

DISCUSSION PAPER SERIES

IZA DP No. 14335

**How Does It Feel to Be Part of the
Minority? Impacts of Perspective-Taking
on Prosocial Behaviors**

Marisol Rodríguez Chatruc
Sandra V. Rozo

APRIL 2021

DISCUSSION PAPER SERIES

IZA DP No. 14335

How Does It Feel to Be Part of the Minority? Impacts of Perspective-Taking on Prosocial Behaviors

Marisol Rodríguez Chatruc

Inter-American Development Bank

Sandra V. Rozo

USC Marshall School of Business and IZA

APRIL 2021

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ABSTRACT

How Does It Feel to Be Part of the Minority? Impacts of Perspective-Taking on Prosocial Behaviors*

Can online experiences that illustrate the perspective of the everyday life of a minority group improve behaviors of the dominant towards the minority group? We explore the case of natives and refugees by randomly assigning 850 natives to: i) an online game that immerses natives in the life decisions of refugees and ii) a real-life documentary about the migration process of refugees. Both treatments effectively improve altruism and reduce prejudice from natives towards migrants. The impacts of both treatments are not statistically different in any of the other outcomes that we examine.

JEL Classification: D72, F2, O15, R23

Keywords: migration, redistribution, trust

Corresponding author:

Sandra V. Roza
USC Marshall School of Business
701 Exposition Boulevard
Los Angeles, CA 90089
USA
E-mail: sandra.roza@marshall.usc.edu

* We are grateful to Tatiana Hiller Zapata and Camila Cortés for their excellent research assistance. We thank Mariana Blanco and Andrés Zambrano from the Experimental and Behavioral Economics Laboratory at Universidad del Rosario (REBEL) for their support in the implementation of this project. We are also grateful to Gastón Cleiman for developing the interactive applications of this project and to producers of the documentary "Walking for Freedom" for agreeing to participate and formatting the movie. Finally, we appreciate comments from Salma Mousa, Pablo Bachelet, Adela Barrio, and Marcela Colmenares and administrative support from Alejandra Holguin and Carolina Aclan. USC IRB approval UP-20-00522 and Universidad del Rosario IRB Approval CS239. This study is registered in the AEA RCT Registry and the unique identifying number is: AEARCTR-0006190. The views and interpretations in this paper are strictly those of the authors and should not be attributed to the Inter-American Development Bank, its executive directors, or its member countries. Rodríguez Chatruc acknowledges financial support from the Inter-American Development Bank for this project.

I Introduction

The desire for redistribution is typically lower across racial, ethnic, religious, and nationality groups than within these groups (Alesina et al., 2011; Stichnoth and Van der Straeten, 2013). In fact, incremental racial diversity reduces sentiments of redistribution and increases segregation (Alesina et al., 1999; Luttmer, 2001; Fong and Luttmer, 2009; Hungerman, 2009; Boustan, 2010). These biases have been commonly exploited in the political arena to build support for anti-immigration agendas, thereby increasing prejudice and exclusion in regions with large inflows of migrants (Tabellini, 2020; Dahlberg et al., 2012).

Experimental evidence suggests that attitudes toward a nondominant group can be improved by participating in virtual reality activities in which individuals adopt the role of the nondominant group (Behm-Morawitz et al., 2016; Herrera et al., 2018; Loon et al., 2018), or by watching videos about the experiences of the discriminated group (Sobel et al., 2011; Batson et al., 2015). Evidence about the effects of conveying information on prejudice are more mixed (Adida et al., 2018; Alesina et al., 2018; Grigorieff et al., 2018). Most of the existing empirical evidence, however, has been collected through experiments in which subjects perform the interventions in-person or inside a lab. The potential scalability of these types of interventions requires that they be proven effective online.

We examine the effectiveness of two perspective-taking online experiences that depict the lives of forced migrants in improving prosocial behaviors and reducing prejudice toward those populations. Particularly, we compare the relative effectiveness of participating in an interactive online game in which users step into the life of a migrant and watching an online, real-life documentary about the migration journey of forced migrants. We also study the mediating role of empathy and perspective-taking as possible drivers of the observed changes in prosocial behaviors and attitudes toward migrants.

Our experiment was offered to Colombian nationals living in Bogotá between October and November of 2020. Colombia is currently the main recipient of Venezuelan forced migrants fleeing from the humanitarian crisis. By 2020, nearly 1.8 million Venezuelans were living in Colombia, representing a population shock of approximately 3.5 percent of the country's population. Bogotá is the main recipient city, accounting for almost 20 percent of the country's Venezuelan population. Most of these migrants arrived between 2016 and 2020, after the intensification of the Venezuelan crisis. As such, the individuals in our experiment had recently witnessed and experienced the economic and political impacts of a massive migration wave to their communities of residence.

We randomly assigned 850 participants to three groups. The first group was treated with the interactive game. We called this treatment EOZ for its Spanish name *En Otros Zapatos*, which translates into In Someone Else's Shoes.¹ In

¹EOZ is a platform created by the Inter-American Development Bank that aims at promoting empathy toward marginalized groups and under-represented minorities by inviting users to step into the shoes of those individuals.

the game, the user assumes the role of a female Venezuelan migrant. During the game, which lasts 20 to 40 minutes, the user reads the migrant's story, reads and hears messages from her relatives and friends, writes messages to her family, and most importantly, makes decisions in the migrant's place. Fig. SI of the supplementary materials includes sample images of the EOZ interactive experience. The second group of participants was assigned to watch a documentary film entitled *Walking for Freedom*. The film depicts the perils and struggles of Venezuelan migrants crossing the border on foot from Venezuela to Colombia as they escape the dramatic humanitarian crisis. The movie features the personal stories of migrant men, women, and children as well as humanitarian workers who left everything behind in Venezuela to endure an arduous migration process. The film conveys that forced migration separates families and that many parents migrate searching for a better future for their children. The video lasts 6:39 minutes.

The last group of individuals was assigned to a control group.

Participants were recruited by an email in which they were invited to participate in online experiments in exchange for a monetary incentive. The invitation did not offer any information about the specific experiment. A total of 2,132 individuals were invited to register for the experiment, and a total of 870 individuals registered successfully to the program and showed up to complete the activities. Of these 870 individuals, 848 completed the activity. The 2.3 percent attrition rate was predominantly explained by connectivity and technology issues. To register for the experiment, individuals needed to be older than 18 years of age, be available for 1 hour to complete the activity and answer a survey, have a computer with a stable internet connection to take part in the session, and have access to an online financial platform to receive the compensation. The compensation could be received through three different, commonly used financial platforms in Colombia.

Once the participants registered, they were randomized to one of the three groups and were sent a Zoom link to connect to an online meeting. The meetings were carried out by treatment groups to verify completion and provide support for technical issues (48 sessions were carried out). The sessions had different schedules to accommodate respondents' availability. The average size of each Zoom virtual meeting was 18 participants. Once individuals connected to the meeting, they were given instructions and had the opportunity to chat with the technician if they had technical problems. Individuals in the meetings did not interact with or see each other. The Zoom session was created to support individuals in case they had technical difficulties, to confirm that they executed the activities and answered the survey, and to collect the bank account information to send the compensation. Once respondents completed the activity and answered the survey, they received a compensation of approximately three dollars. The average duration of each session was one hour.

After the intervention, all participants answered a survey. The survey instrument is presented in the supplementary materials. Our study's main outcomes of analysis are altruism, trust, attitudes toward migrants, perspective-taking,

and empathy. The survey collected additional information on basic sociodemographic characteristics, attention checks for EOZ and the video, level of misinformation with respect to the Venezuelan population living in Colombia, and measures of social desirability bias. Results

We documented three main findings. First, both treatments effectively improved altruism and trust toward migrants. Particularly, treatment recipients made higher charity donations to an organization that helps migrants and showed more support for policies that assist migrants, relative to the control group. Importantly, we did not observe changes in charity donations to a non-migrant organization that helps other vulnerable populations. Specifically, the treatments increased the probability of donating to a charity that supports Venezuelan migrants by approximately 11 percent, and participants in these groups donated approximately 7 to 8 percent of the funds they were offered to support migrants. We also documented large improvements of approximately 40 percent, relative to the control group, in respondents' political support for public policies that increase spending to assist migrants (Figure I). Although we only documented statistically significant effects of EOZ on recipients' trust, the effects of the video were also positive on trust toward migrants, but less precisely estimated. Specifically, EOZ treatment recipients reported that they could rely on other unknown individuals 0.18 standard deviations more relative to the control group. Additionally, the EOZ treatment was not only effective in increasing general trust (toward anyone), but also, specifically, toward Venezuelan migrants. Recipients of the EOZ treatment reported substantially higher trust toward Venezuelan migrants, with reported effects 0.29 standard deviations higher than the control group. The point estimates of the effects of the video on trust for the same two outcomes were also positive but less precise.

Second, both treatments effectively reduced prejudice toward migrants. In particular, treated participants were less likely to agree with the statement that "Venezuelans are poor due to lack of self-effort" (0.25 standard deviations more relative to the control group). Additionally, EOZ treatment recipients were more likely to agree with the statement that "Immigrants contribute to the country more than what they take." The estimates of the effect of the video on that outcome were also positive but less precise.

Third, we were not able to distinguish significant statistical differences between both treatments in any of the outcomes we examined.

To examine the role of changes in empathy and perspective-taking as drivers of the changes in prosocial behaviors, we measured empathy and perspective-taking using two subscales from the Interpersonal Reactivity Index (Davis, 1983). Our results strongly support the idea that the effects of the EOZ treatment are driven by changes in perspective-taking by treatment recipients. The effects of the video on perspective-taking were also positive, but not statistically significant. We also documented positive effects of the video on the empathy scale, but they were also not statistically significant. All in all, the estimated coefficients suggest that EOZ effectively improved perspective-taking (but not

empathy), whereas the video seemed to positively affect perspective-taking and empathy, albeit less precisely.

We carried out a number of robustness tests to verify the validity of our results. These exercises included verifying the success of the randomization between groups, accounting for sociodemographic variables that we collected in all our estimations, controlling for fixed effects by Zoom sessions, and controlling for the social desirability bias of respondents.

We also tested for the heterogeneous effects of the interventions on prosocial behaviors by student status and gender. When estimating heterogeneous effects of the program by student status, we found that most of our observed effects were driven by the sample of students. We speculate that this was the case because students are younger and closer to ages 18 to 25, a time in life when individuals are more prone to changes in their prosocial behaviors ([Giuliano and Spilimbergo, 2014](#)). Our results stratifying the sample by gender are mixed, suggesting that men respond to the treatments by increasing donations, whereas women respond to the treatments by increasing their trust and reducing their prejudice toward migrants.

To the extent that the treatments that we examined were effective in improving prosocial behaviors and reducing prejudice toward migrants, these types of interventions could complement other social programs that aim at integrating migrants into hosting communities. The implementation of similar programs on a large scale could increase social cohesion and reduce xenophobia in countries receiving large migration flows at a relatively low cost.

