

# Guns, pets, and strikes: an experiment on identity and political action

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Boris Ginzburg  
José-Alberto Guerra

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[infocede@uniandes.edu.co](mailto:infocede@uniandes.edu.co)

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# Guns, pets, and strikes: an experiment on identity and political action\*

Boris Ginzburg<sup>†</sup> and José-Alberto Guerra<sup>‡</sup>

December 15, 2021

## Abstract

We study the implications of participation in political collective action on identity and on interpersonal interactions using a laboratory experiment. We offer subjects the possibility to sign an online petition, which was either related to animal rights or the right to bear firearms. Before and after the petition, we measure subjects' altruism and willingness to trust by asking them to play a dictator game and a trust game in pairs. The results show that there is considerably more altruism and more trust when both subjects had signed the petition than when one or both had not signed. The same behaviour is observed when we analyse high-cost political participation, namely, joining a street protest. This suggests that the experience of common participation in political collective action creates an identity that produces in-group favouritism. These results also suggest a reason why individuals choose to participate in political action despite private costs and a low probability of affecting the outcome: participation creates private benefits in subsequent interactions with fellow participants.

**Keywords:** political identity, collective action, social preferences, laboratory experiment, petitions, street protests

**JEL Codes:** C91, D64, D79, D91

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<sup>†</sup>Universidad Carlos III de Madrid. [bginzbur@eco.uc3m.es](mailto:bginzbur@eco.uc3m.es)

<sup>‡</sup>Universidad de los Andes. [ja.guerra@uniandes.edu.co](mailto:ja.guerra@uniandes.edu.co)

# Armas, mascotas y protestas: un experimento sobre identidad y acción política\*

Boris Ginzburg<sup>†</sup> and José-Alberto Guerra<sup>‡</sup>

15 de diciembre de 2021

## Resumen

Estudiamos las implicaciones de la participación en acciones políticas colectivas sobre la identidad y las interacciones interpersonales utilizando un experimento de laboratorio. Ofrecemos a los sujetos la posibilidad de firmar una petición en línea, ya sea relacionada con los derechos de los animales o con el derecho a portar armas de fuego. Antes y después de la petición, medimos el altruismo y la disposición a confiar de los sujetos pidiéndoles que jueguen en parejas un juego de dictador y de confianza. Los resultados muestran que hay mucho más altruismo y más confianza cuando ambos sujetos firmaron la petición que cuando uno o ambos no lo hicieron. El mismo comportamiento se observa cuando analizamos la participación política de alto costo, es decir, si participar en una protesta social. Esto sugiere que la experiencia de participación común en acciones políticas colectivas crea una identidad que produce favoritismo dentro del grupo. Estos resultados también sugieren una razón por la cual las personas eligen participar en acciones políticas a pesar de los costos privados y la baja probabilidad de afectar el resultado: la participación genera beneficios privados en interacciones posteriores con los demás participantes.

**Palabras claves:** identidad política, acciones colectivas, preferencias sociales, experimentos de laboratorio, peticiones, protestas sociales

**Códigos JEL:** C91, D64, D79, D91

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<sup>†</sup>Universidad Carlos III de Madrid. [bginzbur@eco.uc3m.es](mailto:bginzbur@eco.uc3m.es)

<sup>‡</sup>Universidad de los Andes. [ja.guerra@uniandes.edu.co](mailto:ja.guerra@uniandes.edu.co)



# 1 Introduction

Participation in political collective action, such as public protests or elections, is costly. At the same time, the probability that an individual participant changes the outcome is negligible. Nevertheless, citizens do take part in political processes.

In this paper we explore a novel mechanism that may explain political participation. We propose that the experience of political participation builds a common group identity among the individuals that participate. This identity gives rise to in-group favouritism. Because of this, citizens who participate in collective action receive private payoffs in social interactions with fellow participants. As a result, collective action, irrespective of its political outcome, brings personal benefits to an individual that takes part in it, and these benefits are greater when the number of participants among her peers is larger.

To test this hypothesis, we conduct an experiment with Colombian subjects, who choose whether to sign an online petition. We used two petitions, and in each session, subjects were facing one of them. One petition proposed to allow carrying guns, and the other one proposed to ban fireworks in the interest of animal rights. The former is generally linked to right-wing political groups while the latter is linked to progressive political groups. To make participation somewhat costly, we required subjects who signed the petition to provide a short explanation of their reasons for signing it. Before and after signing the petition, subjects were given monetary endowments, put in pairs, and asked to play a dictator game, and a trust game. The former game measures subjects' altruism, while the latter measures their willingness to trust others, as well as to reciprocate. Crucially, when playing these games after facing the petition, subjects are told whether their partner has signed it.

Our experimental results show that there is substantially more altruism, trust, and trustworthiness between subjects who both signed the petition than between other pairs of subjects. Specifically, when a subject who signed the petition faces a peer who also signed it, she shares more of her endowment with that peer, entrusts more money to her, and returns more of the money she is entrusted with. This suggests that the experience of signing the petition produces a group identity, which manifests itself through in-group favouritism between subjects who signed the petition.

Because of in-group favouritism between those who participate in collective action, we can expect that participants receive higher payoffs than non-participants in social interactions. The

magnitude of an individual’s gain from participation should then be larger if a larger share of her social interactions is with other participants. Hence, an individual gain from participating is increasing in the share of participants in her social circle.<sup>1</sup> In our study, we are able to test this conjecture using the fact that our experiment used two petitions, one of which was signed by considerably more of our subjects than the other. As expected, we find that individuals who were facing the more popular petition received significantly higher payoffs if they signed it than if they did not sign; while no significant effect was observed for the less popular petition.

In addition, our experiment allows us to examine two potential alternative explanations for the observed effect of political participation on identity. First, it might be that by presenting subjects with two groups – those who signed the petition, and those who did not sign – we are directly inducing a feeling of identity.<sup>2</sup> If this is the case, then a pair of subjects who signed the petition and a pair of subjects who did not sign it should display similar levels of in-group bias. Instead, the levels of altruism, trust, and reciprocity that we observe between subjects who both signed the petition are considerably higher than between subjects who did not sign it. This suggests that shared political participation – the act of signing the petition – induces a feeling of identity that is stronger than shared non-participation.

Second, an alternative explanation for the observed effect is that signing the petition is not an identity-building act but simply a way of signalling existing political identity. To test this explanation, we have asked our subjects to report to what extent they agree with the goal of the petition. If signing the petition merely signals political alignment, then a subject who expresses support for the petition should act favourably towards those who signed it irrespective of whether she has signed it herself. Instead, we find that, conditional on the expressed support for the petition, subjects who signed it exhibit greater levels of in-group favouritism than those who did not sign. This suggests that the act of signing the petition is directly creating a feeling of identity.

Additionally, we explore the extent to which our results apply to forms of collective action that involve substantially higher personal costs than signing an online petition – for example, to street protests and uprisings. In several additional sessions, instead of offering subjects to sign

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<sup>1</sup>Thus, the private payoffs from participating induced by in-group favouritism are not exogenously fixed, unlike in models of participation as a civic duty (see e.g. [Blais & Achen 2019](#)), or in expressive theories of political behaviour ([Hillman 2010](#)).

<sup>2</sup>This effect is often found in experiments using minimal group paradigm (see [Chen & Li 2009](#), [Tajfel, Billig, Bundy & Flament 1971](#))

an online petition, we ask them whether they had participated in the *Paro Nacional* or National Strike – a series of street protests which were happening in Colombia concurrently with our study. Participation in these protests carried substantial personal costs, as evidenced by a large number of deaths and injuries that occurred when protesters clashed with riot police. When street protests are used in the experiment instead of online petitions, the results are very similar: there is significantly more altruism, trust, and trustworthiness between a pair of subjects who both participated in the protests than within any other pair of subjects. Hence, our results apply not only to low-cost collective action, but also more generally.

The paper provides a micro-level foundation for several empirical phenomena related to political participation. First, a number of papers have found that social pressure and social connections play a significant role in motivating individual decisions to vote ([DellaVigna, List, Malmendier & Rao 2016](#), [Gerber, Green & Larimer 2008](#), [Gerber & Rogers 2009](#)), to join a protest ([Bursztyn, Cantoni, Yang, Yuchtman & Zhang forthcoming](#), [Enikolopov, Makarin, Petrova & Polishchuk 2020](#)), and to make campaign contributions ([Perez-Truglia & Cruces 2017](#)). Through what mechanism does this social pressure operate? Our paper suggests such mechanism: participation in collective action creates common identity, affecting future social interactions – hence, individuals whose social contacts have chosen to participate are more likely to encounter favourable behaviour.

Second, several recent empirical papers show that the use of communication technologies facilitate participation in collective action by reducing coordination costs ([Christensen & Garfias 2018](#), [Enikolopov, Makarin & Petrova 2020](#), [Manacorda & Tesei 2020](#)). There is a large tradition in political science and political economy of modelling protests and other forms of collective action as coordination games, in which the protest succeeds if the number of participants is sufficiently large.<sup>3</sup> Our result provides a different explanation: participants' payoffs depend on the number of other participants *irrespective of the probability of success*, because a larger number of participants makes each of them more likely to encounter favourable behaviour. Hence, by facilitating coordination and making individual participation more visible, communication technologies help form and signal participants' group identity, making participation a more attractive choice.

Our paper is also related to the literature studying the role of group identity and in-group

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<sup>3</sup>See [Buchheim & Ulbricht \(2020\)](#) for an overview. For coordination models of online petitions and other low-cost forms of collective action, see [Battaglini \(2017\)](#) and [Ginzburg \(2021\)](#).

bias in social interactions (see [Blanco & Guerra \(2020\)](#), [Brañas-Garza, Bucheli & Espinosa \(2020\)](#), [Chen & Li \(2009\)](#), [Grimm, Utikal & Valmasoni \(2017\)](#)). In particular, we add to the literature on the endogenous emergence of identity<sup>4</sup> by identifying a channel through which identity emerges – namely, shared political participation.<sup>5</sup>

Finally, the paper is related to the literature on incentivising cooperation in collective action (see [Fehr & Gächter \(2000\)](#) for a classic reference, and [Chaudhuri \(2011\)](#) for a survey). In particular, [Willer \(2009\)](#) analyses cooperation in a public good game in which subjects subsequently play a dictator game; the paper finds more altruism towards those who contributed more. Our paper differs from this literature in two respects. First, in our study subjects are facing a petition that does not give them immediate monetary payoffs, unlike a public good game. Second, the mechanism that we identify does not relate to rewarding participation by group members in general – instead, it operates through building group identity and inducing in-group favouritism among those who participate.

## 2 Experimental Design

A total of 228 students at Universidad de Los Andes took part in an online experiment composed of three decision stages. In stage 1, they are randomly paired with other subjects and play the Trust Game (TG, see [Berg, Dickhaut & McCabe 1995](#)) and a modified version of the Dictator Game (DG, first proposed by [Kahneman, Knetsch & Thaler 1986](#)). In stage 2, subjects are exposed to an online petition, receive information about how many persons have signed it already, and decide whether to sign it. In stage 3, subjects again play the TG and DG, but this time they know whether their partner had signed the petition. We elicit the subjects' behaviour for each action of their partner using the strategy method.

Stage 1 thus gives a baseline measure of pro-social behaviour – trust, reciprocity, trustworthiness, and altruism – for each subject. Stage 3 allows us to observe the behaviour of each subject towards another subject conditional on both subjects' political participation, and compare it to the baseline measure.

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<sup>4</sup>See [Charness & Chen \(2020\)](#) for an overview

<sup>5</sup>Prior research (e.g. [Cantoni, Yang, Yuchtman & Zhang 2019](#)) has found that identity can be one of the drivers of protest participation. In this paper, we show that a reverse effect is also present.

## 2.1 Stage 1: baseline social preferences

In this stage, individuals face a within subjects design for each TG and for DG. For each game, we elicit their behaviour for both possible roles: sender and receiver.

In the TG, a subject who is playing as a sender receives an endowment of 6 Experimental Tokens (ET). She has to choose an amount of ET between 0 and 6 that she wants to transfer to a receiver.<sup>6</sup> This is tripled by the experimenter and given to the receiver. The receiver needs to decide how much of the received amount she wants to transfer back to the sender. Using strategy method, we elicit the amount the receiver wants to transfer back for *each possible amount* received. From the TG we get a measure of trust (i.e. the amount sent to a receiver while playing the sender role) and trustworthiness or reciprocity (i.e. the amount sent back while playing as receiver for every possible amount received).

In addition to the TG, subjects also play the DG. In the DG, each subject also plays as a sender and as a receiver. A sender is similarly endowed with 6 ET and has to decide how much to transfer to a receiver, who receives three times the amount transferred by the sender.<sup>7</sup> The receiver, unlike in the TG, does not choose an action. From this DG we obtain a measure of altruism for each subject.

## 2.2 Stage 2: Online petition stage

Subjects are presented with one of two online petitions: (i) one that proposed to allow carrying guns, and (ii) one that proposed to ban fireworks in the interest of animal rights. The former is generally linked to right-wing political groups while the latter is linked to progressive political groups. In each session, one of the two petitions was used – thus, the treatment variation was between subjects. If a subject decides to sign the petition, we require her to write a few sentences about why she chose to do so.<sup>8</sup> Subjects who do not sign the petition do not have to explain their

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<sup>6</sup>We restrict the choice to integer values.

