store raises the price to \$22.99. This action is:

Completely fair Acceptable Unfair Very unfair

Question 4

At a sight-seeing point, reachable only on foot, a well has been tapped. The bottled water is sold to thirsty hikers. The price is \$1.49 per bottle. Daily production and therewith the stock are 100 bottles. On a particularly hot day, the supplier raises the price to \$2.99 per bottle. This action is:

Completely fair Acceptable Unfair Very unfair

Question 5

The gap between the rich and the poor should be reduced significantly:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Question 6

Environment-friendly corporations should be rewarded by the government:

Completely agree Somewhat agree Neutral Somewhat disagree Completely disagree

Age: _____

Gender:

Male Female

Marital status:

Single Married Divorced Widower Other: _____

Racial or ethnic identification:

American Indian or other Native American Asian or Pacific Islander
 Black or African American Caucasian (other than Hispanic) Hispanic Other

Status in the college:

Freshman Sophomore Junior Senior Graduate student Other

Your major (or anticipated major): _____

Did either of your parents graduate from a college?

No Yes, both parents Yes, mother only Yes, father only

Do you work?

No Yes, part-time Yes, full-time

Have you taken any courses in economics?

No Yes, 1–2 Yes, 3–4 Yes, more than 4

Do you describe yourself as:

Democrat Republican Independent Other / I don't know

Hanging out with friends (hours per week):

1 2 3 4 5 6 or more

Do you recycle any one of the following: plastic/paper/newspaper/glass/batteries/etc.

Yes No

Did you volunteer in any setting during the last 12 months?

Yes No

Appendix K. Subsample of Israeli students

In Israel, we collected observations by entering classes 15 minutes before the end of the lecture and asking the students to take part in a survey experiment. By doing this, we might have affected the participants' responses in two ways. First, exposure to economics classes might heighten (reduce) the sensitivity to economic (communal) terms. Given that the majority of the economics students in both of our Israeli survey experiments participated at the end of economics classes, this could have affected their responses to the economic and communal treatments. Second, exposure to economic classes might have also primed participants in advance of the survey experiment, partly explaining why we find a difference between economics students and non-economics students in Israel but not in the U.S.

To control for this, we take advantage of the fact that in the survey experiment 2, we have a subsample of students who participated after taking (non-economics) courses that are open to students of all fields.³ This subsample includes both economics and non-economics students. Students in this subsample faced the same conditions before taking part in the survey experiment.

This subsample contains 76 participants, 18 of them economics students. Using this data, we estimate a baseline regression similar to the ones we reported in Tables 2 and 3 in the paper. The dependent variable is the number of workers retained. The only independent variables are dummies for the communal treatment and for economics students. We report robust standard errors, clustered by sessions.

Column 1 of Table K1 reports the results. We find that participants in the communal treatment retain 8.29 more workers than participants in the control treatment. This result is similar to what we find in the full sample, 9.53. However, in the subsample, the result is not statistically significant, which is not surprising, given the small sample size.

Economics students retain 14.81 fewer workers than non-economics students. This result is statistically significant at the 10% level, suggesting that economics students retain fewer workers than non-economics students, even among those who participated in the survey experiment after taking a non-economics course.

³ In Israel, students are required to attend a number of "general" courses that are open to students of all majors. The goal is to enrich the students' knowledge on topics that are not directly related to their majors. The classes in which we recruited participants are in political science, history, Jewish philosophy, and legal studies.

In column 2, we add further controls: Woman – a dummy that equals 1 if the participant is a woman, and 0 otherwise, married – a dummy that equals 1 if the participant is married, and 0 otherwise, voting left-wing – a dummy that equals 1 if a participant responded that s/he votes for left or center-left parties, and 0 otherwise, employment – a dummy that equals 1 if the participant works either part-time or full time, and 0 otherwise, academic – a dummy that equals 1 if both parents of the participant have an academic degree, and 0 otherwise, participant's age in years, and the number of words that participants found in the puzzle.

Once we add these controls, none of the coefficients is statistically significant. Yet the direction of the effect remains. Participants in the communal treatment tend to retain more workers than participants in the control treatment, and economics students tend to retain fewer workers than non-economics students.

In conclusion, the subsample of participants who participated in the survey experiment after taking courses that are open to students of all fields is too small to draw clear conclusions. Yet, the results that we obtain using this subsample are in the same direction as the results that we obtain using the full sample. We, therefore, interpret this as suggesting that the results that we report in the paper are not driven (only) by the class that participants attended before they participated in the survey experiment.

Table K1. The number of workers retained in a subsample of the survey experiment 2

	(1)	(2)
Communal treatment	8.29 (7.093)	2.62 (9.326)
Economics student	-14.81* (8.789)	-11.64 (7.868)
Woman		-7.75 (8.950)
Married		9.17 (6.098)
Voting left-wing		-0.80 (8.148)
Employment		10.96 (5.666)
Parents with academic degrees		12.15 (6.457)
Age		0.37 (0.192)
# of words found in puzzle		-0.68 (0.908)
Constant	136.99*** (5.251)	127.70*** (18.900)
R^2	0.055	0.150
Observations	76	76

Notes:

The table presents the results of OLS regressions with standard errors clustered at the session level. The dependent variable is the number of workers retained. Communal treatment is a dummy variable that equals 1 if the participant took part in the communal treatment and 0 if s/he participated in the control treatment. Economics student is a dummy that equals 1 if the participant is an economics student, and 0 otherwise. Woman is a dummy that equals 1 if the participant is a woman and 0 otherwise. Married is a dummy that equals 1 if the participant is married, and 0 otherwise. Voting left-wing is a dummy that equals 1 if a participant responded that s/he votes for left or center-left parties, and 0 otherwise. Employment is a dummy that equals 1 if the participant works part-time or full-time, and 0 otherwise. Parents with academic degrees is a dummy that equals 1 if a participant's both parents have academic degrees, and 0 otherwise. Age is the participant's age in years. # of words found in the puzzle is the number of words that participants found in the puzzle. * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

References

Rubinstein, A. (2006), "A Sceptic Comment on the Study of Economics," *Economic Journal* 116, C1–C9.