Relation to the literature: We contribute to four strands of the literature. The first group of studies examines the relationship between cultural fragmentation and redistribution.² A general result of these body of work is that the desire for redistribution is typically lower across racial, ethnic, religious, and nationality groups than within these groups.³ Concerning the relation between migration and redistribution, [Dahlberg et al. \(2012\)](#) and [Tabellini \(2020\)](#) document lower support for redistribution when migration is higher. The negative association between these variables is driven by countries with relatively large welfare states and by respondents at the center or at the right of the political spectrum. The effects are also stronger when immigrants are less skilled than natives and experience more residential segregation ([Mayda, 2006](#); [Alesina et al., 2019](#)). Recent evidence also suggests that the negative misperceptions held about the characteristics of migrants in receiving countries reduce native's support for redistribution ([Alesina et al., 2018](#)).

The second body of research uses online experiments to study the impacts of conveying information on preferences for redistribution and on attitudes towards migration.⁴ Three recent papers are closest to our work. [Alesina et al.](#)

²For a careful review of these papers please see [Alesina et al. \(2011\)](#) and [Stichnoth and Van der Straeten \(2013\)](#).

³See [Alesina et al. \(1999\)](#), [Luttmer \(2001\)](#), [Fong and Luttmer \(2009\)](#), [Hungerman \(2009\)](#), [Fong and Luttmer \(2011\)](#), and [Boustan \(2010\)](#), for examples on how incremental racial diversity reduces sentiments of redistribution and increases segregation.

⁴See [Cruces et al. \(2013\)](#); [Kuziemko et al. \(2015\)](#); [Charité et al. \(2015\)](#); [Karadja et al. \(2017\)](#); [Alesina et al. \(2018\)](#); [Barrera et al. \(2020\)](#) for recent works in this area.

(2018) use standardized international surveys to examine perceptions and attitudes towards immigration and their susceptibility to priming-salience, information, and anecdotal information. The authors document large misperceptions about the number and characteristics of migrants, negative redistribution effects to priming respondents to think about migration, and that information is largely ineffective in changing stereotypes about migrants. Grigorieff et al. (2018) study whether providing factual information about migration affects people's attitudes towards migrants in the United States. They document improvements on attitudes towards migrants, although providing information does not change policy preferences regarding immigration. Finally, Haaland and Roth (2020) find that providing subjects with information about the results from research which shows no adverse labor market impacts of migration can shift both attitudes and behaviors towards low-skilled immigrants in a more positive way.

The third group of studies is grounded in psychology and uses experimental laboratory variation to examine how empathy towards a non-dominant group can be affected with different interventions such as providing information (Adida et al., 2018), engaging in activities of virtual reality where individuals take the role of a non-dominant group (Behm-Morawitz et al., 2015; Herrera et al., 2018, and Loon et al., 2018) or watching videos about the experiences of the non-dominant group and the consequences of discrimination (Sobel et al., 2011, and Batson et al., 2015). In general, these studies document positive effects of activities with higher levels of perspective-taking such as virtual reality or videos in improving empathy towards the out-group and in increasing the probability of engaging in inclusive behaviors.

The last group of studies centers on the determinants of trust. Variation in trust levels depend largely on individuals' context and culture. This makes it difficult to isolate the drivers of trust and reciprocity. However, perceptions and expectations about the behavior of others have been suggested to be main drivers of trust (Cardenas and Carpenter, 2009). In the context of immigration, studies that analyze trust and reciprocity between natives and immigrants have mixed results. For example, Dutch natives trust and reciprocate less to immigrants that come from non-western countries relative to natives (Cettolin and Suetens, 2019). In contrast, when immigrants have similar cultural background such as language, culture, and religion, trust from natives to migrants might be higher. For instance, Egyptian natives show higher levels of trust and altruism towards Syrian immigrants than they show to other natives (Hassan et al., 2019).

We contribute to the literature by first examining the effects of perspective-taking online experiences that depict the lives of vulnerable populations (migrants in our case), on improving prosocial behaviors (such as altruism and trust) and reducing prejudice towards those groups. Second, we compare the relative effectiveness of an interactive game and a real-life documentary in improving those outcomes. The rationale for comparing the effectiveness of both treatments is that from the point of view of the participant, the interactive game allows her to step into the shoes of a migrant and requires her to actively engage by making decisions and writing messages and, as such, individuals

might be more attentive to the information they receive. In contrast, the video is a more passive way of receiving the information as it does not require interactions. The video, however, allows participants to see real-life migrants and hear directly from them about their situations, whereas the interactive game is a fictional story. Third, we study the mediating role of empathy and perspective-taking as possible drivers of the observed changes in altruism and trust. Fourth, we examine the heterogeneous effects of the treatments by student status and gender.

To the extent that the treatments that we examine are effective in improving prosocial behaviors and reducing prejudice towards migrants, these types of interventions could complement other social programs that aim at integrating migrants in hosting communities. The implementation of similar programs at a large scale could help increase social cohesion and reduce xenophobia in countries receiving large migration flows.

II The Experiment

We randomly assigned 850 participants to three possible groups described below.⁵ After receiving the treatment, each participant responded a survey. The three groups were:

1. **Online Interactive Game:** the first group of participants was assigned to *En Otros Zapatos* (EOZ), an online interactive game. EOZ is a platform created and supported by the Inter-American Development Bank that aims at promoting empathy towards marginalized groups and underrepresented minorities by inviting users to step into the shoes of those individuals. The website is open to the public and allows users to participate in several interactive stories.⁶ For this experiment, we used a new story of a Venezuelan migrant moving to Colombia. In the game, the user takes the role of "Mile Rodríguez", a female Venezuelan migrant. In her shoes, the user makes decisions throughout her migration process to Colombia. During the game, which lasts 20 to 40 minutes, the user reads the story of "Mile", reads and hears messages from her relatives and friends, writes messages to her family, and most importantly, makes decisions on her behalf. For example, the user firsts decides her city of arrival in Colombia, and then decides where to stay, where to work, etc. Each decision takes the user into an alternative life path that has been inspired by real-life experiences of Venezuelan migrants living in Colombia. Figure A.I of the appendix includes sample images of the EOZ interactive game.

2. **Video:** Participants assigned to this treatment arm watch the short film "Walking for Freedom". The film is a

⁵In our pre-analysis plan we originally intended to recruit 600 participants, yet actual expenditures were lower than expected and we were able to increase the sample size in 270 individuals. The sample was purposely increased to balance gender in the EOZ treatment arm as more women registered and showed up for the activities throughout the program implementation and we wanted the sample stratified by gender as per our pre-analysis plan.

⁶For more details, visit <https://enotrozapatos.iadb.org/>.

real-life documentary that depicts the perils and struggles of Venezuelan migrants that cross the border on foot from Venezuela to Colombia escaping the dramatic humanitarian crisis. The movie shows the personal stories of men, women, children, and humanitarian workers who left everything behind and went through an arduous migration process. A couple of important messages that emerge from the film are that forced migration separates families and that many parents migrate searching for a better future for their children. The video lasts 6:39 minutes.

3. **Control Group:** The last group was assigned to a control group that answered the survey without doing any previous activity.

II.1 Recruitment and Randomization

The experiment was conducted at the Experimental and Behavioral Economics Lab of Universidad del Rosario in Colombia (REBEL, for its Spanish acronym). Though initially the experiment was going to be conducted physically at the laboratory, due to the COVID-19 pandemic and the closure of the University campus, it was conducted online. Participants were recruited by an email in which they were invited to participate in online experiments in exchange of a monetary incentive. The invitation did not offer any information about the specific experiment. Subjects invited to the program were part of the student pool list of REBEL, which includes students of all ages (both undergraduate and graduates) and disciplines in the most important universities of Bogotá.⁷ The students are regularly invited to the behavioral lab to be part of experiments. Invitations to non-students were sent to all the employees of Universidad del Rosario and other partner public institutions such as the Colombian Central Bank. The invitation e-mail specified that it was possible to forward the invitation to relatives or friends. A total of 2,132 individuals were invited to register to the experiment and all activities were executed online between October and November of 2020. A total of 870 individuals registered successfully to the program and showed up to complete the activities. Of these total, 848 completed the activity. The 2.3% attrition rate was mostly explained by connectivity and technology issues.

The sample was stratified by gender and student status. In our pre-analysis plan we intended to stratify by gender only and have only 600 participants. However, more women registered and subsequently showed up for the online experiments. As such, in the middle of the program implementation, when the gender unbalance was noticed, we increased the sample size for the EOZ treatment arm (which showed gender unbalance) to attain a more balanced sample. Hence, the sample size for EOZ was larger than for the other two groups. We also stratified the sample

⁷The list includes students from Universidad del Rosario, Universidad de los Andes, Universidad Tadeo Lozano, Universidad Externado de Colombia, Universidad Javeriana, Universidad Nacional, Universidad Central, Universidad Colegio Mayor de Cundinamarca, and Universidad de la Salle.

by student status considering that students are typically ages 18 to 25 years old, ages in which they might be more sensitive to interventions that target pro-social behaviors.

To register for the experiment the individuals needed to be older than 18 years of age, have time availability to complete the activity, a computer to connect to the session with stable internet, and access to an online financial platform to receive the compensation. The compensation could be received through three different commonly used financial platforms in Colombia.

Once the participants registered, they were randomized to one of the three treatment groups and were sent a Zoom link to connect to one of the 48 online sessions that were carried out. The Zoom sessions' objective was to provide instructions, support individuals should they have technical difficulties, to confirm they executed the activities, and to collect bank account information in order to send a monetary compensation after the session. All participants in a session belonged to the same treatment group in order to facilitate the provision of instructions and the support of technical issues that could arise. The average size of each Zoom session was of 18 participants. Once individuals connected to the Zoom sessions, they were given instructions and were given the option to chat with the technician should they have any technical problems. Importantly, individuals in a Zoom session were not able to interact with each other or see who else was attending the session. Once respondents completed the activity and answered the survey, they received a compensation of approximately 3 dollars. The average duration of each session was one hour.

III Survey Instrument

The questions in our survey were grouped into 10 modules. Descriptive statistics for the main variables are presented in Table A.1 of Appendix A.

III.1 Comprehension assessment

We assess the attention of respondents during the treatments by asking three comprehension questions about the activities. For the EOZ group, we checked if respondents recalled the name of the main character of the game, where she was born, and between which two cities she had to decide to migrate first. For the video group, we asked what was the title of the movie, approximately how many Venezuelans had left their country since the beginning of the humanitarian crisis—a figure that was shown during the movie—and which migrants were allowed to sleep in the shelter shown in the movie.

Figure A.I of Appendix A illustrates the results of the comprehension assessment. The results largely suggest that respondents were attentive to the activities. Particularly, approximately 90 percent of participants who did the

EOZ treatment and 70 percent of the participants who watch the video answered the three comprehension questions correctly.

III.2 General sociodemographic characteristics

The survey collects basic socioeconomic characteristics of participants including gender, age, marital status, education, religion, political orientation, household size, strata of residency, and number of children.⁸ We also asked participants about the nationality of their ten closest friends, to assess their familiarity with Venezuelan migrants. Table 1 presents descriptive statistics for each of these variables.