<sup>7</sup>The fact that the amount is multiplied by three makes the game somewhat different from the standard dictator game. We applied this modification to make senders' choices and monetary incentives in the DG more comparable to those in the TG.

<sup>8</sup>Before deciding over signing the petition, our subjects received a message without deception, stating that “More than  $n$  people have already signed the petition”, where  $n$  was a round number that was smaller than the actual number of signatures that the online petition had already gathered at the beginning of the lab experiment. In the experiment,  $n$  could take two values: low or high. This between subject treatment variation allows us to study whether there are herding motives affecting political action. Additionally,  $n$  serves as an instrumental variable that explains political participation but does not directly affects trust.

decision. Hence, signing the petition carries a positive effort cost, while choosing not to sign the petition is costless.

### 2.3 Stage 3: endline social preferences

Subjects play the TG and DG, again as both senders and receivers, while being anonymously matched with a random other subject. Unlike in Stage 1, subjects know whether their partner signed the petition. We use strategy method – that is, in each situation of the TG and DG, we ask subjects how much they would transfer to a partner who signed the petition and to a partner who did not sign it.

An experimental session lasted 45 minutes. Payments were based on one randomly chosen stage (Stage 1, or Stage 3). The average payment of *COP* 16,800 (approximately *USD* 4.5)<sup>9</sup>. At the end of the experiment subjects faced an *opinion survey*, in which they were asked whether they thought the cause of the petition was “worthy” or “valuable”, and were given a short questionnaire about their political and social views, and opinions about the petition.<sup>10</sup>

## 3 Main Results

In this section, we analyse the effect of signing the petition on identity and payoffs. Overall, in our experiment, about a quarter of all subjects have signed the guns petition, and around two thirds have signed the fireworks petition.<sup>11</sup>

### 3.1 Political participation and identity

In Figure 1 we present the amount senders sent to receivers in Stage 3 depending on their political participation. Panel (a) presents the decisions observed in the Dictator Game, and panel (b) presents those in the Trust Game. Decisions from subjects that face the guns (fireworks) rights online petition are shown in the left (right) panels.

One can see that in both TG and DG, the largest amounts are transferred in pairs in which both the sender and the receiver had signed the petition. This indicates that both trust and altruism are

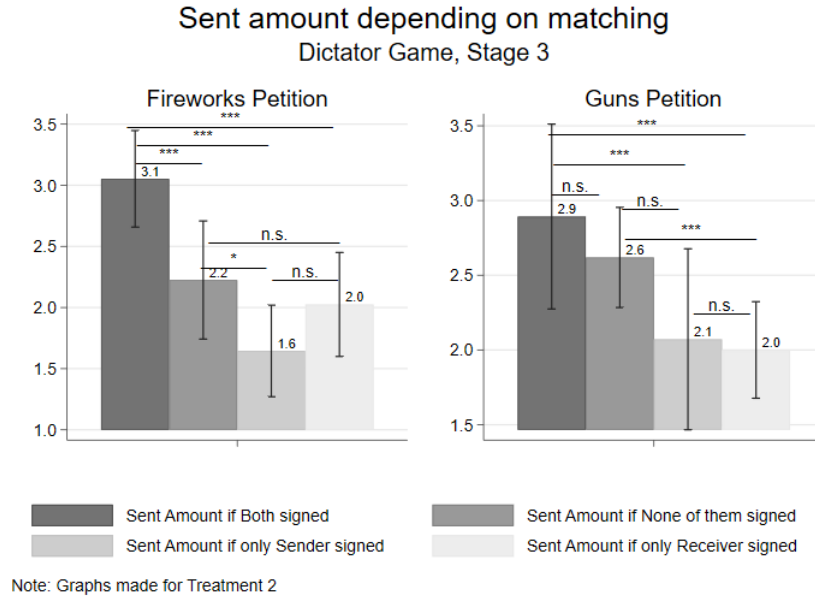
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<sup>9</sup>This is almost four times the minimum hourly wage in Colombia.

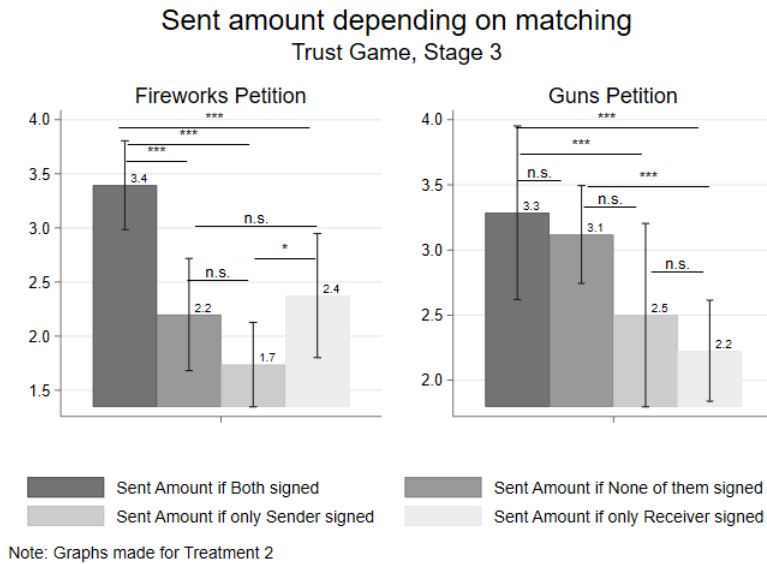
<sup>10</sup>Full instructions translated into English are found in Appendix B. Appendix C contains the wording of the fireworks petition.

<sup>11</sup>For detailed data by message that subjects received, see the Figure 6 in the appendix.

the largest in such pairs. In particular, a sender who signs the petition tends to transfer significantly more to a receiver who signed it than to a receiver who did not sign it. This suggests substantial in-group favouritism induced by a shared experience of political participation.



(a) Dictator Game



(b) Trust Game

Figure 1: Amount sent by Sender, in Dictator and Trust Games, based on political participation decisions and online petition

The largest effect of signing the petition is observed in the fireworks petition, while we note that receivers who choose not to sign the fireworks petition are receiving the smallest amount sent by senders. Furthermore, as usually found in the literature, subjects transfer larger amounts when playing the Trust Game than in the Dictator Game.

To investigate the emergence of in-group favouritism further, we analyse the behaviour of senders when matched with in-group and out-group receivers. For a sender who signs the petition, an in-group receiver is someone who also signs the petition, while an out-group receiver is someone who does not sign it. For a sender who does not sign the petition, an in-group receiver is someone who does not sign it, while an out-group receiver is someone who signs it. Our variable of interest is the difference between a sender's average transfer to an in-group receiver and a transfer to an out-group receiver. The size of the difference indicates the magnitude of in-group favouritism.

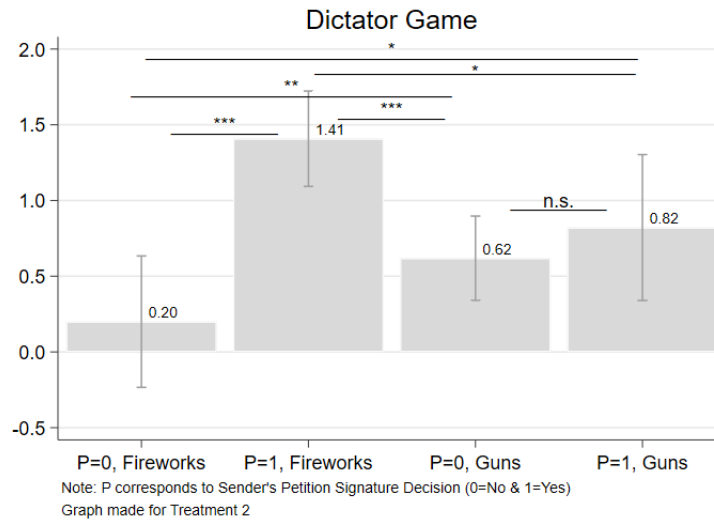
Figure 2 presents the results. We can observe that in the guns petition, both signing and not signing seems to create in-group favouritism, and the difference in the magnitude of in-group favouritism for each group is not significant. On the other hand, not signing the fireworks petition does not create in-group favouritism, while signing it does. This suggests that the effect of political participation on social preferences depends on the nature of the political initiative at stake (in this case, a right-wing versus a left-wing petition).

Table 1 examines the effect of signing the petition on in-group favouritism, using results from Stage 1 Trust Game<sup>12</sup> and controlling for baseline levels of altruism and trust. Columns (1)-(4) are related to the guns petition while columns (5)-(6) are linked to the fireworks petition. The first column for each petition replicates the relationship we observe in the previous figures. We add Stage 1 decisions in the next two columns. We observe that the political participation effect on in-group favoritism is stronger than the political non-participation effect, in particular for the fireworks petition, which is also the most popular petition (see Figure 6 in Appendix A).

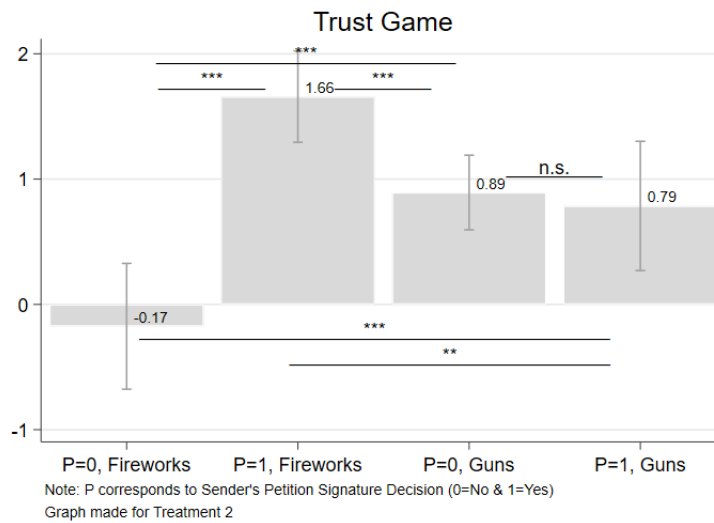
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<sup>12</sup>Results related to the Dictator Game follow a similar pattern.





(a) Dictator Game



(b) Trust Game

Figure 2: Difference between the amount sent by the sender to and in-group and an out-group receiver based on the sender's political participation, by game and petition

Table 1: Difference on amount sent, in the Trust Game, to Receiver who signed - amount sent to Receiver who did not politically participate, by petition

|   | Fireworks           |                     |                     |                     |                     | Guns                 |                     |                     |                     |                     |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|---------------------|---------------------|---------------------|
|   | (1)                 | (2)                 | (3)                 | (4)                 | (5)                 | (6)                  | (7)                 | (8)                 | (9)                 | (10)                |
| <b>Dep Var: (amount sent to Receiver who signed) - (amount sent to Receiver who did not sign)</b> |                     |                     |                     |                     |                     |                      |                     |                     |                     |                     |
| Petition signed   | 1.483***<br>(0.313) | 1.463***<br>(0.317) | 1.413***<br>(0.302) | 1.441***<br>(0.304) | 1.275***<br>(0.332) | 1.679***<br>(0.301)  | 1.705***<br>(0.303) | 1.692***<br>(0.302) | 1.707***<br>(0.304) | 1.648***<br>(0.355) |
| Sent DG Stage 1   |                     | 0.056<br>(0.108)    |                     | -0.106<br>(0.115)   | -0.165<br>(0.122)   |                      | -0.078<br>(0.100)   |                     | -0.058<br>(0.111)   | -0.017<br>(0.125)   |
| Sent TG Stage 1   |                     |                     | 0.262***<br>(0.082) | 0.298***<br>(0.090) | 0.294***<br>(0.105) |                      |                     | -0.056<br>(0.078)   | -0.037<br>(0.086)   | -0.021<br>(0.107)   |
| Constant  | 0.175<br>(0.253)    | 0.061<br>(0.338)    | -0.632*<br>(0.350)  | -0.524<br>(0.369)   | -0.287<br>(0.931)   | -0.893***<br>(0.150) | -0.715**<br>(0.273) | -0.707**<br>(0.300) | -0.637*<br>(0.329)  | -0.630<br>(0.923)   |
| Controls  | No                  | No                  | No                  | No                  | Yes                 | No                   | No                  | No                  | No                  | Yes                 |
| Observations  | 116                 | 116                 | 116                 | 116                 | 110                 | 112                  | 112                 | 112                 | 112                 | 110                 |
| R-squared   | 0.164               | 0.166               | 0.234               | 0.240               | 0.346               | 0.221                | 0.225               | 0.225               | 0.227               | 0.260               |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors in parentheses. Columns (1) to (5) use data from the Guns petition while columns (6) and (10) restrict the estimation to data from the Fireworks petition. Dependent variable is the difference between the amount sent to a receiver who signed the petition and the amount sent to a receiver who did not sign the petition. DG: Dictator Game. TG: Trust Game. Controls include whether subject is female, socio-economic strata (from 1 to 6), academic semester, whether studying an economics related major, self reported willingness to take risks, generalized trust, political spectrum (from 1-left to 5-Right), percentage sent back s0 and the answer to a beauty contest question. Observations when adding controls drop because 2 subjects in the Guns petition, and 6 in the fireworks petition, did not reply to the socio-economic stratum question.