III.3 Altruism

Altruism is measured in three questions. The first two questions are based on donation behavior and correspond to one self-reported and one direct measure. The self-reported question is an assessment of each participant's willingness to give to good causes in general. It was adapted from [Falk et al. \(2018\)](#), who validated the question experimentally in Colombia, among many other countries. The authors selected the question as the one that best approximated experimental variation in altruism. The question asks the individuals: "How willing are you to give to good causes without expecting anything in return?" Individuals answer by choosing a value from a Likert scale from zero to ten, where zero means "completely unwilling to do so" and ten means "very willing to do so".

The direct measure of altruism is an incentivized dictator game in which individuals make a donation decision to charity. It is presented to each individual in the following way: "At the end of this survey you will receive 10,000 additional COP. You can keep that money or you can donate it to the following organizations in Colombia. How would you like to distribute that money between?

a. You

b. *Fundación Juntos se Puede*: an organization that supports Venezuelan forced migrants to access health, education, and legal advice, and

c. *Un techo para mi país*: Organization that builds houses for vulnerable population in Colombia."

A similar question was implemented by [Alesina et al. \(2018\)](#) to assess the redistribution preferences towards migrants. In their question, however, not all participants receive a direct transfer but they are told that they are enrolled in a lottery to win \$1,000. The difference between our approaches, is that in our survey the participants' decision about

⁸In Colombia each address is given a economic strata between 1 (lowest) to 6, depending on the value of the dwelling and the area of the city where it is located. Higher strata typically correspond to dwellings that have higher values and where wealthier individuals live. Public service prices are adjusted so that individuals living in dwellings with higher strata pay more for these services.

the charity donation was translated to effective actions and was not only associated with a probability of donation. We elicited first altruism in general towards any cause and then altruism towards Venezuelans in order to test whether the experiment was only affecting the latter and not the former.

The third question elicits the participants' support towards public policies that financially assist migrants. It asks: "I would vote for a policy to increase government spending to assist Venezuelan immigrants". Respondents chose a value from a Likert scale. Higher values imply more political support.

III.4 Trust

Trust is measured by four questions. The first three measure trust in general (towards the general public). They were adapted from [Kosse et al. \(2020\)](#) and have been experimentally validated by [Fehr et al. \(2002\)](#) and [Falk et al. \(2016\)](#). The statements read as follows: "One can trust other people", "Other people have good intentions toward me", and "One can rely on other people, even if one does not know them well". The fourth question aims at assessing the level of trust towards Venezuelan migrants, it states: "One can trust Venezuelan migrants". Respondents chose a value from a Likert scale from one to five, where one represents strongly agree and 5 strongly disagree.

III.5 Empathy and Perspective-Taking Scales

To measure empathy and perspective we use two subscales from the Interpersonal Reactivity Index formulated by [Davis \(1980, 1983\)](#). The scale has been validated in Colombia by [Pérez-Albéniz et al. \(2003\)](#). The questions allow the construction of an *empathic concern* and *perspective-taking* scale. The *perspective-taking* scale has six statements that measure the reported tendency to spontaneously adopt the psychological point of view of others in everyday life. The *empathic concern* scale has eight statements that assess the tendency to experience feelings of sympathy and compassion for unfortunate others. For each of the fourteen statements the respondent answers by choosing a Likert scale choice from zero to four, where zero represents "does not describe me well" and four represents "describes me very well". According to the answer, the respondent gets a score from zero to four. The total score is constructed as the sum of the total points.

A few examples of these statements include: "I often have tender, concerned feelings for people less fortunate than me", "I sometimes find it difficult to see things from the 'other guy's' point of view", "Sometimes I don't feel very sorry for other people when they are having problems", or "I try to look at everybody's side of a disagreement before I make a decision". All the statements are listed in Appendix B where we describe the survey instrument. In the Appendix each of the statements specifies whether the statement is used to estimate the *empathic scale*, marked as

EC, or the *perspective taking* scale, marked as PT.

Our main goal when using these scales was to test whether changes in empathy and perspective-taking can be a mediating factor in changes in prosocial behaviors.

III.6 Misinformation

We formulated three questions to measure the level of misinformation of respondents with respect to the Venezuelan population living in Colombia. The first question asks: "What percent of the Colombian population do Venezuelans represent today?", the respondents can choose a percentage from 0 to 100 percent. The second question stated: "In Colombia, an average citizen has around 6 years of education (which is equivalent to having finished primary school). How many years of education, on average, do you think Venezuelan migrants in Colombia have?". The last question asks individuals to choose one or more statements according to their opinions, the three choices are:

- "a. Venezuelan immigrants have access to Colombia's subsidized health system.
- b. Venezuelan children can attend public schools in Colombia.
- c. Venezuelan children born in Colombia are Colombians (they have the right to get the Colombian citizenship)."

According to the latest data from the Colombian migration authorities, Venezuelans accounted for 3.6 percent of the Colombian population in 2020. Moreover, according to data from the monthly Colombian labor surveys between January of 2016 and December of 2020, the average education of a Venezuelan migrant was 7.4 years (higher than that of Colombians); and at the time of data collection, not all Venezuelan migrants had access to the subsidized health system, but their children could attend public schools and any child born in Colombia had a right to citizenship.

Figures A.3 and A.4 of Appendix A tabulate the answers to these three questions for the respondents in each of the treatment arms. A little more than half of the respondents answered correctly concerning migrants' access to education (53-71 percent answered correctly), health (46 to 60 percent answered correctly), and children's nationality (approximately 80 percent answered correctly). Respondents are well informed about the education levels of migrants with the control group right on target estimating that migrant's have on average 7.47 years of education (only 0.07 years higher than the average from the labor force surveys).

However, respondents largely overestimated the share of the Colombian population in Colombia. Specifically, respondents estimate that Venezuelan migrants represent between 12.89 to 16.83 percent of the Colombian population.

III.7 Attitudes Towards Venezuelan Refugees

We ask respondents ten questions about their attitudes towards Venezuelan migrants. The first question is a list experiment in which we attempt to assess the attitudes of respondents towards migrants indirectly. The question inquires *how many*—not which one—of the following four choices annoys respondents: i) homeless people sleeping on the street, ii) people who cut in line, iii) People protesting on the streets people protesting on the streets, or iv) people from other countries coming to live in my country. The last statement was randomly assigned, so only half of the respondents got (iv) as an option. We use this question to assess the sensitivity of our results to social desirability bias and experimenter demand.

The remaining nine questions assess the attitudes of respondents towards migrants directly. They include questions about the circumstances explaining poverty for some migrants and whether migrants are good for the country's economy overall, they compete for local jobs, increase crime, or bring new ideas and cultures. The specific questions are listed in Appendix B where we present the survey instrument.

III.8 Social Desirability Bias

Since we are eliciting beliefs towards members of an out-group—a sensitive and politically-charged topic—, individuals may tend to answer according to how their responses will be viewed by others instead of answering truthfully—a phenomenon known as *social desirability bias*. We measure social desirability bias by using four questions from Marlone and Crowe's social desirability scale (see [Crowne et al., 1964](#) for details). The questions assess whether or not respondents are concerned with social approval. A high number of socially desirable responses suggests the respondent is concerned with social approval.

Each question on the scale includes a statement to which the respondent has to answer true or false. The four questions we included are: "It is sometimes hard for me to go on with my work if I am not encouraged (false corresponds to higher social desirability)", "There have been times when I was quite jealous of the good fortune of others (false corresponds to higher social desirability)", "I am always willing to admit when I make a mistake (true corresponds to higher social desirability)", and "I am always courteous, even to people who are disagreeable (true is associated with higher social desirability)". Each statement gets a score of zero or one (assigned to higher social desirability answers) and the total level of social desirability bias is calculated by adding up the scores of all questions. We use the social desirability bias scale to test the robustness of our main results.

III.9 Emotions and Perspective Taking

We also included questions to understand how the treatments affected the participants' emotions and to assess the depth of perspective-taking induced by each activity. The question to assess the emotions sparked by the treatments asks individuals to choose a number from 1 to 10 (with 10 being more intense feelings) to evaluate the extent to which they felt compassion, distress, or happiness by participating in the online interactive game or by watching the video. Figure A.6 presents the results showing no statistically significant differences in the emotions induced between EOZ and the video treatments. In general, both treatments induced more compassion and distress and lower happiness.

The questions that assess the depth of perspective-taking were adapted from [Behm-Morawitz et al. \(2016\)](#), and include: "How much did you feel the experience of the Venezuelan refugee was an extension of yourself?" the possible answers were completely, quite a bit, a little, or none; "How aware were you of outside distractions around you during the activity?" the possible answers were very aware, aware, unaware, and very unaware". Figure A.7 of Appendix A tabulates the answers for EOZ treatment recipients, the only group that answered these questions. In general, most individuals report that they felt quite a bit that the migrant's experience was an extension of themselves (49.1 percent) and that they were very aware of their surroundings (61.1 percent). The responses suggest that immersion on the activity was deep for at least half of the treatment respondents.

IV Empirical Strategy

We evaluate the effects of the program on two groups of primary outcomes as specified in our pre-analysis plan (see Rodriguez Chatruc and Rozo, 2019 for details). These outcomes include: i) prosocial behaviors including altruism and trust, and ii) empathy and perspective-taking. We aim to evaluate empathy and perspective-taking as possible drivers of changes in prosocial behaviors. We also evaluate the effects of the program in other secondary outcomes including attitudes towards migrants.

We estimate the effects of each program using the following specification:

$$Y_i = \alpha + \lambda_1 EOZ_i + \lambda_2 Video_i + \epsilon_i \quad (1)$$

where the dependent variable Y_i represents the outcome for individual i as measured in the survey, $EOZ \in \{0, 1\}$ equals one for individuals assigned to the EOZ online experience and zero otherwise, and $Video \in \{0, 1\}$ equals one for individuals assigned to the video and zero otherwise. Finally, ϵ_i are robust standard errors. Conceptually, we expect λ_1 and λ_2 to be positive. We examine the effects of the program for the entire sample and broken up by student-status

and gender.

V Main Results

We first examine the comparability between groups in terms of the observed covariates we collected. Table I presents the descriptive statistics as well as the mean difference tests between treatment arms for each of the sociodemographic characteristics collected. As suggested by the whole sample means, approximately 45% of our sample is male and their average age is 25 years. Most of our respondents are single (93%), report being religious (80%), and have not graduated from college (93%). Individuals also report to have an average center political ideology, an average household size of approximately 3 members, and an average income bracket of approximately 2 (in a scale from 1 to 10, where 10 is the highest income level). Few respondents have Venezuelan friends within their circle of 10 closest friends (2%) and approximately 15% of respondents report having children.

In general, we observe that the vast majority of mean difference tests between the treatment arms and the control group support the validity of the randomization. The joint orthogonality test for all the collected covariates also supports the validity of the experiment. We test the robustness of all of our main results to the inclusion of all the covariates presented in Table I in the robustness section. The main results remain unchanged.

V.1 Impacts on prosocial behaviors

We present the estimated impacts of the program on altruism and trust in Figures I and II. The figures report the coefficients λ_1 and λ_2 as described in equation 1 and their 95 percent confidence intervals.

V.1.1 Altruism

We evaluate the impacts of EOZ and the video on the self-reported willingness to donate, on the directly observed donations from a dictator game, and on a statement related to the political support of respondents towards more public spending to help migrant populations in Colombia, as described in section III.3.

We are not directly able to observe statistically significant effects of the treatments on general altruism as measured by self-reported willingness to donate or by direct donations to at least one charity organization. However, we observe statistically significant effects of both treatments on the donations of respondents to the charity organization that supports Venezuelan migrants. Specifically, 11 percent more treatment recipients donated to Venezuelan organizations

relative to the control group (the control group mean is 0.69). Treatment recipients, on average, also donated 8 percent more of their allocated funds to donations, of which the overall majority went to the charity organization supporting Venezuelan migrants.

Importantly, we are not able to estimate statistically significant effects of the treatments on the direct donations of individuals to the other charity organization that support vulnerable populations in general (and not only migrants).

We observe large effects of both treatments on respondent's support towards more public spending to help migrants. The question elicits the agreement with the following statement: "I would vote for a policy to increase government spending to assist Venezuelan immigrants". Participants answered by choosing from a Likert scale. The variable was transformed to z-scores using the mean and standard deviation from the control group for ease of interpretation. Treatment recipients increased their political support by approximately 0.40 additional standard deviations relative to the control group.

We are not able to distinguish statistical differences in the effects of the EOZ and the video on any of the outcomes that measure altruism.

V.1.2 Trust

We assess the effects of the program on trust in Figure II. In the figure all the variables are reported as z-scores constructed with the mean and standard deviation from the control group to ease interpretation.

We only distinguish statistically significant effects of the EOZ treatment on the variables that measure trust as "one can rely on other people" and "one can trust in Venezuelan migrants". Specifically, EOZ treatment recipients report that they can rely on other unknown individuals 0.18 standard deviations more relative to the control group. Additionally, the EOZ treatment is not only effective in increasing general trust (towards anyone), but also specifically, towards Venezuelan migrants. Recipients of the EOZ treatment report substantially higher trust towards Venezuelan migrants, with reported effects 0.29 standard deviations higher than the control group. The point estimates of the effects of the video on trust for the same two outcomes are also positive but less precise.

We are not able to identify any statistical differences on the treatment effects on trust between the video and the EOZ activities.

V.2 Impacts on empathy and perspective-taking

We now explore the possible mechanisms that may be driving the positive effects of the treatments on prosocial behaviors. Specifically, as described in our pre-analysis plan we examine the role of changes in empathy and perspective-

taking as possible channels explaining the observed changes in altruism and trust. For this purpose, we estimate equation 1 using the two subscales that measure empathy and perspective-taking described earlier as outcomes (see section III.5 for details). The results are illustrated in Figure III, where the scales were transformed to z-score values using the mean and standard deviation from the control group.

The results indicate that the video is more effective in increasing the empathy scale, whereas the EOZ treatment more effectively increases the perspective-taking scale. Although the point estimates are positive, the video does not have statistically significant effects on any of the scales. However, we do find statistically significant effects of the EOZ treatment on the perspective-taking scale. Specifically, EOZ treatment recipients had perspective-taking scales that were 0.18 standard deviations higher than the control group. The results are in line with the objectives of the EOZ activity, which aimed at increasing perspective-taking by making participants step into the shoes of a migrant. The results are also in line with the fact that the EOZ activity is more active than the video as it requires that participants not only watch and listen (passive ways of communication) but also make decisions and write from the perspective of a migrant (active ways of communication).

We are not able to distinguish statistical differences between the effects of the treatments in any of the scales that we examine.

V.3 Impacts on attitudes towards migrants

We examine the effects of the program on the respondent's agreement with two statements. Although our surveys included more questions that evaluated individual's attitudes towards migrants, here we report the ones for which we observed the most relevant results.

The first question asks the respondents to choose their level of agreement ("Strongly agree", "Agree", "Disagree", or "Strongly disagree") with the statement: "In general, what immigrants contribute to a country is more than what they take away from it". We constructed a z-score for this variable (with the mean and standard deviation from the controls group), for ease of interpretation. We also examine the effects of the program on the answer to the following question: "Which relates the most with a Venezuelan immigrant living in Colombia that is poor?"

- a. Lack of effort on his or her own part.
- b. Circumstances beyond his or her control."

For this last question we report an indicator variable equal to one if the respondent answered the choice a.

The estimated effects of the program on the respondents' attitudes towards migrants are illustrated in Figure IV. Overall, we observe that both treatments improved the attitudes of respondents towards migrants. We also are not able to distinguish statistical differences between the effects of the Video or EOZ.

Particularly, we observe that the EOZ treatment was effective in improving the respondent’s attitudes about the net effects that migrants have on the economy, where we observe that treatment recipients agreed that immigrants contribute more than they take from the economy (0.25 standard deviations more relative to the control group). The estimates of the effect of the video on that outcome are also positive but less precise.

We also observe that both treatments are able to reduce the likelihood that respondents agree with the statement that Venezuelans are poor due to lack of self-effort by approximately 10 percentage points.

VI Robustness Tests

VI.1 Adding controls

We first test the robustness of our main estimates to the inclusion of all the observed individual sociodemographics that we collected. The variables are listed in [I](#). They include a gender, age, marriage, religious status, political ideology, household size, education, income bracket, economic strata, share of 10 closest friends who are Venezuelan migrants, and number of children. The results of this exercise are presented in Appendix C. Our main results remain unchanged.

VI.2 Assessing the role of social desirability bias

Importantly, we also test the sensitivity of our results to the inclusion of a reduced social desirability scale constructed by using four questions from Marlone and Crowe’s social desirability scale (see section [III.8](#) for details). The questions assess whether or not respondents are concerned with social approval. Our results are unchanged when we include this variable as a control, and hence, for brevity, we present the estimates that include all the sociodemographic variables and the social desirability scale in Appendix C.

Our research design also included a list experiment to assess the attitudes of respondents towards migrants indirectly. The question inquires *how many*—not which one—of the following four choices annoys respondents: i) homeless people sleeping on the street, ii) people talking loud close to me, iii) people who cut in line, or iv) people from other countries coming to live in my country. The last statement was randomly assigned to the whole sample, so only half of the respondents got (iv) as an option. The tabulation of the responses is presented in Figure C.5 of Appendix C. In the figure we present the average number of things that annoy individuals for the group who received 3 choices (excluding migrants) and including 4 choices (including migrants). Overall, we do not observe significant differences in the number of things that annoy individuals within or between groups (with the only exception being individuals treated by the video). We take this last result as evidence of no considerable biases due to social desirability or experimenter

demand effects.

VI.3 Including Zoom sessions fixed effects

Finally, considering that the experiment was carried out in group Zoom sessions, we also test the sensitivity of our results to the inclusion of session fixed effects. Our results remain unchanged.⁹

VII Heterogeneous Effects

We examine the heterogeneous effects of the program by student status and gender.

VII.1 Student Status

In our pre-analysis plan, we stated that our experiment was only going to be stratified by gender. As we implemented the intervention, however, we realized that university students in the sample are going through their *impressionable years* (ages 18 to 25), a time in human development when individuals form their prosocial behaviors and may be more responsive to treatments targeting these outcomes. They also may be influenced by their classes and training and may have different social behaviors than the rest of the population. Hence, we decided to complement our analysis in this section by also presenting the heterogeneous effects of the program by student status. Since the sample was not stratified by student status, however, its size is almost twice as big for students than for non-students as the experimental lab where we ran the experiment is located in a university, and typically, works with students. Therefore, it was easier and more effective to recruit students for the experiment.

We present the estimates of the effects of the program by student status in Appendix D. Tables D1 and D2 show the balancing test for each group. Non-students are in general older (31 years of age vs. 21 for students), more likely to have a partner (12 percent are married vs. 0 percent for students), are more likely to be religious (83 percent report being part of a religion vs. 77 percent for students), and have a higher likelihood of having children (31 percent report having children vs. 4 percent for students). Most of the other observed covariates, such as average political ideology, economic strata, income, or the number of closest friends who are Venezuelan, are similar between the groups.

Overall, as shown in Tables D1 and D2, we observe that the randomization was successful for both samples of individuals, with borderline success for the the sample of non-students as evidenced by the joint orthogonality p-value of 0.10.¹⁰

⁹We do not report them here for brevity but they are available upon request.

¹⁰It is possible that the large p-values are also explained by a loss of precision as the sample size for non-students is small.

Figures D1 and D2 show the effects of the program on altruism and trust as estimated by equation 1 for the sample of students and non-students. Interestingly, we observe that the positive effects of the program on prosocial behaviors on our main outcomes are mainly driven by university students. Particularly, in line with the results from the whole sample, we are only able to observe positive effects of the EOZ treatment on altruism and trust towards migrants (but only on altruism for the video treatment recipients). However, we are not able to identify any significant effects of the program for the sample of non-students.

Why is the program more effective for students? We speculate that the stronger effects of the program on the group of students are driven by the age differences between groups. In fact, recent evidence suggests that individuals in their *impressionable years* (ages between 18 and 25) may be more sensitive to treatments that aim at affecting their prosocial outcomes. For example, [Giuliano and Spilimbergo \(2014\)](#) show that individuals who live a recession during those ages of their lives believe that success in life depends more on luck than effort and have more positive preferences towards redistribution.

VII.2 Gender

As registered in our pre-analysis plan we also evaluate the impacts of the program by gender. Originally, we planned to have 600 participants. However, online voluntary recruitment was such that more women registered and subsequently showed up for the activities. Therefore, during the program implementation, when a gender imbalance was noticed particularly in the EOZ treatment arm, we increased the size of that arm to attain a more balanced sample.

We show the heterogeneous effects of the program by gender in Appendix E. Tables E1 and E2 show evidence of the successful randomization. Figure E.1 and E.2 present the effects of the program on altruism and trust splitting the sample by gender. Interestingly, we observe that the effects of the program on donations towards charity organizations that support migrants are mainly driven by men, whereas changes in trust are driven by women. The treatments also induce larger effects on the empathic and perspective-taking scales disproportionately for men. Particularly, the video was effective in increasing the empathy scale and the EOZ treatment effectively modified the perspective-taking scale. These changes are in line with the objective of each of the treatments. Finally, the treatments induced larger reductions in the percentage of women who thought Venezuelans are poor due to lack of self-effort. The effects of the treatments were not significant for men.

Overall, we observe that men are more responsive to the treatment in terms of showing modified changes in their altruism relative to women, whereas women respond to the treatment by showing more improvements in trust and attitudes towards migrants relative to men.

VIII Discussion

We explore the effectiveness of an online interactive game and an online video that aim at reducing prejudice and improving prosocial behaviors towards Venezuelan migrants by depicting their struggles in life. First and foremost, we find that both treatments are effective in improving altruism and trust towards migrants as well as at reducing prejudice. Second, we find that the effects of the interactive game are partly driven by improvements in perspective-taking from treatment recipients, whereas the video seems to induce changes in empathy and perspective-taking (although the results for the latter are not statistically significant). Third, we find that the effects are mainly driven by behaviors of university students in our sample. Finally, we do not find any statistical differences between the effectiveness of both treatments.

Future research efforts should examine whether the effects that we document are sustainable in the medium to long-term.