Figure 3 shows that our previous results also hold for trustworthiness (i.e., the fraction that a receiver, on average, sends back in the TG). The four lines in each figure show the linear prediction of the amount that a receiver sends back to a sender for each amount sent to her by the sender. Each of the four lines corresponds to a different combination of sender and receiver depending on the political participation decisions of each of them. For each petition, we observe the most trustworthiness between a sender and a receiver who both signed the petition; the difference is especially pronounced for the fireworks petition.

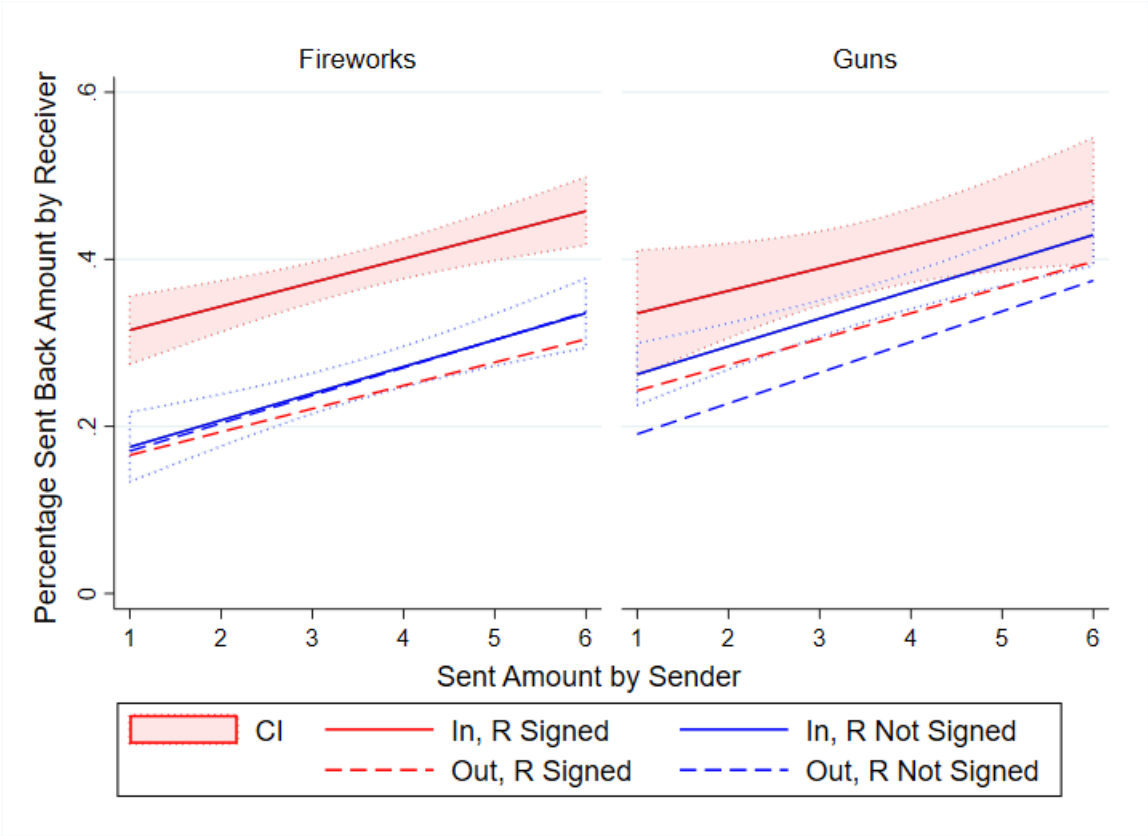


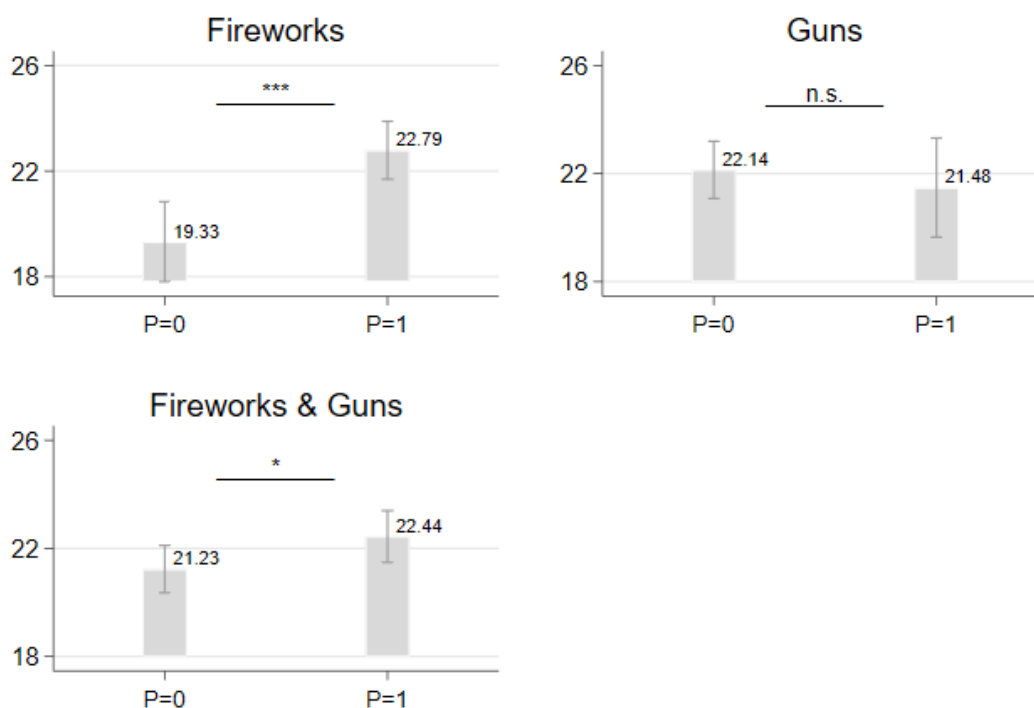
Figure 3: Percentage Sent Back, in the Trust Game, to an In-Group (solid) or Out-Group (dashed) Sender by Receiver’s signing decision (Yes = Red, No = Blue).

### 3.2 Political participation and payoffs

Our results so far suggest that political participation makes an individual part of a group with considerable in-group favouritism. When an individual interacts with other participants, she is likely to experience higher levels of trust, trustworthiness, and altruism if she also participates. Hence, the payoff of a participant is likely to be larger than the payoff of a non-participant, and

the difference should be increasing in the probability that a person with whom she interacts is also a participant – that is, in the share of people in her social circle who participate.

In this section we investigate this conjecture, using the fact that the fireworks petition is signed by a considerably larger share of our subjects than the guns petition (65.5% versus 25.5%). Figure 4 shows the overall payment our subjects would have received had the payoffs from stage 1 been realised as the experimental payments. As expected, subjects who sign the fireworks petition receive significantly higher payoffs. For the less popular guns petition, the differences in payoffs of subjects who sign the petition and of those who do not is not significant.



Note: Graphs made for Treatment 2

Figure 4: Total experimental payment in Trust Game Stage 1 by subjects political participation decision and petition

In Table 5 we show that the results are driven by a higher payoff subjects receive in the role of receivers. That is, in the more popular fireworks petition, subjects who sign it obtain greater payoffs as a result of experiencing greater trust and altruism.

Table 2: Experimental payoffs by petition, game and signing decision

| Dep var: Payoff as a | Fireworks           |                    |                     |                     | Guns                |                     |                     |                     |
|----------------------|---------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                      | Dictator Game       |                    | Trust Game          |                     | Dictator Game       |                     | Trust Game          |                     |
|                      | Sender<br>(1)       | Receiver<br>(2)    | Sender<br>(3)       | Receiver<br>(4)     | Sender<br>(5)       | Receiver<br>(6)     | Sender<br>(7)       | Receiver<br>(8)     |
| Petition Signed      | 0.0611<br>(0.305)   | 1.622**<br>(0.782) | 0.243<br>(0.366)    | 1.724***<br>(0.607) | 0.313<br>(0.321)    | -0.0647<br>(0.882)  | -0.0563<br>(0.370)  | -0.910<br>(0.772)   |
| Constant             | 5.482***<br>(0.846) | 4.906**<br>(2.171) | 6.418***<br>(1.017) | 5.640***<br>(1.686) | 5.002***<br>(0.817) | 6.358***<br>(2.244) | 4.287***<br>(0.942) | 6.521***<br>(1.964) |
| Observations         | 110                 | 110                | 110                 | 110                 | 110                 | 110                 | 110                 | 110                 |
| R-squared            | 0.139               | 0.159              | 0.077               | 0.166               | 0.219               | 0.068               | 0.095               | 0.093               |

Notes: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Standard errors in parentheses. Columns (1) to (4) use data from the Guns petition while columns (5) and (8) restrict the estimation to data from the Fireworks petition. Dependent variable is the Payoff a subject would have gotten had the conditions in the columns been chosen to determine the final payment of the experiment. Controls include whether subject is female, socio-economic strata (from 1 to 6), academic semester, whether studying an economics related major, self reported willingness to take risks, generalized trust, political spectrum (from 1-left to 5-Right), percentage sent back s0 and the answer to a beauty contest question. Observations when adding controls drop because 2 subjects in the Guns petition, and 6 in the fireworks petition, did not reply to the socio-economic stratum question.

## 4 Discussion

Our previous results suggest that political participation induces a feeling of identity that manifests itself through in-group favouritism – namely, through greater trust, trustworthiness, and altruism between fellow participants. As a result, participating in political collective action gives personal benefits to an individual, particularly when many of her peers participate as well.

Can these results be driven by some alternative mechanisms other than identity building? In this section we examine some of these mechanisms. We also discuss the relationship between our experimental results and real-life political participation

### 4.1 Minimal identity

One alternative explanation for the in-group favouritism that we observe is minimal identity. When using the strategy method, we are labelling other participants as having signed or not having signed the petition. It may be that it is this labelling, rather than the act of signing the petition, that induces the identity and creates in-group favouritism. Such “minimal identity” has been observed in prior experiments ([Chen & Li 2009](#)).

If minimal identity underlies our results, then both having signed the petition, and not having signed the petition should create similar identity effects. However, as our previous results suggest,

at least in the fireworks petition the in-group bias is considerable higher among those who sign the petition than among those who did not sign. This suggests that minimal identity alone cannot explain our results.

## 4.2 Signalling existing identity

Another possible explanation is that the act of signing the petition signals an existing identity rather than building a new one. For example, a subject who signed the fireworks petition may be likely someone who is in favour of animal rights. When she sees another subject who signed it, she may deduce that the other subject is also an animal rights supporter. She may then feel more trusting or altruistic towards that subject because of the shared existing identity. Alternatively, she may be rewarding that subject for having signed the petition by transferring more of her endowment.<sup>13</sup>

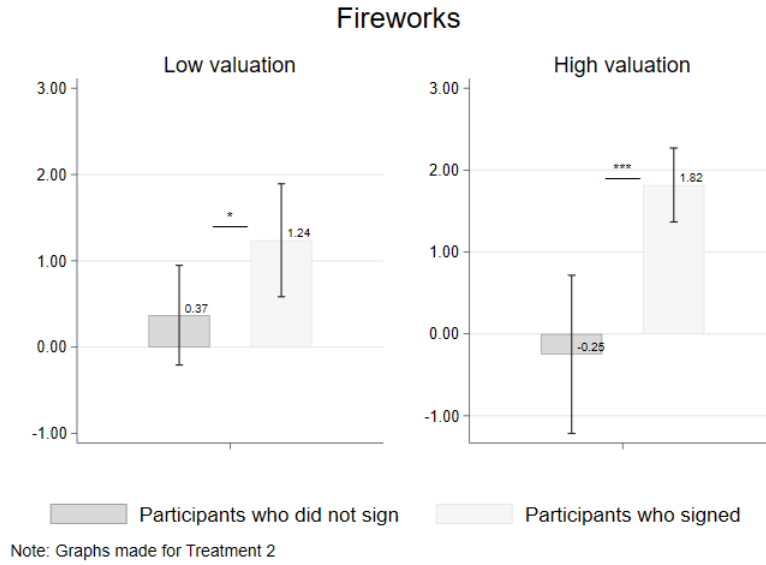
To check this explanation, we ask subjects in the end-line questionnaire how worthy they think the cause of the petition is, on a scale from 1 to 5. While most subjects who had low valuation of the cause did not sign the petition, a considerable number of those with high valuation did not sign it either, probably because of the cost of effort required to explain the reason for signing it.

In Figure 5 we show the magnitude of the in-group bias – that is, the difference in the amount transferred to a receiver who signed the petition and to a receiver who did not sign – for senders with low (1-3) and with high (4-5) valuation of the cause. If signalling was the reason for the effects we previously observed, then conditional on the valuation, the act of signing the petition should not affect the sender’s behaviour. For example, a sender with high valuation who does not sign the petition should transfer the same amount as a sender with similar valuation who did. Instead, we observe that, for a given valuation, subjects who sign the petition exhibit significantly more trust.<sup>14</sup> Hence, the act of signing itself appears to be creating in-group bias. At the same time, we observe that this bias is stronger when valuation is higher.

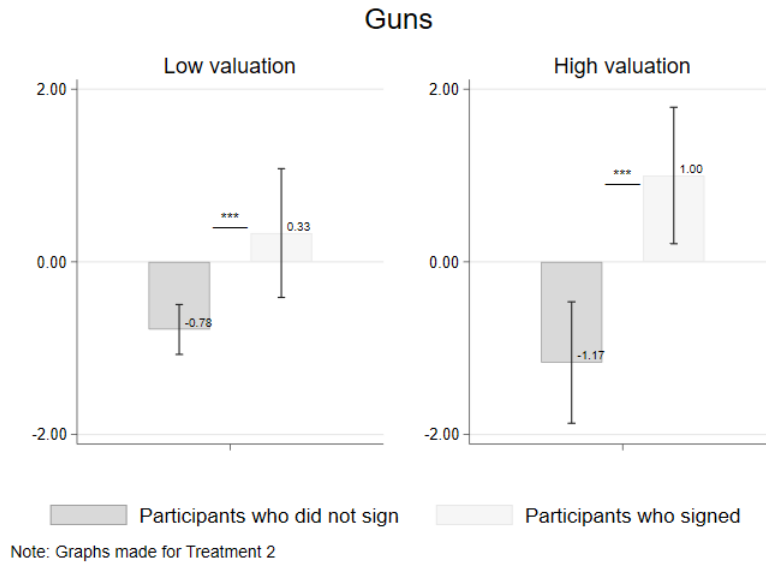
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<sup>13</sup>A similar effect is found in [Willer \(2009\)](#).

<sup>14</sup>Similar results emerge if valuations are not aggregated into low or high.



(a) Fireworks petition



(b) Guns petition

Figure 5: Difference between amount sent, in the Trust Game, to a Receiver who signed minus to Receiver who did not sign by Sender's political participation and valuation of petition's cause

### 4.3 External validity

To what extent can our experiment with online petitions explain collective action more generally? There are several differences between the setting in our experiment and many other forms of collective action. First, when choosing whether to sign the petition in our experiment, subjects did not know that they will play a DG or a TG with individuals who will be aware of their participation decision. Hence, they could not sign the petition in order to influence future behaviour of their peers towards them – that is, to deliberately join an identity group. In real-world situations, individuals often know that their participation will be observed by others. Such image concerns would increase the individual payoff from participating in collective action. This means that the mechanism identified by our experiment is likely to be stronger in the real world.

Second, while our experiment imposes a cost of political participation by requiring subjects to explain their decision if they signed the petition, this cost is still relatively low. In many settings, political participation is far more costly.

To further investigate the extent to which our results can explain costly collective action, we conducted several additional experimental sessions. In these sessions instead of online petitions we used the Colombian street protests known as *Paro Nacional* or National Strike, which began in April 2021 during the time of our study. Participation in these protests involved a high personal cost: thousands of protesters were injured in clashes with riot police, dozens were killed, and numerous instances of sexual assault were reported.<sup>15</sup>

These additional experimental sessions were similar to the ones described in Section 2 except for Stage 2. In Stage 2, instead of asking subjects whether they want to sign an online petition, we asked them whether they had physically participated in the National Strike.<sup>16</sup> In the subsequent Stage 3, subjects were asked to play DG and TG knowing whether their partner had participated in the protests. Our sample consisted of 89 subjects. Of these, 20 (that is, 22.5%) reported having participated in the protests. Thus, participation rate was similar to, but slightly lower than the rate of signing the Guns petition, and significantly lower than the rate of signing the Fireworks petition.

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<sup>15</sup>See BBC, *Colombia protests: Rights body criticises 'disproportionate' response*, July 8, 2021. [www.bbc.com/news/world-latin-america-57733541](http://www.bbc.com/news/world-latin-america-57733541).

<sup>16</sup>See Appendix D for instructions. Because participation was already costly, we did not require the participants to explain their reason for participation.



The results are summarised in Appendix A. Figure 7 presents the data on the amount sent by senders in DG and TG depending on sender's and receiver's reported participation in the protests. In line with the previous results, it shows that there is significantly more altruism and more trust between a sender and a receiver who participated in the protests than in any other pairing. Figure 9 presents the amount sent back in the TG by a receiver depending on the amount she received and the participation of the receiver and the sender. It shows that for each amount of tokens received, the receiver sends significantly more when both she and the sender participated in the protests. This suggests that there is significantly more trustworthiness between a pair of subjects who both participated in the protests, again confirming the previous results.

Figure 8 shows that, as with the previous results, common participation gives rise to substantial in-group favouritism, while common non-participation does not. Hence, as before, the results cannot be explained by minimal identity. Figure 10 shows that those who participated in the protest received a somewhat higher payoff in the Stage 3 trust game, although the difference is not statistically significant. Given that subjects were paired with each other randomly and the overall rate of participation was relatively low, this is not unexpected. In real life, when those who participate in collective action include disproportionately many fellow participants in their social network, the difference is likely greater.

Overall, these results are similar to the ones described in Section 3, suggesting that the mechanism proposed in the paper can explain participation in both low-cost and high-cost political collective action.

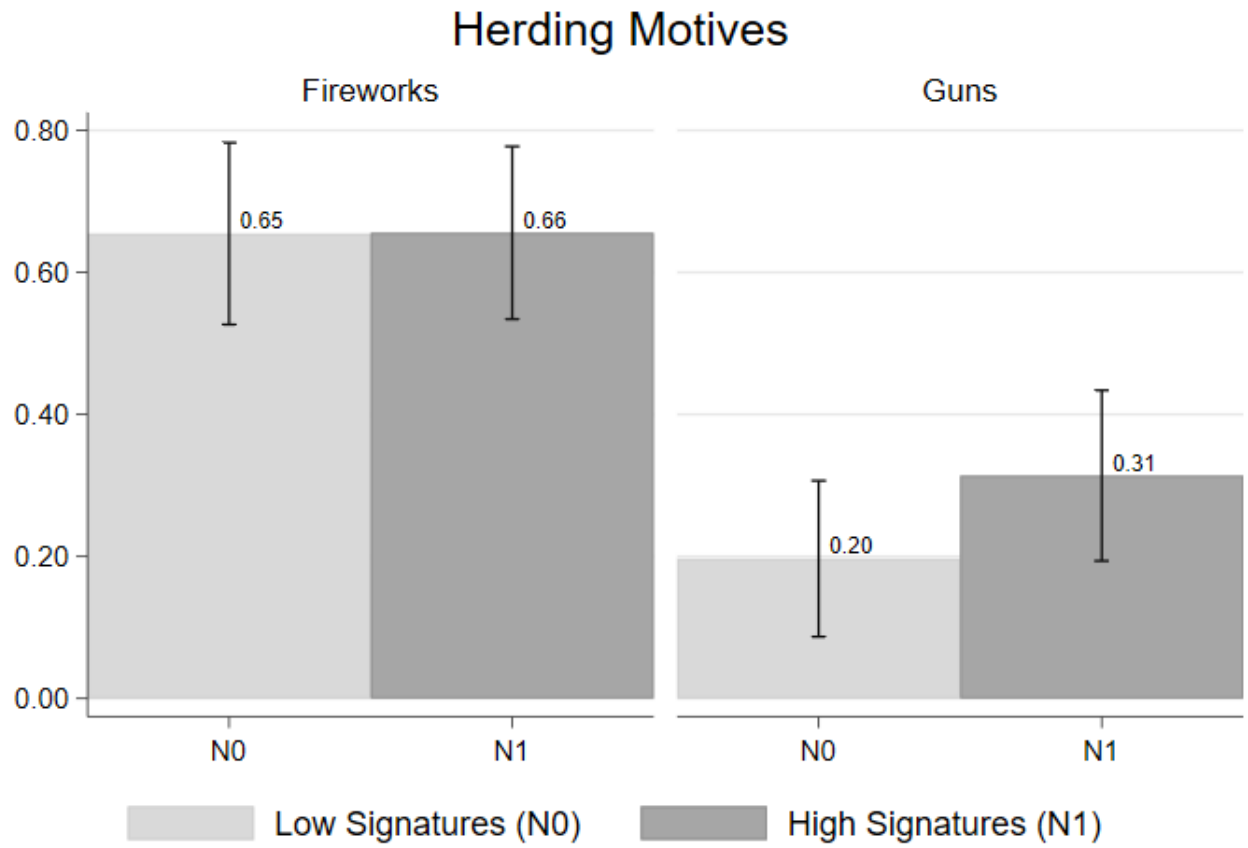
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# A Additional Figures and tables



Graph made for Treatment 2

Figure 6: Herding motives

## A.1 Strikes

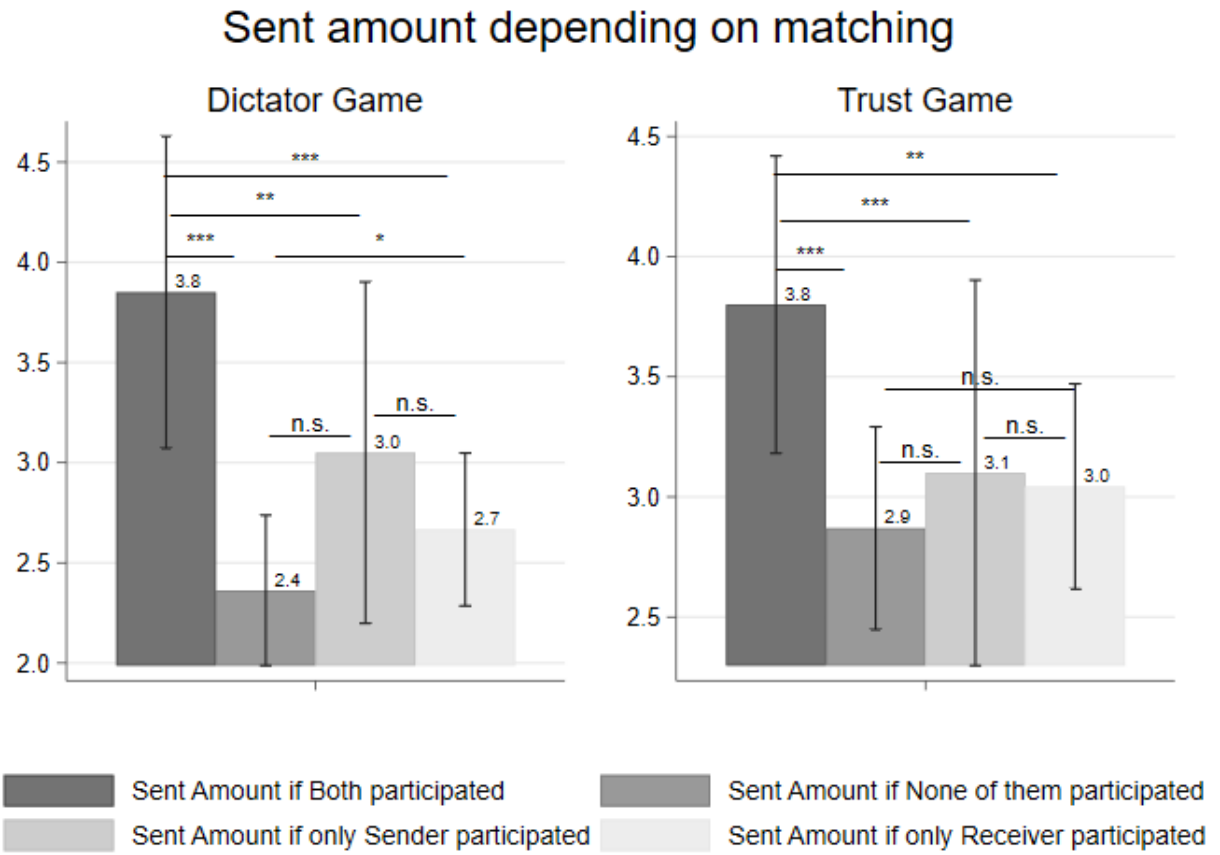
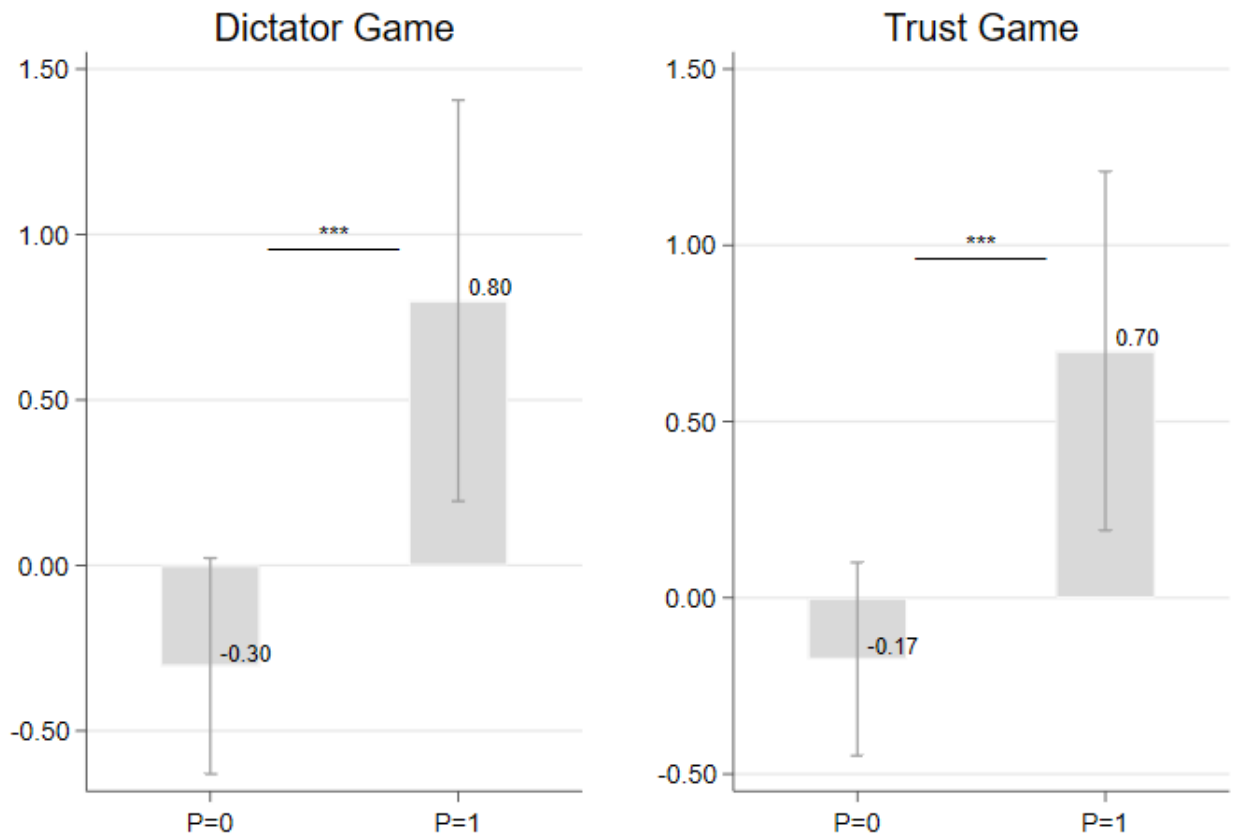