References

- Adida, C. L., A. Lo, and M. R. Platas (2018). Perspective taking can promote short-term inclusionary behavior toward Syrian refugees. *Proceedings of the National Academy of Sciences* 115(38), 9521–9526.
- Alesina, A., R. Baqir, and W. Easterly (1999). Public goods and ethnic divisions. *The Quarterly Journal of Economics* 114(4), 1243–1284.
- Alesina, A., P. Giuliano, A. Bisin, and J. Benhabib (2011). *Preferences for Redistribution*, pp. 93–132. North Holland.
- Alesina, A., A. Miano, and S. Stantcheva (2018). Immigration and redistribution. Technical report, National Bureau of Economic Research.
- Alesina, A., E. Murard, and H. Rapoport (2019). Immigration and preferences for redistribution in Europe. *National Bureau of Economic Research* (25562).
- Alesina, A., S. Stantcheva, and E. Teso (2018). Intergenerational mobility and preferences for redistribution. *American Economic Review* 108(2), 521–54.
- Barrera, O., S. Guriev, E. Henry, and E. Zhuravskaya (2020). Facts, alternative facts, and fact checking in times of post-truth politics. *Journal of Public Economics* 182, 104123.
- Batson, C., D. Lishner, and E. Stocks (2015). The empathy-altruism hypothesis. *The Oxford handbook of prosocial behavior*, 259–281.

- Behm-Morawitz, E., J. Lewallen, and B. Miller (2015). Real mean girls? reality television viewing, social aggression, and gender-related beliefs among female emerging adults. *Psychology of Popular Media Culture* 5.
- Behm-Morawitz, E., H. Pennell, and A. G. Speno (2016). The effects of virtual racial embodiment in a gaming app on reducing prejudice. *Communication Monographs* 83(3), 396–418.
- Boustan, L. P. (2010). Was postwar suburbanization “white flight”? evidence from the black migration. *The Quarterly Journal of Economics* 125(1), 417–443.
- Cardenas, J. and J. Carpenter (2009). Experiments and economic development: Lessons from field labs in the developing world. *Middlebury College, Department of Economics, Middlebury College Working Paper Series*.
- Cettolin, E. and S. Suetens (2019). Return on trust is lower for immigrants. *Economic Journal* 129(621), 1992–2009.
- Charité, J., R. Fisman, and I. Kuziemko (2015). Reference points and redistributive preferences: Experimental evidence. *National Bureau of Economic Research*.
- Crowne, D. P., D. P. Crowne, and D. Marlowe (1964). *The approval motive: Studies in evaluative dependence*. New York: Wiley.
- Cruces, G., R. Perez-Truglia, and M. Tetaz (2013). Biased perceptions of income distribution and preferences for redistribution: Evidence from a survey experiment. *Journal of Public Economics* 98, 100–112.
- Dahlberg, M., K. Edmark, and H. Lundqvist (2012). Ethnic diversity and preferences for redistribution. *Journal of Political Economy* 120(1), 41–76.
- Davis, M. H. (1980). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal Supplement Abstract Service: Catalog of Selected Documents in Psychology* 10(85).
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of personality and social psychology* 44(1), 113.
- Falk, A., A. Becker, T. Dohmen, B. Enke, D. Huffman, and U. Sunde (2018). Global evidence on economic preferences. *The Quarterly Journal of Economics* 133(4), 1645–1692.
- Falk, A., A. Becker, T. J. Dohmen, D. Huffman, and U. Sunde (2016). The preference survey module: A validated instrument for measuring risk, time, and social preferences. *IZA discussion paper*.
- Fehr, E., U. Fischbacher, B. Von Rosenbladt, J. Schupp, and G. G. Wagner (2002). A nation-wide laboratory. *Journal of Applied Social Science* 122, 519–41.

- Fong, C. M. and E. F. Luttmer (2009). What determines giving to hurricane katrina victims? experimental evidence on racial group loyalty. *American Economic Journal: Applied Economics* 1(2), 64–87.
- Fong, C. M. and E. F. Luttmer (2011). Do fairness and race matter in generosity? evidence from a nationally representative charity experiment. *Journal of Public Economics* 95(5-6), 372–394.
- Giuliano, P. and A. Spilimbergo (2014). Growing up in a recession. *Review of Economic Studies* 81(2), 787–817.
- Grigorieff, A., C. Roth, and D. Ubfal (2018). Does information change attitudes towards immigrants? representative evidence from survey experiments. *Bocconi University Working Paper*.
- Haaland, I. and C. Roth (2020). Labor market concerns and support for immigration. *Journal of Public Economics* 191, 104256.
- Hassan, M., S. Mansour, S. Voigt, and M. Gadallah (2019, 10). When Syria was in Egypt’s land: Egyptians cooperate with Syrians, but less with each other. *Public Choice*.
- Herrera, F., J. Bailenson, E. Weisz, E. Ogle, and J. Zaki (2018). Building long-term empathy: A large-scale comparison of traditional and virtual reality perspective-taking. *PloS one* 13(10), e0204494.
- Hungerman, D. M. (2009). Crowd-out and diversity. *Journal of Public Economics* 93(5-6), 729–740.
- Karadja, M., J. Mollerstrom, and D. Seim (2017). Richer (and holier) than thou? the effect of relative income improvements on demand for redistribution. *Review of Economics and Statistics* 99(2), 201–212.
- Kosse, F., T. Deckers, P. Pinger, H. Schildberg-Hörisch, and A. Falk (2020). The formation of prosociality: causal evidence on the role of social environment. *Journal of Political Economy* 128(2), 434–467.
- Kuziemko, I., M. I. Norton, E. Saez, and S. Stantcheva (2015). How elastic are preferences for redistribution? evidence from randomized survey experiments. *American Economic Review* 105(4), 1478–1508.
- Loon, A., J. Bailenson, J. Zaki, J. Bostick, and R. Willer (2018). Virtual reality perspective-taking increases cognitive empathy for specific others. *PLOS ONE* 13, e0202442.
- Luttmer, E. F. (2001). Group loyalty and the taste for redistribution. *Journal of Political Economy* 109(3), 500–528.
- Mayda, A. M. (2006). Who is against immigration? a cross-country investigation of individual attitudes toward immigrants. *The review of Economics and Statistics* 88(3), 510–530.
- Pérez-Albéniz, A., J. De Paúl, J. Etxeberria, M. P. Montes, and E. Torres (2003). Adaptación de interpersonal reactivity index (iri) al español. *Psicothema*, 267–272.

- Sobel, H., M. Wiseheart, and I. Kapler (2011). Spacing effects in real-world classroom vocabulary learning. *Applied Cognitive Psychology* 25, 763 – 767.
- Stichnoth, H. and K. Van der Straeten (2013). Ethnic diversity, public spending, and individual support for the welfare state: A review of the empirical literature. *Journal of Economic Surveys* 27(2), 364–389.
- Tabellini, M. (2020). Gifts of the immigrants, woes of the natives: Lessons from the age of mass migration. *The Review of Economic Studies* 87(1), 454–486.

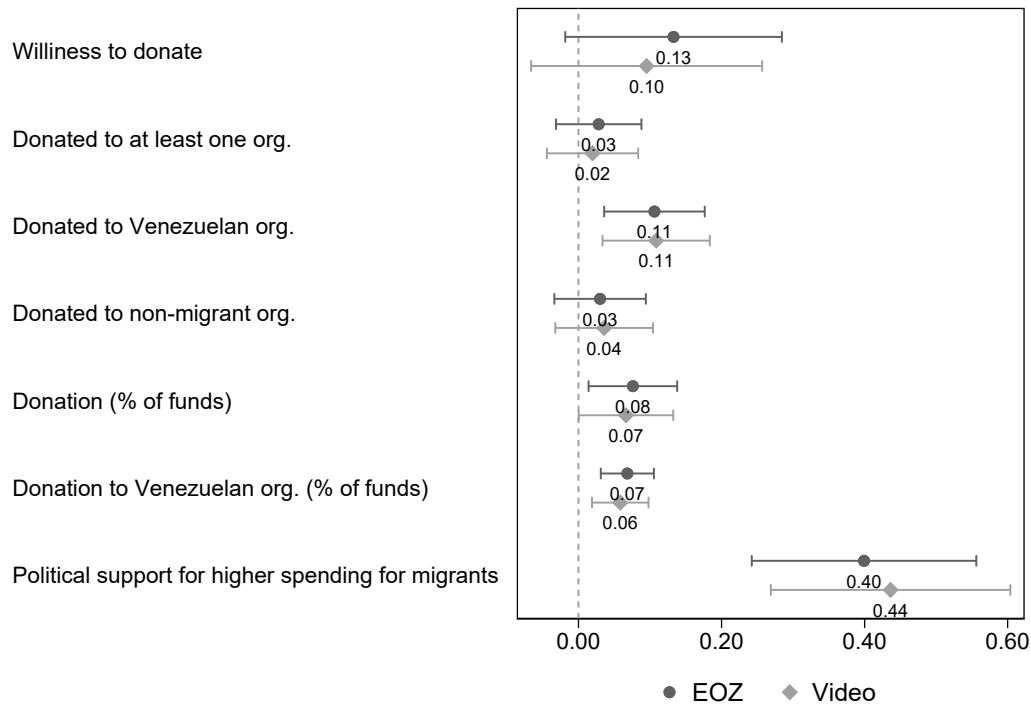
IX Tables and Figures

Table (I) Testing Balance Between Groups

	Means by Treatment Assignment						
	EOZ Treatment Group		Video Treatment Group		Control Group		
	(1)	(2)	(3)	Mean	St. Deviation	P-value (1) vs (3)	P-value (1) vs (2)
Male [=1]	0.41	0.50	0.49	0.46	0.50	0.05	0.90
Age	25.31	25.48	24.99	25.25	8.27	0.62	0.51
Married [=1]	0.08	0.07	0.05	0.07	0.25	0.12	0.28
Religious [=1]	0.81	0.79	0.79	0.80	0.40	0.70	0.91
Ideology (1 Left - 5 Right)	2.49	2.53	2.61	2.54	1.09	0.24	0.44
Household size	3.02	3.01	2.82	2.95	1.39	0.09	0.12
Education	14.47	14.40	13.58	14.16	4.04	0.01	0.03
Income (1 low- 10 high)	2.27	2.36	2.36	2.33	1.07	0.33	0.96
Economic Strata 1	0.06	0.03	0.05	0.05	0.22	0.42	0.40
Economic Strata 2	0.27	0.22	0.31	0.27	0.44	0.33	0.03
Economic Strata 3	0.41	0.44	0.38	0.41	0.49	0.38	0.19
Economic Strata 4	0.17	0.23	0.22	0.20	0.40	0.13	0.88
Economic Strata 5	0.06	0.07	0.03	0.05	0.23	0.13	0.06
Economic Strata 6	0.02	0.01	0.01	0.02	0.13	0.51	0.82
Ven. friends (% 10 closest)	0.03	0.02	0.02	0.02	0.08	0.03	0.47
Children [=1]	0.14	0.15	0.14	0.14	0.35	0.80	0.78
Joint orthogonality test p-value							0.02
Sample Size	316	272	272				