Figure 7: Amount sent by Sender, in Dictator and Trust Games, based on strike participation

Table 3: Difference on amount sent, in the Trust Game, to Receiver who participated - amount sent to Receiver who did not participated in strike

| <b>Dep Var: (amount sent to Receiver who participated) -<br/>(amount sent to Receiver who did not participate)</b> |                   |                     |                    |                     |
|--|-------------------|---------------------|--------------------|---------------------|
|  | (1)               | (2)                 | (3)                | (4)                 |
| Petition signed  | 0.521*<br>(0.295) | 0.533*<br>(0.294)   | 0.528*<br>(0.295)  | 0.533*<br>(0.304)   |
| Sent DG Stage 1  |                   |                     | 0.0575<br>(0.0938) | 0.0204<br>(0.0880)  |
| Sent TG Stage 1  |                   | -0.0936<br>(0.0739) | -0.122<br>(0.0878) | -0.0603<br>(0.0890) |
| Constant   | 0.179<br>(0.142)  | 0.485*<br>(0.280)   | 0.430<br>(0.295)   | 1.284*<br>(0.736)   |
| Controls   | No                | No                  | No                 | ✓                   |
| Observations   | 87                | 87                  | 87                 | 87                  |
| R-squared  | 0.035             | 0.053               | 0.058              | 0.324               |

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors in parentheses. Dependent variable is the difference between the amount sent to a receiver who participated in the strike and the amount sent to a receiver who did not participate in the strike. DG: Dictator Game. TG: Trust Game. Controls include whether subject is female, socio-economic strata (from 1 to 6), academic semester, whether studying an economics related major, self reported willingness to take risks, generalized trust, political spectrum (from 1-left to 5-Right), percentage sent back  $s_0$  and the answer to a beauty contest question. Observations when adding controls drop because 2 subjects in the Strike Treatment did not reply to the socio-economic stratum question.



Note: P corresponds to Sender's Strikes Participation Decision (0=No & 1=Yes)

Figure 8: Difference between the amount sent by the sender to and in-group and to an out-group receiver based on the sender's strike participation, by game

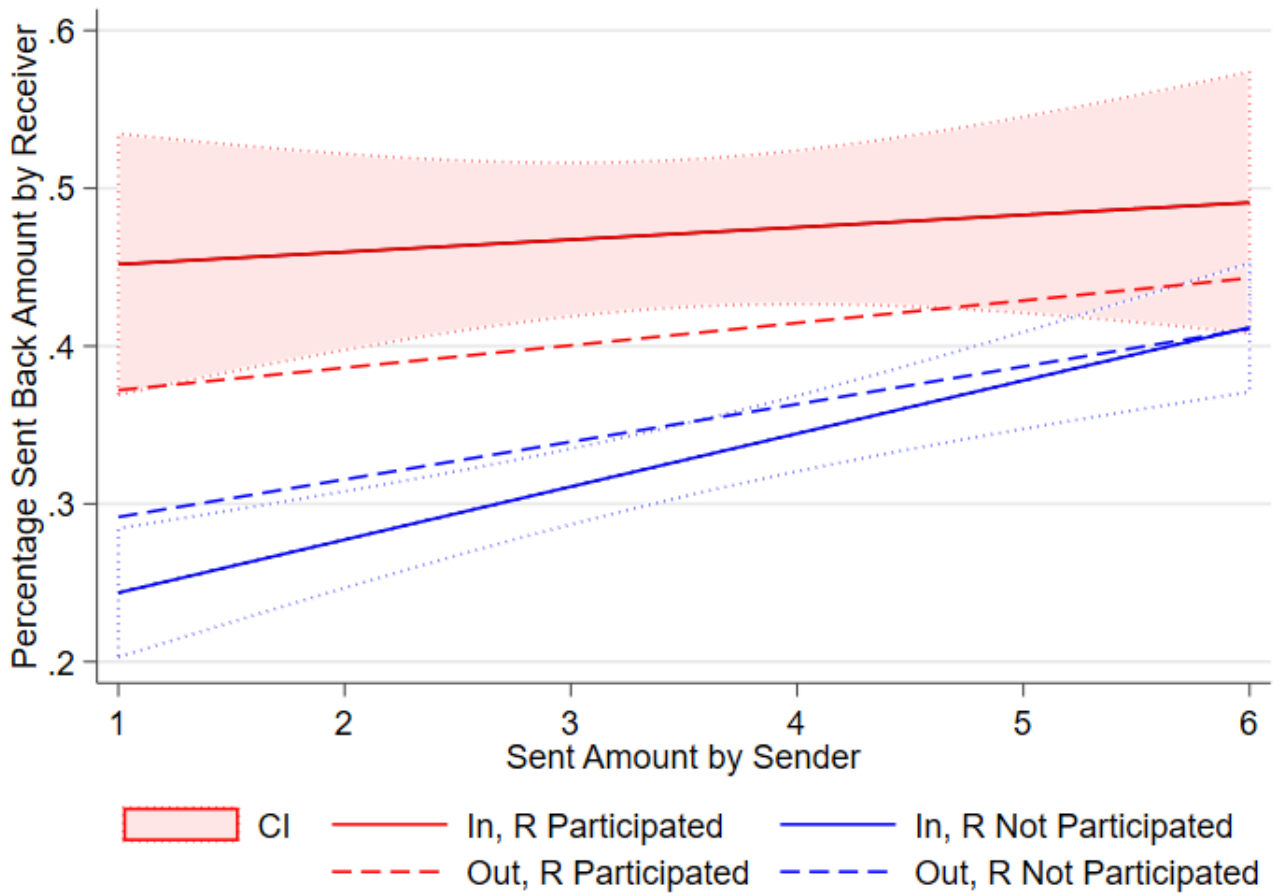


Figure 9: Percentage Sent Back, in the Trust Game, to an In-Group (solid) or Out- Group (dashed) Sender by Receiver's strike participation (Yes = Red, No = Blue).



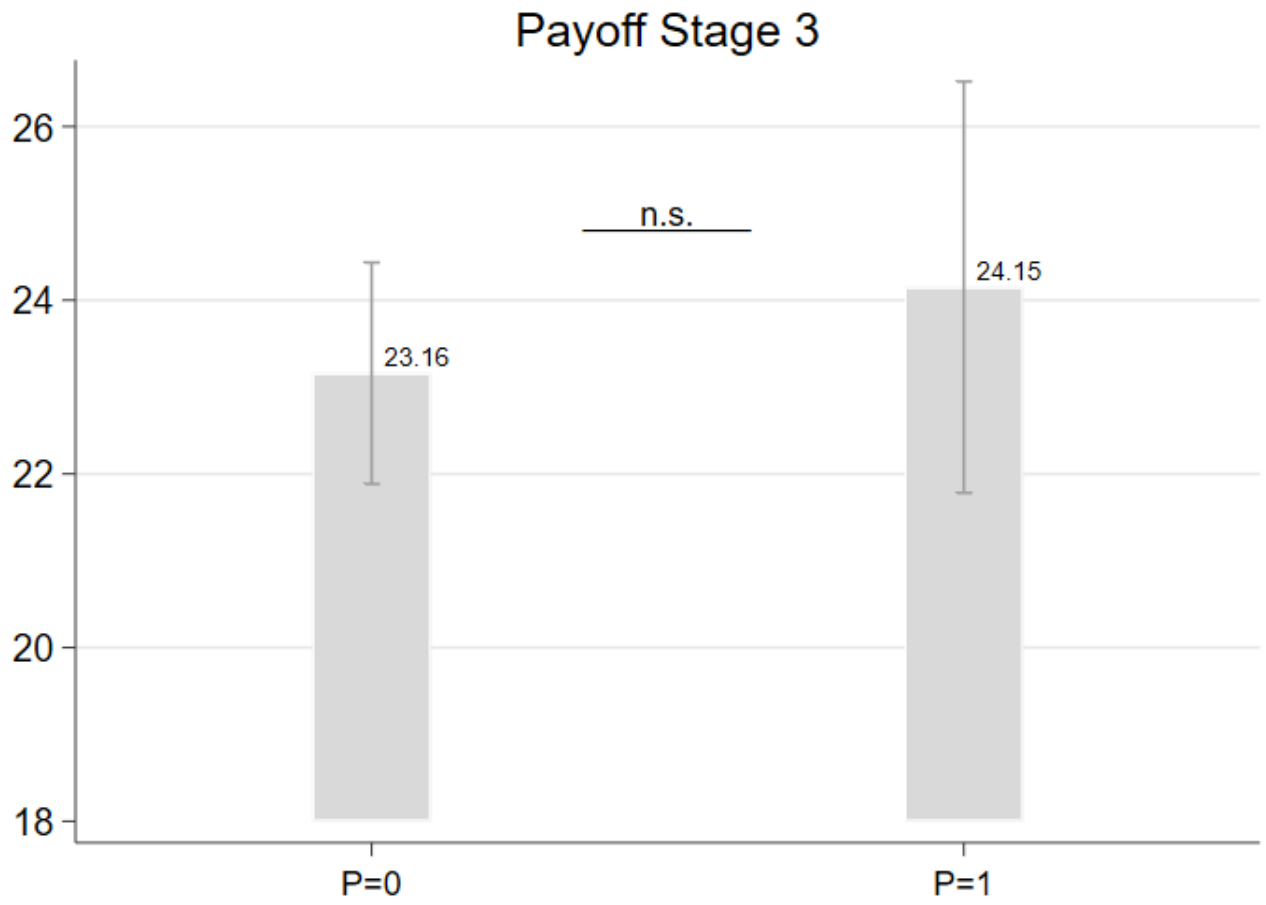


Figure 10: Total experimental payment in Trust Game Stage 3 by subjects strike participation

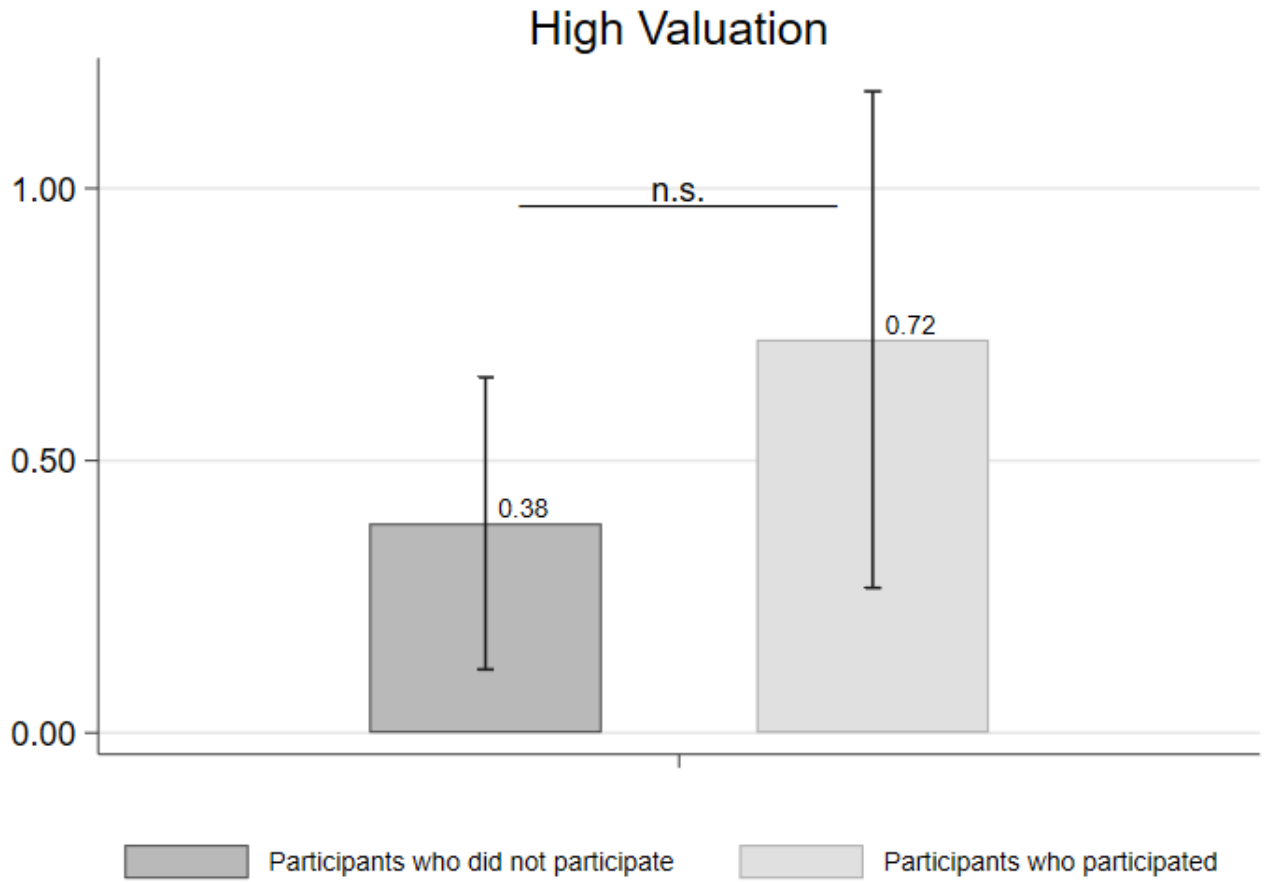


Figure 11: Difference between amount sent, in the Trust Game, to a Receiver who participated and the amount sent to a Receiver who did not participate if the valuation of petition's cause is high

Table 4: Experimental payoffs by game and strike participation decision

| Dep var: Payoff as a | Dictator Game       |                     | Trust Game          |                     |
|----------------------|---------------------|---------------------|---------------------|---------------------|
|                      | Sender<br>(1)       | Receiver<br>(2)     | Sender<br>(3)       | Receiver<br>(4)     |
| Petition Signed      | -0.464<br>(0.400)   | 0.234<br>(0.872)    | -0.0706<br>(0.398)  | -1.173<br>(0.995)   |
| Constant             | 4.120***<br>(0.928) | 8.607***<br>(2.024) | 6.539***<br>(0.923) | 8.986***<br>(2.310) |
| Observations         | 87                  | 87                  | 87                  | 87                  |
| R-squared            | 0.285               | 0.229               | 0.147               | 0.141               |

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ . Standard errors in parentheses. Dependent variable is the Payoff a subject would have gotten had the conditions in the columns been chosen to determine the final payment of the experiment. Controls include whether subject is female, socio-economic strata (from 1 to 6), academic semester, whether studying an economics related major, self reported willingness to take risks, generalized trust, political spectrum (from 1-left to 5-Right), percentage sent back  $s_0$  and the answer to a beauty contest question. Observations when adding controls drop because 2 subjects in the Strike Treatment did not reply to the socio-economic stratum question.

Table 5: Experimental payoffs by petition, game and signing decision

|                         | (1)   | (2)       | (3) | (4) | (5)       | (6)       | (7)      | (8)     | (9)                       | (10)    |
|-------------------------|-------|-----------|-----|-----|-----------|-----------|----------|---------|---------------------------|---------|
|                         | Mean  | Sd        | Min | Max | Guns      | Fireworks | Strikes  | (5)=(6) | P-value for H0<br>(6)=(7) | (5)=(7) |
|                         |       | (307 obs) |     |     | (110 obs) | (110 obs) | (87 obs) |         |                           |         |
| Semester                | 5.459 | 3.227     | 1   | 15  | 5.418     | 5.455     | 5.517    | 0,82    | 0,88                      | 0,83    |
| Political Spectrum      | 2.762 | 0.808     | 1   | 5   | 2.855     | 2.700     | 2.724    | 0,12    | 0,74                      | 0,32    |
| Beauty Contest          | 36.34 | 21.79     | 0   | 99  | 33.32     | 35.94     | 40.65    | 0,33    | 0,14                      | 0,02    |
| Risk                    | 6.417 | 1.837     | 1   | 10  | 6.355     | 6.336     | 6.598    | 0,99    | 0,38                      | 0,43    |
| Generalized Trust       | 0.283 | 0.451     | 0   | 1   | 0.273     | 0.382     | 0.172    | 0,07    | 0,00                      | 0,08    |
| Female                  | 0.573 | 0.495     | 0   | 1   | 0.518     | 0.627     | 0.575    | 0,10    | 0,44                      | 0,44    |
| Degree                  | 0.153 | 0.361     | 0   | 1   | 0.191     | 0.136     | 0.126    | 0,30    | 0,98                      | 0,29    |
| Socio-economic Strata   | 3.697 | 1.232     | 1   | 6   | 3.727     | 3.691     | 3.667    | 0,83    | 0,89                      | 0,73    |
| Percentage Sent Back S1 | 0.344 | 0.184     | 0   | 1   | 0.344     | 0.336     | 0.354    | 0,70    | 0,58                      | 0,81    |
| Sent Trust Game S1      | 3.290 | 1.712     | 0   | 6   | 3.364     | 3.209     | 3.299    | 0,43    | 0,67                      | 0,84    |
| Sent Dictator Game S1   | 2.410 | 1.433     | 0   | 6   | 2.364     | 2.282     | 2.632    | 0,68    | 0,09                      | 0,17    |

Notes: Variables correspond to reported academic semester, political spectrum (from 1-left to 5-Right), the answer to a beauty contest question, self reported willingness to take risks (from 1 to 10), whether subject is female, whether studying economics or business administration, socio-economic strata (from 1 to 6), percentage sent back s1, sent amount in trust game stage 1 and sent amount in dictator game stage 1.

Table 6: Decision to participate in collective action, Treatment 2

| Dep Var: Petition Signed   |                       |                       |                        |                        |
|----------------------------|-----------------------|-----------------------|------------------------|------------------------|
|                            | (1)                   | (2)                   | (3)                    | (4)                    |
|                            | Fireworks             | Guns                  | F & G                  | Strikes                |
| Sent TG S1                 | 0.0115<br>(0.0320)    | 0.00244<br>(0.0303)   | 0.00668<br>(0.0245)    | -0.00260<br>(0.0337)   |
| Sent DG S1                 | 0.00359<br>(0.0372)   | 0.00206<br>(0.0355)   | 0.00725<br>(0.0282)    | -0.00662<br>(0.0333)   |
| Percentage Sent Back TG S1 | 0.607**<br>(0.253)    | 0.160<br>(0.245)      | 0.364*<br>(0.194)      | 0.412<br>(0.272)       |
| Risk                       | 0.0501*<br>(0.0262)   | 0.0492**<br>(0.0234)  | 0.0452**<br>(0.0193)   | -0.00970<br>(0.0253)   |
| Socio-economic Strata      | 0.0230<br>(0.0387)    | -0.0893**<br>(0.0343) | -0.0300<br>(0.0277)    | -0.148***<br>(0.0358)  |
| Beauty Contest             | -0.00172<br>(0.00236) | 0.00391*<br>(0.00217) | 0.00142<br>(0.00175)   | -0.000153<br>(0.00194) |
| Female                     | 0.0866<br>(0.0997)    | -0.0353<br>(0.0839)   | 0.0368<br>(0.0704)     | 0.0294<br>(0.0944)     |
| Degree                     | -0.0961<br>(0.137)    | -0.0420<br>(0.107)    | -0.108<br>(0.0944)     | 0.0506<br>(0.142)      |
| Semester                   | -0.00746<br>(0.0145)  | 0.00745<br>(0.0112)   | -0.000553<br>(0.00982) | -0.0110<br>(0.0163)    |
| Generalized Trust          | -0.209**<br>(0.0948)  | -0.212**<br>(0.0916)  | -0.174**<br>(0.0721)   | 0.186<br>(0.119)       |
| Political Spectrum         | 0.00694<br>(0.0665)   | 0.0630<br>(0.0506)    | 0.0179<br>(0.0449)     | -0.0444<br>(0.0563)    |
| Constant                   | 0.126<br>(0.283)      | -0.0597<br>(0.262)    | 0.0743<br>(0.213)      | 0.850***<br>(0.261)    |
| Observations               | 110                   | 110                   | 220                    | 87                     |
| R-squared                  | 0.160                 | 0.225                 | 0.101                  | 0.243                  |

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## B Experimental Instructions: Firearms petition

### T2- Weapons Petition

#### Introduction

Welcome. We really appreciate your participation in this experiment of **individual** decision.

From this moment on communication with other participants in this virtual room is absolutely prohibited. Please turn off your microphone and your cellphone. **The use of cellphones and calculators is strictly prohibited.**

If you have any question about the experiment, write them in the chat and one of us will answer them. **Do not make questions for the whole room. Make them directly to the moderators.**

All of the information you provide us in this experiment will be used for strictly academic purposes and will not be revealed to anyone. Your decisions and your earnings will be confidential. Nobody will know the decisions you made or how much money you received at the end of the session. Only for your participation until the end of this experiment you will receive COP 10.000. Additionally, depending on your actions and the actions of the rest of the participants, you could earn more money. During the activity we will talk in terms of Experimental Points (EP) instead of Colombian Pesos. Your payment will be calculated in terms of EP and then, at the end of the experiment it will be exchanged into Colombian Pesos following this exchange rate:

$$1 \text{ EP} = 1000 \text{ COP}$$

You will face the Decision Stages during this experiment. In the Stage 1 and 3 you will receive an amount in EP and you will have to make decisions about how to distribute it between you and another participant who will be participating in this same activity. Any interaction will be confidential and any participant will know your identity.

Stage 1 and Stage 3 have two activities and each activity has two rounds. Therefore, at each Stage, you will make 4 decisions.

Just one of those 8 decisions will count for your final payment of the experiment. The computer will randomly choose which decision will determine your final payment.

In contrast, on the Stage 2 you will face an online social campaign and we will ask you your opinion about it.

If you do not will to participate in the experiment, you can leave now. If you will to participate, please read and sign the **Informed Consent** that you will find in the next page.

**Next**

**Informed Consent**  
**Economical Laboratory Experiments**

Dear participant,

You have been invited to participate in a study about people's decision making. At the end of the experiment, you will receive an amount of money depending on your earnings during the exercise and a fix amount only for the fact of participate. When the game is over you will have to answer some questions about the exercise you participated in today. There will be also some questions about you. **The information about your decisions, your earning and the answers in the survey will be confidential and will be used for academic purposes maintaining your anonymity.**

**Methodology:** We will present you, through your computer and virtually, a decision format to distribute amounts between you and other participants, a real online petition and we will ask you your opinion about this social initiative and a final survey of the activity. We will maintain your answers confidential and we will never use them individually. Additionally, throughout the experiment you will receive information about how to answer each stage.

**Research risks:** There is no risk to you for participating in the study.

**Your participation in this exercise is entirely voluntary:** This means that you can retire at any moment.

The amount of money you earn at the end of the exercise will consist of an amount we will give you just for participating until the end (which is the same for all participants), plus an additional amount that will depend on your actions and other participants actions. You will receive that amount after you finish answering the survey. If you would like a copy of this informed consent, please ask us for it.

**Financial benefits of participating:** Just for your participation until the end of this experiment you will receive a monetary compensation between **10.000 and 28.000 COP.**

**Questions:** If you have an additional concern about this study, you can contact the principal researcher José Alberto Guerra [ja.guerra@uniandes.edu.co](mailto:ja.guerra@uniandes.edu.co). If you have questions about your rights as a participant in research studies, you can contact the Ethics Committee of the Universidad de Los Andes at +57 1-3394949 and ask to be connected to the secretary of the Ethics Committee or at the email [comite-etica-investigaciones@uniandes.edu.co](mailto:comite-etica-investigaciones@uniandes.edu.co).

Please sign on the following page if you authorize your participation.

**Next**

**Informed Consent**  
**Economical Laboratory Experiments**

**Place (city):**

**Date (day/month/year):**

**Experiment start time:**

Me,

Declare that I understand the previous information and my rights and duties during this exercise. I also understand that I can leave the exercise at any moment and that the sign does not deprive me of my legal rights. If you wish, you will be able to receive a copy of this document by writing an email to [experimentos@uniandes.edu.co](mailto:experimentos@uniandes.edu.co).

**Signed (write full name in the blank space),**

**CC.**

**of (city)**

I, José Alberto Guerra Forero (c.c. 80036052), of the Universidad de los Andes, certify that this information will be used confidentially and only for academic and educational purposes. I also certify that we will pay each participant the money earned during this exercise.

**Next**



**Instructions Stage 1: Activity 1**

In this Activity 1, each participant will be paired with somebody else who is participating in this experiment.