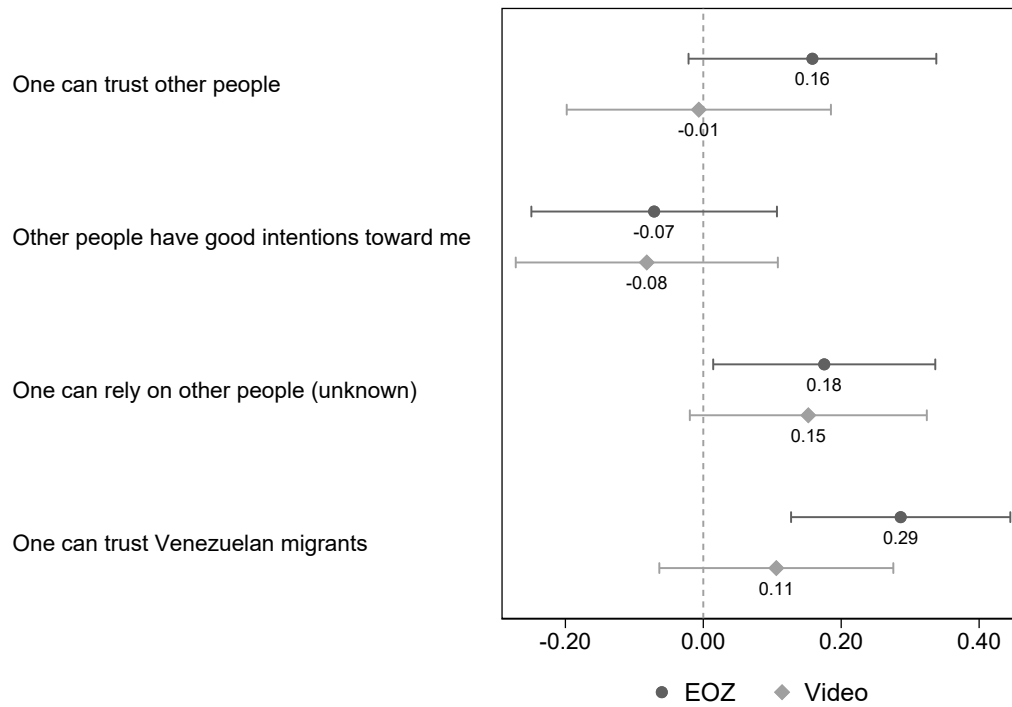
Notes: The joint orthogonality test is a joint significance test of all the covariates from a multinomial logit of the treatment status in all the independent covariates listed in the table.

Figure (I) Impacts of the Program on Altruism



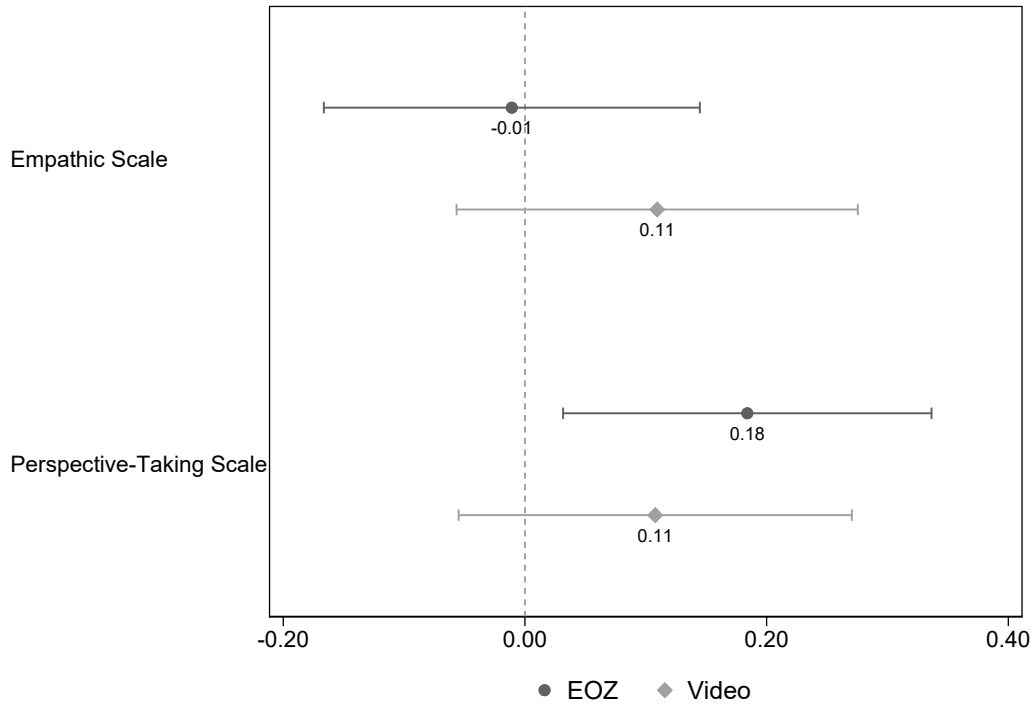
Notes: The figure illustrates the estimates of equation 1. The first variable is a self-reported measure adapted from Falk et al. (2018), who validated it experimentally in Colombia, based on the answer to "How willing are you to give to good causes without expecting anything in return?" on a scale from zero to ten, where zero is "completely unwilling to do so" and ten is "very willing to do so". The second variable describes the results of an incentivized dictator game presented to every participant in the following way: "At the end of this survey you will receive 10,000 additional COP. You can keep that money or you can donate it to the following organizations in Colombia. How would you like to distribute that money between? a. You; b. *Fundación Juntos se Puede*: an organization that supports Venezuelan migrants in Colombia to access health, education, and legal advice, and c. *Un techo para mi país*: an organization that builds houses for the vulnerable population in Colombia." The last variable comes from the answer to: "I would vote for a policy to increase government spending to assist Venezuelan immigrants", where respondents choose from a Likert scale. Higher values imply more political support. The variable was transformed to z-scores using the control group mean and deviation to ease interpretation. The sample size is 831, except for the donations to Venezuelan organizations as a percentage of funds that has a sample size of 676 since not every participant made a donation. *Donated to Venezuelan organization* is 1 if the respondent donated to a charity that supports migrants in Colombia (control group mean: 0.669). *Donated to a non-migrant organization* is 1 if the respondent donated to the non-migrant charity organization (control group mean: 0.783). The share of donations a to Venezuelan organization has a control mean of 0.393, and the total donations as a percentage of funds has a control mean of 0.458. The figure reports 95 % confidence intervals.

Figure (II) Impacts of the Program on Trust



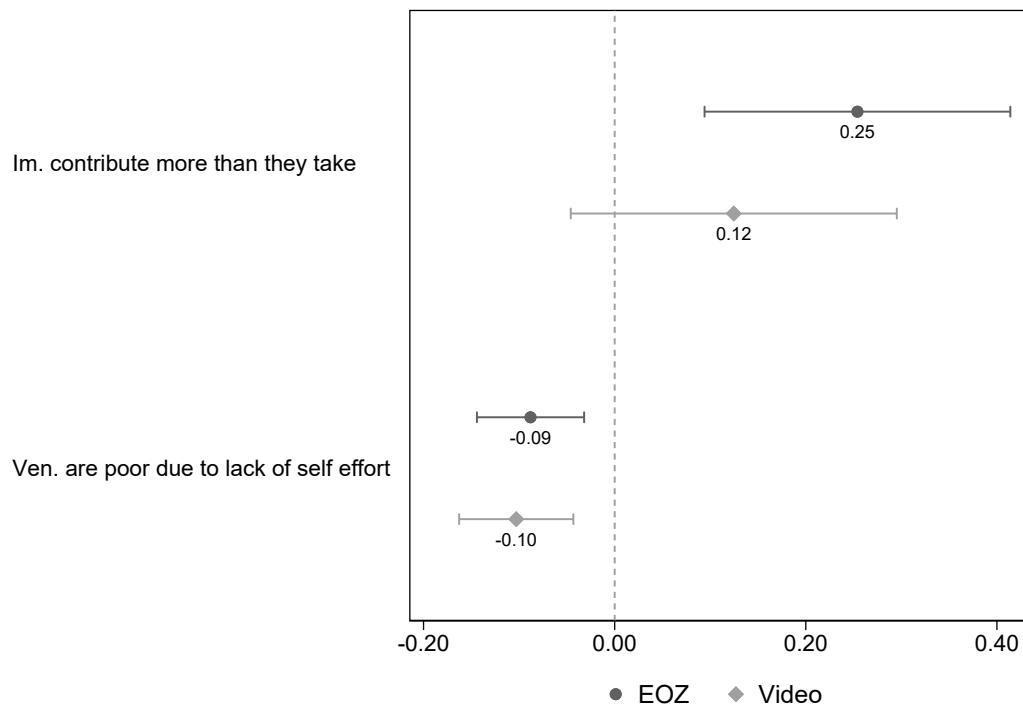
Notes: The figure illustrates the estimates of equation 1. The first three questions are taken from [Kosse et al. \(2020\)](#) and have been experimentally validated by [Fehr et al. \(2002\)](#) and [Falk et al. \(2016\)](#). Each variable is a z-score estimated with the mean and standard deviation from the control group. The figure reports 95 % confidence intervals. The sample size is 831.

Figure (III) Exploring the Effects of the Program on Empathy and Perspective-Taking



Notes: The figure illustrates the estimates of equation 1. The scales come from the Interpersonal Reactivity Index (IRI) originally formulated by Davis (1980, 1983). The scale has been validated in Colombia by Pérez-Albéniz et al. (2003). The questions allow the construction of an *empathic concern* and *perspective-taking* scale. The *empathic concern* scale has eight statements that assess the tendency to experience feelings of sympathy and compassion for unfortunate others. The *perspective-taking* scale has six statements that measure the reported tendency to spontaneously adopt the psychological point of view of others in everyday life. For each of the fourteen statements the respondents answer by choosing from a scale from zero to four, where zero represents "does not describe me well" and four represents "describes me very well". According to the answer the respondent gets a score of zero to four, respectively, and the total score is the sum of partial scores. All variables are reported as z-scores constructed with the mean and standard deviations of the control group. The sample size is 831. The figure reports 95 % confidence intervals.

Figure (IV) Effects of the Program on Attitudes towards Venezuelans



Notes: The figure illustrates the estimates of equation 1 using as outcomes five statements that were directed at measuring respondent's attitudes towards migrants. The first statements asks the respondent to choose their level of agreement from four options: "Strongly agree", "Agree", "Disagree", and "Strongly disagree". The statements is: "In general, what immigrants contribute to a country is more than what they take away from it". The figure illustrates a z-score of this variable, which was constructed using the mean and deviation from the control group. We also examine the effects of the program on the following question: "Which relates the most with a Venezuelan immigrant living in Colombia that is poor? a. Lack of effort on his or her own part; or b. Circumstances beyond his or her control". For this last question we only report an indicator variable equal to one if the respondent answered the choice "a". The sample size is 831. The figure reports 95 % confidence intervals.