Each participant will be assigned one of two roles: Sender or Receiver. Each one of the two roles (Sender or Receiver) differs in the type of initial endowment received and in the decisions that will have to be made. The person whose role is Sender will be assigned 6 (six) Experimental Points (EP). The person whose role is Receiver will have an initial endowment of 0 (zero) EP.

The Sender will have to decide how much of his initial endowment he wants to give to a Receiver. Each EP sent to the Receiver will be multiplied by 3. Therefore, if the Sender decides to send 2 EP to the Receiver, the Receiver will get 6 (six) EP. If the sent amount were 6 (six) EP, the Receiver would get 18 (eighteen) EP. The Receiver does not make any decision. In other words, the Receiver gets the triplicated sent amount by the Sender and the Activity 1 ends.

In this Activity 1, you will make the decision in two rounds: in the round 1 you will be assigned one of the two roles and in the round two, the other role. If this Activity 1 is randomly chosen for your payment of the experiment, only one of the two rounds will determine your final payment. The selected round will also be randomly chosen.

**Next**

**Stage 1, Activity 1, Round 1.**

**Page for the Sender:**

**Stage 1, Activity 1, Round 1: Your decision.**

In this round you are the **Sender**. Please decide how many of your 6 points you want to send to the Receiver.

Send:

**Next**

**Page for the Receiver:**

**Stage 1, Activity 1, Round 1: Please wait.**

In this round you are the Receiver. Wait for the Sender to decide how much to send you.

**Once the Sender has sent points to the Receiver:**

**Announcement**

The round 1 has finished. Now we go to the round 2 where you will make decisions being the opposite role from the round 1.

**Next**

**Stage 1, Activity 1, Round 2.**

**In this round, players change roles.**

**Page for the Sender:**

**Stage 1, Activity 1, Round 2: Your decision.**

In this round you are the **Sender**. Please decide how many of your 6 points you want to send to the Receiver.

Send:

**Next**

**Page for the Receiver:**

**Stage 1, Activity 1, Round 2: Please wait.**

In this round you are the Receiver. Wait for the Sender to decide how much to send you.

**Once the Sender has sent points to the Receiver:**

**End: Activity 1, Stage 1.**

The round 2 has finished. This concludes Activity 1. Now we go to Activity 2.

**Next**

**Instructions Stage 1: Activity 2**

The decisions in this Activity 2 are similar to the decisions in the Activity 1. **The only difference in that the Receiver will have the possibility to send back part of the EP received.**

The Sender will have to decide how much of his initial endowment he wants to give to a Receiver. Each EP sent to the Receiver will be multiplied by 3. Therefore, if the Sender decides to send 2 EP to the Receiver, the Receiver will get 6 (six) EP. If the sent amount were 6 (six) EP, the Receiver would get 18 (eighteen) EP.

At the same time, the Receiver has to decide how many of the received EP wants to send back to the Sender.

In this Activity 2, you will make the decision in two rounds: in the round 1 you will be assigned one of the two roles and in the round two, the other role. If this Activity 1 is randomly chosen for your payment of the experiment, only one of the two rounds will determine your final payment. The selected round will also be randomly chosen.

**Next**

**Stage 1, Activity 2, Round 1.**

Sender and Receiver decide simultaneously.

**Page for the Sender:**

**Stage 1, Activity 2, Round 1: Your decision.**

In this round you are the **Sender**. Please decide how many of your 6 points you want to send to the Receiver.

Send:

**Next**

**Page for the Receiver:**

**Stage 1, Activity 2, Round 1: Your decision.**

You are the **Receiver**. Remember that the quantity of EP the Sender sends you is multiplied by 3. To illustrate, if you are sent 2 points you will receive 6. Taking that into account, before you know how many points the Sender sent you, we will like to know how many points you would send back to the Sender for each one of the points you could receive. Once we know how much the Sender sent you, we will consider the decision you made about how many points to send back to calculate your payment and the Sender payment.

How much would you send back to the Sender if he sends you 1 point. Remember that you can send any amount between 0 and 3:

How much would you send back to the Sender if he sends you 2 points. Remember that you can send any amount between 0 and 6:

How much would you send back to the Sender if he sends you 3 points. Remember that you can send any amount between 0 and 9:

How much would you send back to the Sender if he sends you 4 points. Remember that you can send any amount between 0 and 12:

How much would you send back to the Sender if he sends you 5 points. Remember that you can send any amount between 0 and 15:

How much would you send back to the Sender if he sends you 6 points. Remember that you can send any amount between 0 and 18:

**Next**

**Page that appears if either participant ends first**

**Stage 1, Activity 2, Round 1: Please wait**

Wait for the other participant to decide.



**Once Sender and Receiver decide:**

**Announcement**

The round 1 has finished. Now we go to the round 2 where you will make decisions being the opposite role from the round 1.

**Next**

**Stage 1, Activity 2, Round 2.**

Sender and Receiver decide simultaneously.

**Page for the Sender:**

**Stage 1, Activity 2, Round 2: Your decision.**

In this round you are the **Sender**. Please decide how many of your 6 points you want to send to the Receiver.

Send:

Next

**Page for the Receiver:**

**Stage 1, Activity 2, Round 2: Your decision.**

You are the **Receiver**. Remember that the quantity of EP the Sender sends you is multiplied by 3. To illustrate, if you are sent 2 points you will receive 6. Taking that into account, before you know how many points the Sender sent you, we will like to know how many points you would send back to the Sender for each one of the points you could receive. Once we know how much the Sender sent you, we will consider the decision you made about how many points to send back to calculate your payment and the Sender payment.

How much would you send back to the Sender if he sends you 1 point. Remember that you can send any amount between 0 and 3:

How much would you send back to the Sender if he sends you 2 points. Remember that you can send any amount between 0 and 6:

How much would you send back to the Sender if he sends you 3 points. Remember that you can send any amount between 0 and 9:

How much would you send back to the Sender if he sends you 4 points. Remember that you can send any amount between 0 and 12:

How much would you send back to the Sender if he sends you 5 points. Remember that you can send any amount between 0 and 15:

How much would you send back to the Sender if he sends you 6 points. Remember that you can send any amount between 0 and 18:

Next

**Page that appears if either participant ends first:**

**Stage 1, Activity 2, Round 2: Please wait**

Wait for the other participant to decide.

**Once Sender and Receiver decide:**

**Instructions Stage 2**

In this Stage you will have the following tasks:

- 1) You will have to answer a characterization survey.
- 2) You will have to read an online petition (that has been compiled from the site Change.org) and decide whether you want to sign it or not. **In case you want to sign it, we will ask you to tell us why.**

Consider that, unlike the previous stage, in this stage your decisions will not affect your experiment payment nor the other participants payment. All the decisions that you will make in this Stage 2 will not be revealed to the other participants.

Next

**In this Stage 2 there are two different commandments and two different signature numbers.**

**Order:**

**Order A:** They will sign the petition first and then they will complete the characterization survey.

**Order B:** they will complete the characterization survey first and then they will sign the petition.

**People That have signed the petition:**

N High: 21.370

N Low: 2.137

**X Alto corresponde al menor número de firmas de las tres peticiones con las que se hará el experimento. X Bajo es el 10% de X Alto.**

For each participant the order and the number of signatures are randomized separately.

**So, at the end, there are 4 treatment possibilities for each player:**

**N High, Order A**

**N High, Order B**

**N Low, Order B**

**N Low, Order A**

**This statement corresponds to the treatment N Low, Order B:**

### **Online Petition**

The online petition presented as follows was compiled directly from the web site Change. Org. The text was slightly changed in order to facilitate its lecture. Please read it carefully and decide if whether you want to sign it or not. In case you want to sign if, we will ask you to enter the web site of Change.org and fill out the form. Additionally, if you decide to sign it, **you will have to answer the question at the end of the page.**

Please note that, to this day, more than **1.725** people have signed the petition.

**Name of the petition: “Do you support the right to legitimate defense of yourself and your family?”**

Legal weapons users have a carrying permission acquired in accordance with the law by fulfilling a series of requirements, consequently we appeal to the principles of good faith in order to abolish the presidential ban on weapons carrying.

The imposition of requirements to acquire firearms is established by the law and the legal weapons users, fully satisfy with a series of rigorous filters.

It is clear that that criminals are encouraged when attacking a disarmed victim because the know they are not at risk; logic indicated that as there are fewer armed citizens, the danger to criminals decreases. The restriction on weapons carrying has not only demonstrated that homicide rates do not decrease but also that other crime rates increase.

By reducing the legal weapons carrying, the citizen is immediately left at a disadvantage compared to the criminal, because the citizen is not only allowed to employ all the possibilities of the legitimate self-defense but also any possibility of exercising the right of self- defense to third parties and meanwhile the crime of omission of duty to help is obligatory incurred.

It has been is statistically proven that nearly 98% of the homicides with firearms in Colombia were made with illegal weapons and it does not make sense to think that the statistics are going to decrease at the expense of the weapons that are carried by the law compliant citizens.

### **End of the petition.**

1. Do you want to sign the petition?

Yes

No

Remember:

- If you answer Yes to sign the petition, on the next page you will have to express your reasons, in a box, so that you could advance in the activity.
- If you answer No to sign the petition, it is not necessary to write anything in order to advance in the activity.

**This page is the only one that changes for the Firework petition. Everything else stays the same. For more information, check the word document CAP\_T2.**

**If the player decides to sign the petition:**

**Confirmation**

You indicated that you WANTED to sign the petition **“Do you support the right to legitimate defense of yourself and your family?”**

Please, insert your reasons to do it in the following box:

**Next**

**If the player decides not to sign the petition:**

**Confirmation**

You indicated that you DID NOT wanted to sign the petition **“Do you support the right to legitimate defense of yourself and your family?”**

**Next**

### **Characterization survey**

Please answer the following questions:

1. Would you say that most people can be trusted or that one can never be careful enough in interacting with others?
  - Most people can be trusted
  - One can never be careful enough in interacting with others
  
2. How much trust do you have in the people you know?
  - None
  - Little
  - Something
  - Many
  
3. How much trust do you have in the National Government?
  - None
  - Little
  - Something
  - Many
  
4. How much trust do you have in the Republic Congress?
  - None
  - Little
  - Something
  - Many
  
5. How much trust do you have in the Judicial Body?
  - None
  - Little
  - Something
  - Many

**Next**

**Bold instructions are specific for treatment T2**

**Instructions Stage 3: Activity 3**

This Activity 3 will be similar to the Activity 1 from Stage 1. This means that each participant is paired with someone who is participating in this experiment.

**Your partner in this activity may or may not have signed the petition. Before you know this, we want to know which are your decisions in both cases. In other words, which are your decisions if your partner signed the petition and which are your decisions if your partner did not sign the petition. When this Stage 3 finishes we will let you know if your partner had signed or not. After that, we will calculate the payment of this Stage 3 based on your relevant decisions. That is, if your matched with someone who signed the petition we will consider the decisions you made whether your partner had signed the petition. However, if you are matched with someone who did not signed the petition, we will consider the decisions you made whether your partner had not signed the petition.**

Please remember that each participant will be assigned one of two roles: Sender or Receiver. Each one of the two roles (Sender or Receiver) differs in the type of initial endowment received and in the decisions that will have to be made. The person whose role is Sender will be assigned 6 (six) Experimental Points (EP). The person whose role is Receiver will have an initial endowment of 0 (zero) EP.

The Sender will have to decide how much of his initial endowment he wants to give to a Receiver. Each EP sent to the Receiver will be multiplied by 3. Therefore, if the Sender decides to send 2 EP to the Receiver, the Receiver will get 6 (six) EP. If the sent amount were 6 (six) EP, the Receiver would get 18 (eighteen) EP. The Receiver does not make any decision. In other words, the Receiver gets the triplicated sent amount by the Sender and the Activity 1 ends.

As in Activity 1 from Stage 1, in this Stage 3, Activity 3, you will make the decision in two rounds: in the round 1 you will be assigned one of the two roles and in the round two, the other role. If this Activity 1 is randomly chosen for your payment of the experiment, only one of the two rounds will determine your final payment. The selected round will also be randomly chosen.

**Next**



**Stage 3, Activity 3, Round 1.**

**Page for the Sender:**

**Stage 3, Activity 3, Round 1: Your decision.**

In this round you are the **Sender**.

Please decide:

How many of your 6 points you want to send if the **Receiver SIGNED** the petition:

How many of your 6 points you want to send if the **Receiver DID NOT** sign the petition:

**Next**

**Page for the Receiver:**

**Stage 3, Activity 3, Round 1: Please wait.**

In this round you are the Receiver. Wait for the Sender to decide how much to send you.

**Once the Sender has sent points to the Receiver:**

**Announcement**

The round 1 has finished. Now we go to the round 2 where you will make decisions being the opposite role from the round 1.

**Next**

**Stage 3, Activity 3, Round 2.**

**In this Round, player change roles.**

**Page for the Sender:**

**Stage 3, Activity 3, Round 2: Your decision.**

In this round you are the **Sender**.

Please decide:

How many of your 6 points you want to send **if the Receiver SIGNED the petition:**

How many of your 6 points you want to send **if the Receiver DID NOT sign the petition:**

**Next**

**Page for the Receiver:**

**Stage 3, Activity 3, Round 2: Please wait.**

In this round you are the Receiver. Wait for the Sender to decide how much to send you.

**Once the Sender has sent points to the Receiver:**

**End: Activity 3, Stage 3.**

The round 2 has finished. This concludes Activity 3. Now we go to Activity 4.

**Next**

**Instructions Stage 3: Activity 4**

The decisions in this Activity 4 are similar to the decisions in the Activity 2 from Stage 1. This means that the Receiver will have the possibility to send back part of the EP received.

The Sender will have to decide how much of his initial endowment he wants to give to a Receiver. Each EP sent to the Receiver will be multiplied by 3. Therefore, if the Sender decides to send 2 EP to the Receiver, the Receiver will get 6 (six) EP. If the sent amount were 6 (six) EP, the Receiver would get 18 (eighteen) EP.

At the same time, the Receiver has to decide how many of the received EP wants to send back to the Sender.

In this Activity 2, you will make the decision in two rounds: in the round 1 you will be assigned one of the two roles and in the round two, the other role. If this Activity 1 is randomly chosen for your payment of the experiment, only one of the two rounds will determine your final payment. The selected round will also be randomly chosen.

**Next**

**Stage 3, Activity 4, Round 1.**

Sender and Receiver decide simultaneously.

**Page for the Sender:**

**Stage 3, Activity 4, Round 1: Your decision.**

In this round you are the **Sender**.

Please decide:

How many of your 6 points you want to send **if the Receiver SIGNED the petition:**

How many of your 6 points you want to send **if the Receiver DID NOT sign the petition:**

**Next**

**Page for the Receiver:**

**Stage 3, Activity 4, Round 1: Your decision**

You are the **Receiver**. Remember that the quantity of EP the Sender sends you is multiplied by 3. To illustrate, if you are sent 2 points you will receive 6. Taking that into account, before you know how many points the Sender sent you, we will like to know how many points you would send back to the Sender for each one of the points you could receive. Once we know how much the Sender sent you, we will consider the decision you made about how many points to send back to calculate your payment and the Sender payment.

**How much would you send back to the Sender if he sends you 1 point. Remember that you can send any amount between 0 and 3:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 2 points. Remember that you can send any amount between 0 and 6:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 3 points. Remember that you can send any amount between 0 and 9:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 4 points. Remember that you can send any amount between 0 and 12:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 5 points. Remember that you can send any amount between 0 and 15:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 6 points. Remember that you can send any amount between 0 and 18:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**Next**

**Page that appears if either participant ends first:**

**Stage 3, Activity 4, Round 1: Please wait**

Wait for the other participant to decide.



**Once Sender and Receiver decide:**

**Announcement**

The round 1 has finished. Now we go to the round 2 where you will make decisions being the opposite role from the round 1.

**Next**

**Stage 3, Activity 4, Round 2.**

**In this Round, players change roles.**

**Sender and Receiver decide simultaneously.**

**Page for the Sender:**

**Stage 3, Activity 4, Round 2: Your decision.**

In this round you are the **Sender**.

Please decide:

How many of your 6 points you want to send **if the Receiver SIGNED the petition:**

How many of your 6 points you want to send **if the Receiver DID NOT sign the petition:**

**Next**

**Page for the Receiver:**

**Stage 3, Activity 4, Round 2: Your decision.**

You are the **Receiver**. Remember that the quantity of EP the Sender sends you is multiplied by 3. To illustrate, if you are sent 2 points you will receive 6. Taking that into account, before you know how many points the Sender sent you, we will like to know how many points you would send back to the Sender for each one of the points you could receive. Once we know how much the Sender sent you, we will consider the decision you made about how many points to send back to calculate your payment and the Sender payment.

**How much would you send back to the Sender if he sends you 1 point. Remember that you can send any amount between 0 and 3:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 2 points. Remember that you can send any amount between 0 and 6:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 3 points. Remember that you can send any amount between 0 and 9:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 4 points. Remember that you can send any amount between 0 and 12:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 5 points. Remember that you can send any amount between 0 and 15:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**How much would you send back to the Sender if he sends you 6 points. Remember that you can send any amount between 0 and 18:**

If the Sender DID NOT sign the Petition:

If the Sender SIGNED the Petition:

**Next**

**Page that appears if either participant ends first:**

**Stage 3, Activity 4, Round 1: Please wait**

Wait for the other participant to decide.

Once all players arrive. Bold text changes depending on partner's signing decision

## Results from all the activities

In the Stage 3 that you have just played, you were matched with a person who, as you, neither signed the petition.

### STAGE 1: ACTIVITY 1

1. In the Round 1 you were the Sender and of  $x$  points, you sent  $x$  points to the Receiver. Therefore, if this Activity 1 and this Round 1 were chosen for your final payment, your payment would be  **$x$  points**.
2. In the Round 1 you were the Receiver. The Sender sent you  $x$  points. That amount was multiplied by 3 and your received  $x$  points. Therefore, if this Activity 1 and this Round 2 were chosen for your final payment, your payment would be  **$x$  points**.

### STAGE 1: ACTIVITY 2

1. In the Round 1 you were the Sender and of  $x$  points, you sent  $x$  points to the Receiver and the Receiver sent you back  $x$  points. Therefore, if this Activity 2 and this Round 1 were chosen for your final payment, your payment would be  **$x$  points**.
2. In the Round 1 you were the Receiver. The Sender sent you  $x$  points. That amount was multiplied by 3 and your received  $x$  points. Of that amount you chose to send back  $x$  points. Therefore, if this Activity 2 and this Round 2 were chosen for your final payment, your payment would be  **$x$  points**.

### STAGE 3: ACTIVITY 3

3. In the Round 1 you were the Sender and of  $x$  points, you sent  $x$  points to the Receiver. Therefore, if this Activity 3 and this Round 1 were chosen for your final payment, your payment would be  **$x$  points**.
4. In the Round 1 you were the Receiver. The Sender sent you  $x$  points. That amount was multiplied by 3 and your received  $x$  points. Therefore, if this Activity 3 and this Round 2 were chosen for your final payment, your payment would be  **$x$  points**.

### STAGE 3: ACTIVITY 4

3. In the Round 1 you were the Sender and of  $x$  points, you sent  $x$  points to the Receiver and the Receiver sent you back  $x$  points. Therefore, if this Activity 4 and this Round 1 were chosen for your final payment, your payment would be  **$x$  points**.
4. In the Round 1 you were the Receiver. The Sender sent you  $x$  points. That amount was multiplied by 3 and your received  $x$  points. Of that amount you chose to send back  $x$  points. Therefore, if this Activity 4 and this Round 2 were chosen for your final payment, your payment would be  **$x$  points**.

Next

**Final payment**

The Activity  $x$  and the round  $y$  were chosen randomly for your payment. In the round  $y$  you were the Sender/Receiver and you sent/received  $x$  points (...). Therefore, your payment in EP is  **$x$  points**.

**Next.**

**Payment**

You got:  $X \text{ points} * \$1000 = X000 \text{ COP}$

In total, considering your participation payment (\$10000), you got X000 COP

Before proceeding with your payment, please answer the survey in the following pages

**Next**

### Opinion survey

Finally, please answer the following questions:

1. Please indicate your gender:
  - Masculine
  - Feminine
  - Other
  
2. Where were you born? (Municipality, Department)
3. What semester are you currently studying?
4. When were you born? (Day, Month, Year):
5. How old are you?
6. According to your utility bills, what is the economic stratum of the house in which you live?
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - Do not know/Do not answer
  
7. How much are approximately your weekly expenses (in pesos)?
8. How do you finance your studies (mark all that apply)?
  - Ser Pilo Paga scholarship
  - Another partial scholarship
  - Another total scholarship
  - Bank loan
  - ICETEX loan
  - Familiar loan
  - Familiar resources
  - Work
  - Other
  
9. Which is your religión?
  - Catholic
  - Christian
  - Jewish
  - Muslim
  - Not a believer
  - Other
  - Prefer not to say
  
10. In politics, people usually talk about left and right. On an ideology scale from 1 to 5 where 1 is left and 5 is right, where would you classify yourself?



- 1
- 2
- 3
- 4
- 5

11. From 1 to 5, how important are politics in your life?

- 1
- 2
- 3
- 4
- 5

12. From 1 to 5, how important is religion in your life?

- 1
- 2
- 3
- 4
- 5

13. From 1 to 5, how valuable do you think the petition motive is?

- 1
- 2
- 3
- 4
- 5

14. How much do you trust that online petitions potentially improve your well-being?

- None
- Little
- Something
- Many

15. Do you think that signing the petition makes a difference?

- Yes
- No

16. Imagine that we will give a prize of \$50,000 to the winner of the next game. You have to choose a number between 0 and 100. The winner will be the one whose chosen number is closer to  $2/3$  (two thirds) of the mean of all participant's chosen numbers. Which number would you choose?

17. How do you see yourself: Are you generally a person that is completely prepared to take risks or are you a person that tries to avoid taking risks? Please mark in some part of the scale where 0 means "Not at all willing to take risks" and 10 means "Very willing to take risks":

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

**Next**

1. To finish, we will like to know: Which do you think is the objective of the experiment?

2. In the Stage 3, How were your decisions according to your partner signing decision?

- The same
- I decided to send more if my partner signed the petition
- I decided to send less if my partner signed the petition

**Next**

**(Receipt and payment instructions)**

**Final message if the player did not sign the petition:**

**Final Message**

The experiment has finished, you will be receiving your payment soon. You can exit the experiment now and leave the virtual room.

If you have questions or doubts, please write to [experimentos@uniandes.edu.co](mailto:experimentos@uniandes.edu.co)

**¡Thank you very much for your participation!**

**Final message if the player signed the petition:**

**Final Message**

The experiment has finished, you will be receiving your payment soon. You can exit the experiment now and leave the virtual room.

If you have questions or doubts, please write to [experimentos@uniandes.edu.co](mailto:experimentos@uniandes.edu.co)

**¡Thank you very much for your participation!**

Remember to visit the website Change.org and search the petition “Do you support the right to legitimate defense of yourself and your family?” to sign it personally.

You can find it in the following link:

[https://www.change.org/p/congreso-de-la-republica-de-colombia-apoyas-el-derecho-a-la-leg%C3%ADtima-defensa-tuya-y-tu-familia?source\\_location=petitions\\_browse](https://www.change.org/p/congreso-de-la-republica-de-colombia-apoyas-el-derecho-a-la-leg%C3%ADtima-defensa-tuya-y-tu-familia?source_location=petitions_browse)

## C Experimental Instructions: Fireworks online petition

### Fireworks Petition

The pages of the rest of the game are the same for each treatment. For more information, check the other treatments instructions.

#### Online Petition

The online petition presented as follows was compiled directly from the web site Change. Org. The text was slightly changed in order to facilitate its lecture. Please read it carefully and decide if whether you want to sign it or not. In case you want to sign if, we will ask you to enter the web site of Change.org and fill out the form. Additionally, if you decide to sign it, **you will have to answer the question at the end of the page.**

Please note that, to this day, more than **2.137** people have signed the petition.

#### Name of the petition: **Let's say #NoToFireworks for the life and peace of our animals!**

Did you know that dogs listen 3 times more than us? Could you imagine what means to them the blast of fireworks? It is a real torture.

The saddest thing is that many people do not mind exposing animals to such agony, just to not sacrifice their "fun" in December Holidays. How terrible!

We wish more people were conscious of what they do and how it is affecting others' life, including animals.

Consequently, with this petition I want to make thousands of Colombians aware so they commit themselves with me to say #NoToFireworks in order to save the life of thousands of animals this December.

Together we can prevent our animals from dying, having heart attacks, getting sick or suffering due to fireworks. It is our responsibility to take care of them and do everything we can to guarantee their well-being.

No more allowing the price of Christmas celebrations with fireworks to be our animals life.

Sing and share this petition to say #NoToFireworks.

#### End of the petition.

1. Do you want to sign the petition?

- Yes
- No

Remember:

- If you answer Yes to sign the petition, on the next page you will have to express your reasons, in a box, so that you could advance in the activity.
- If you answer No to sign the petition, it is not necessary to write anything in order to advance in the activity.

**Next**

## D Experimental Instructions: Strikes

### Strikes treatment

#### The National Strike in Colombia

Since last April 28, 2021 different groups of dissatisfied citizens with the government of Ivan Duque called for a National Strike in Colombia. The trigger of the social movements was the tax reform proposed by the government, which was eventually withdrawn in response to the protests, but many analysts agree that the social discontent has been coming since the end of 2019 and that the covid 19 pandemic exacerbated the population's complaints.

Since the beginning of the National Strike, protestors have gone out to the streets of different cities with mostly peaceful expressions that, at nightfall, lead to clashes with the Mobile Anti-Riot Squad of the National Police. These demonstrations have taken the form of citizen marches, civic sit-ins, blockades of access roads to cities and populated centers, and points of resistance where participants exercise territorial control.

Did you participate in person in any demonstration (marches, sit-ins, blockades or points of resistance) in support of the National Strike?

Yes

No

Remember: your answer will be completely confidential, that means that your answer could not be associated with your personal data.

**If the player decides to sign the petition:**

**Confirmation**

You indicated that you PARTICIPATED in person in any demonstration in support of the **National Strike**.

**Next**

**If the player decides not to sign the petition:**

**Confirmation**

You indicated that you DID NOT participate in person in any demonstration in support of the **National Strike**.

**Next**