Appendix A: Details on Interventions

Table (A.1) Descriptive Statistics

Dep. Variable	Observations	Average	Std. Deviation	Min	Max
Panel A: Sociodemographic characteristics					
Male [=1]	828	0.46	0.50	0	1
Age	829	25.25	8.27	18	78
Married [=1]	831	0.07	0.25	0	1
Religious [=1]	831	0.80	0.40	0	1
Ideology (1 Left - 5 Right)	694	2.54	1.09	1	5
Household size	826	2.95	1.39	0	8
College [=1]	825	0.70	0.46	0	1
Income (1 low- 10 high)	821	2.33	1.07	1	10
Economic Strata 1	831	0.05	0.22	0	1
Economic Strata 2	831	0.27	0.44	0	1
Economic Strata 3	831	0.41	0.49	0	1
Economic Strata 4	831	0.20	0.40	0	1
Economic Strata 5	831	0.05	0.23	0	1
Economic Strata 6	831	0.02	0.13	0	1
Share of Ven as closest friends	824	0.02	0.08	0	1
Children [=1]	831	0.14	0.35	0	1
Panel B: Misinformation					
Perception: % of Venezuelans in Colombia	815	15.71	13.71	0	60
Perception: Venezuelans Years of Education	829	7.55	3.37	0	20
Ven. Have access to the subsidized health system [=1]	828	0.54	0.50	0	1
Ven. Children can attend public schools [=1]	828	0.61	0.49	0	1
Ven. children born in Colombian are Colombians [=1]	828	0.79	0.41	0	1
Panel C: Attitudes Towards Venezuelan Refugees					
List experiment: 4 Number of situations annoyed of	420	2.03	0.73	0	4
List experiment: 3 Number of situations annoyed of	409	1.82	0.60	0	3
Ven. are poor due to lack of self effort [=1]	829	0.14	0.35	0	1
Panel C: Attitudes Towards Venezuelan Refugees					
Opinion on taxes (5=A lot more)	829	3.29	0.81	1	5
Opinion on subsidies (5=A lot more)	829	3.47	0.99	1	5
Opinion on transfers (5=Strongly agree)	830	2.74	0.72	1	4
Segregation (4=Strongly agree)	830	1.90	0.76	1	4
More spending (4=Strongly agree)	830	2.49	0.80	1	4
Colombians first for jobs [=1]	829	0.58	0.49	0	1
Migrants are good for the economy (4=Strongly agree)	830	2.51	0.76	1	4
Immigrants come to compete for our jobs (4=Strongly agree)	829	2.66	0.74	1	4
Immigrants increase crime (4=Strongly agree)	830	2.53	0.78	1	4
Immigrants improve the society by ideas and cultures (4=Strongly agree)	830	2.72	0.71	1	4
Immigrants contribute more than they take (4=Strongly agree)	830	2.48	0.76	1	4
Panel D: Altruism					
Willingness to donate (0 Completely unwilling - 10 very willing)	830	6.68	2.68	0	10
Donated to an Venezuelan organization [=1]	831	0.74	0.44	0	1
Donated to non-migrant organization [=1]	831	0.81	0.40	0	1
Donated to at least one of the two organizations [=1]	831	0.84	0.37	0	1
Total donations (COL pesos)	831	\$5,066	\$3,850	\$0	\$10,000
Donation to Ven. organization (% of funds)	676	0.44	0.21	0	1
Donation as a share of total funds	831	0.51	0.39	0	1
Panel E: Trust					
Trust: Trust in people (4=Strongly agree)	830	2.80	0.65	1	4
Trust: Other people have the intention to help (4=Strongly agree)	831	2.69	0.57	1	4
Trust: Count on others, even if they are unknown (4=Strongly agree)	831	2.42	0.63	1	4
Trust: Trust in Venezuelan (4=Strongly agree)	831	2.70	0.67	1	4

The EOZ treatment

Figure (A.1) Screenshots of EOZ treatment

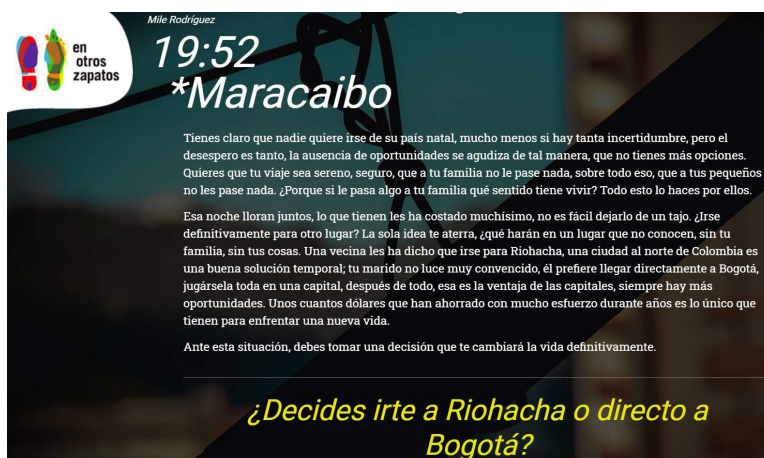
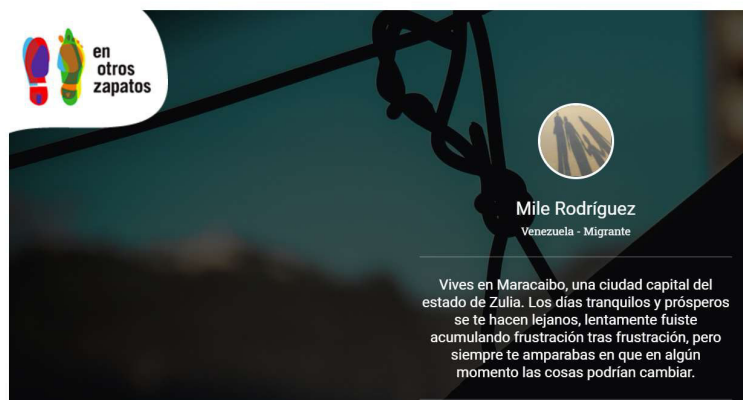


Figure A.I (cont'd): Screenshots of EOZ treatment

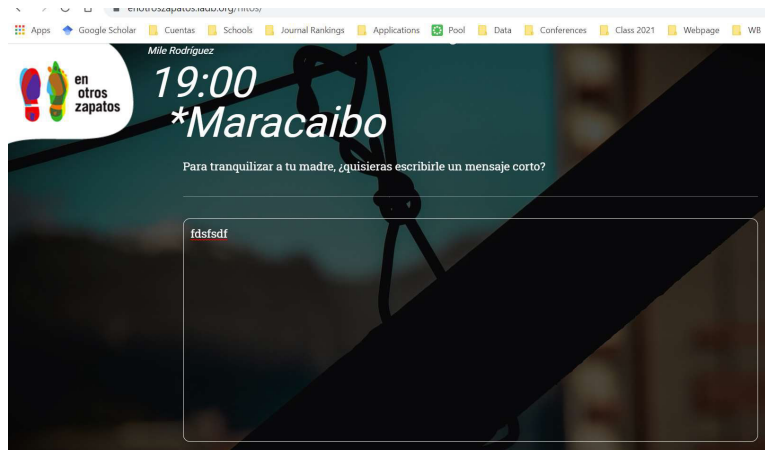
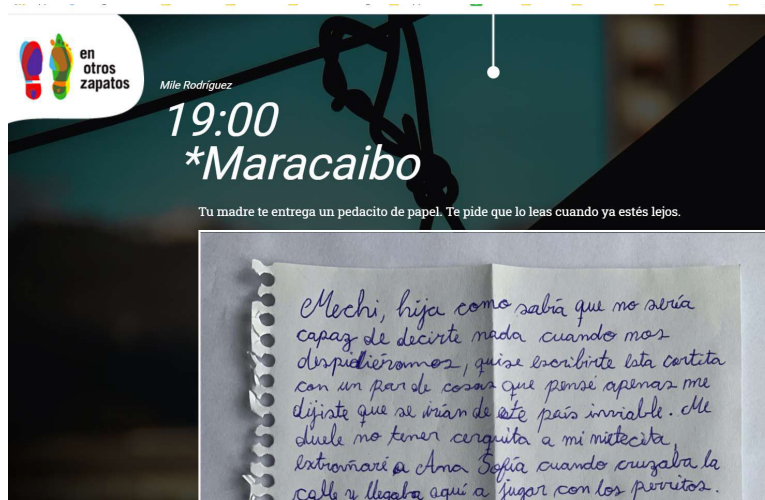
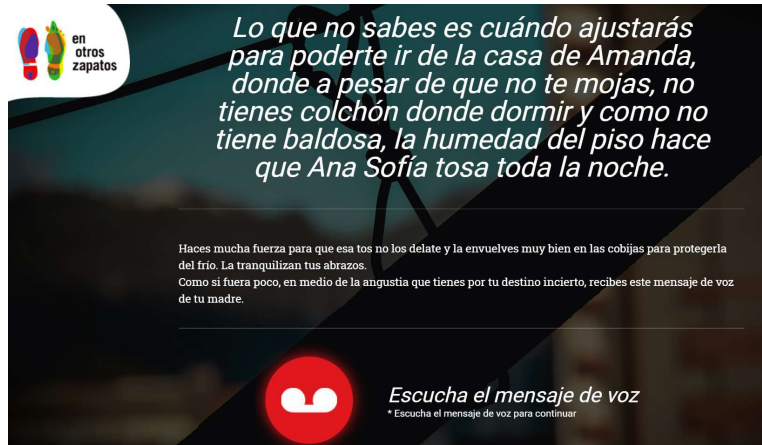
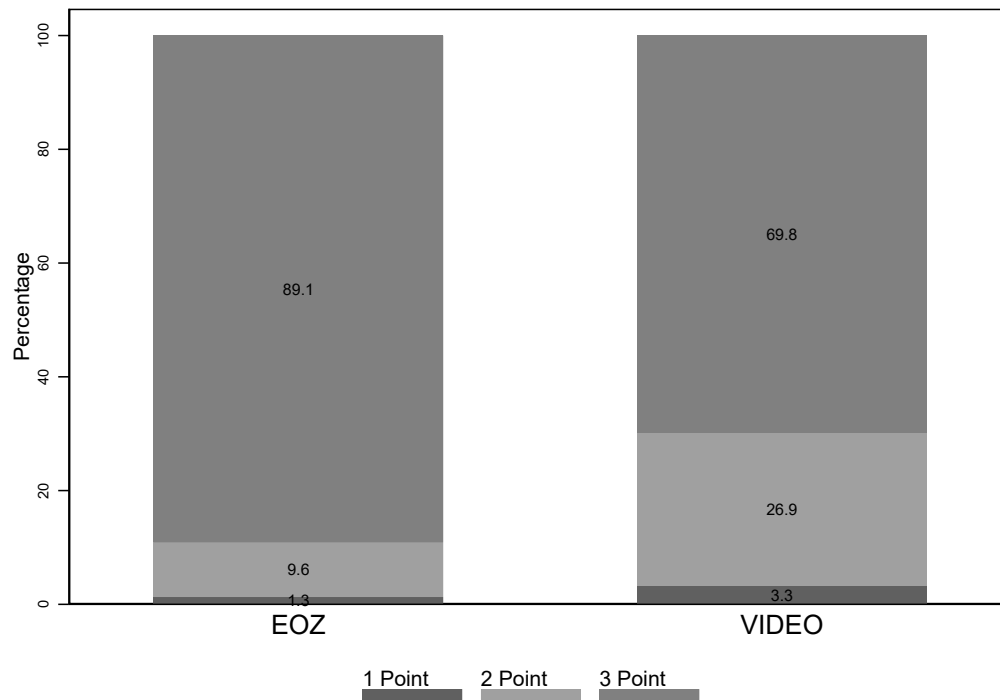


Figure A.I (cont'd): Screenshots of EOZ treatment



Comprehension Scores

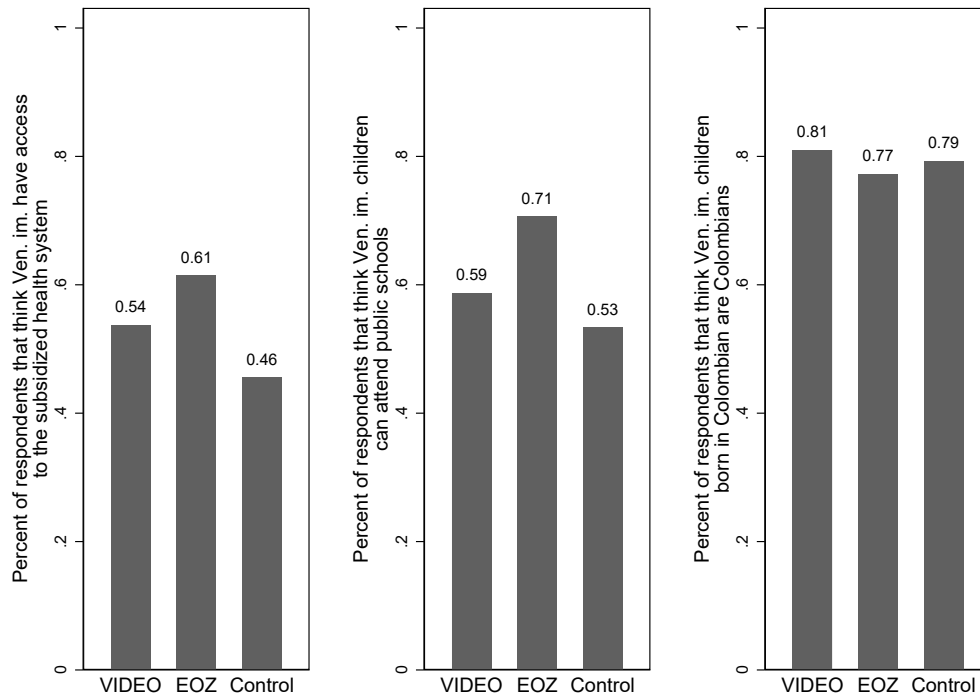
Figure (A.2) Comprehension Assessment Score



Notes: The figure illustrates the comprehension assessment score for the EOZ and Video treatments. EOZ and video recipients were asked three questions concerning the information shares with them during each activity. Each correct answer was scored 1 if correct and 0 if incorrect. The score represents the sum of the three answers for each treatment. For the EOZ treatment, the first question reads: "What was the name of the primary character of the story?". The possible answers were: "a. Mile"; "b. Lina"; "c. Diana"; and "d. Paola". The second question asked: "The primary character and her husband have to decide between leaving to". The answer options were: "a. Cúcuta and Bucaramanga"; "b. Bucaramanga and Bogotá"; "c. Riohacha and Bogotá"; and "d. Bucaramanga and Riohacha". The third question asks: "Where is the primary character from?". The respondents choose between: "a. Caracas"; "b. Cúcuta"; and "c. Maracaibo"; and "d. Manzanillo". For the respondents from the video treatment arm, the first question was: "What is the title of the video?". The possible choices were: "a. The perils of migrants"; "b. Walking for freedom"; and "c. Migration from Colombia to Venezuela". The second question reads: "Which of the following migrants are allowed to sleep in the shelter presented in the video". The answer options were: "a. Only children"; "b. Only women and children"; "c. All migrants (independent of sex and age)"; and "d. Only migrants that have a passport". Finally, the third question asked: "3. Approximately, how many Venezuelans have fled their country?". Respondents choose between: "a. 1 million"; "b. 3 million"; "c. 5 million"; and "d. 7 million".

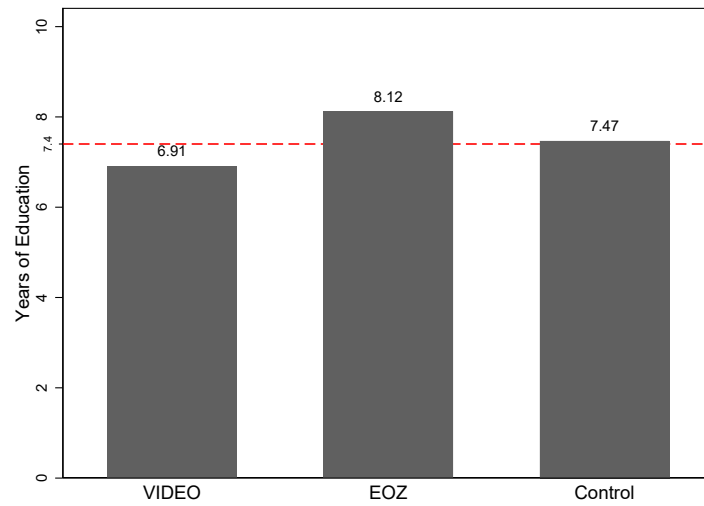
Measuring Misinformation Towards Migrant's Situation

Figure (A.3) Predicting Migrant's Access to Public Services and Children's Nationality



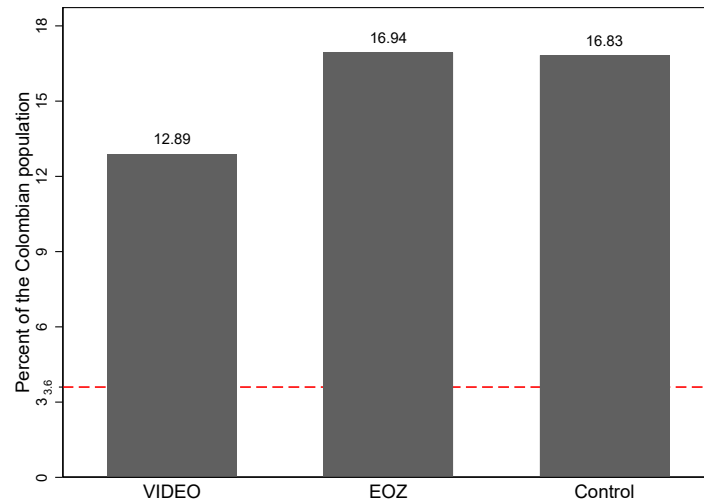
Notes: The figure illustrates the answer to one of the three questions that measures the level of respondent's misinformation about Venezuelan migrants. Respondents are asked to choose one or more statements that best describe their opinions. The statements where: "a. Venezuelan immigrants have access to the Colombian's subsidized health system"; "b. Venezuelans' children can attend public schools in Colombia"; and "c. Venezuelans' children born in Colombia, are Colombians (they have the right to get the Colombian nationality)". At the time of data collection, Venezuelan migrants did not had access to the subsidized health system, but their children could attend public schools, and anyone born in Colombia was considered Colombian.

Figure (A.4) Predicting Migrant's Education Levels



Notes: The figure illustrates the answer to one of the three questions that measures the level of respondent's misinformation about Venezuelan migration. The question comes from a statement that reads: "In Colombia, an average citizen has around 6 years of education (which is equivalent to having finished primary school)". The question was: "How many years of average education do you think Venezuelan migrants in Colombia have?"

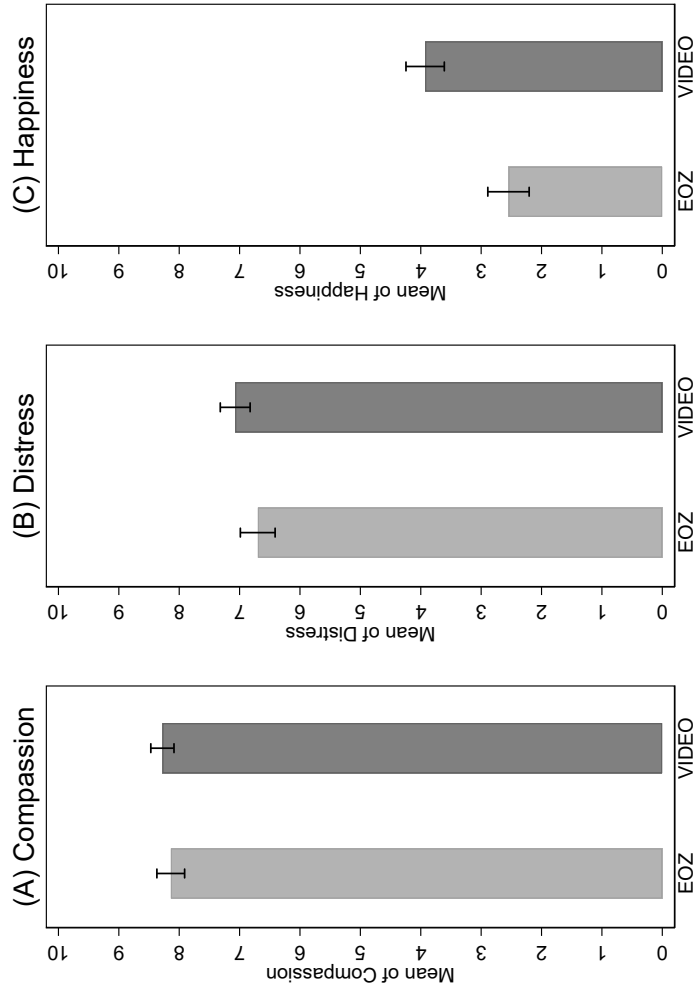
Figure (A.5) Predicting the Size of Venezuelan Population in Colombia



Notes: The figure illustrates the answer to one of the three questions that measure the level of respondent's misinformation about Venezuelan migration. The question asks respondent to choose a number between 0% and 100%. It asks: "What percent of the Colombian population do Venezuelans represent today?"

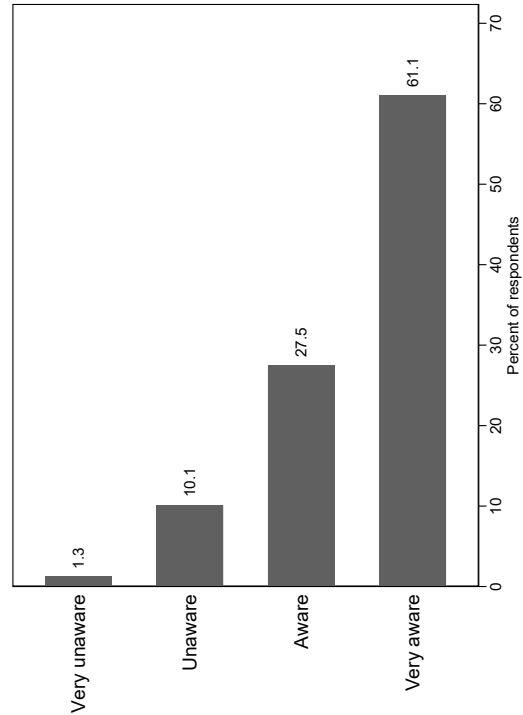
Measuring Perspective-Taking and Emotions caused by the Treatments

Figure (A.6) Emotions

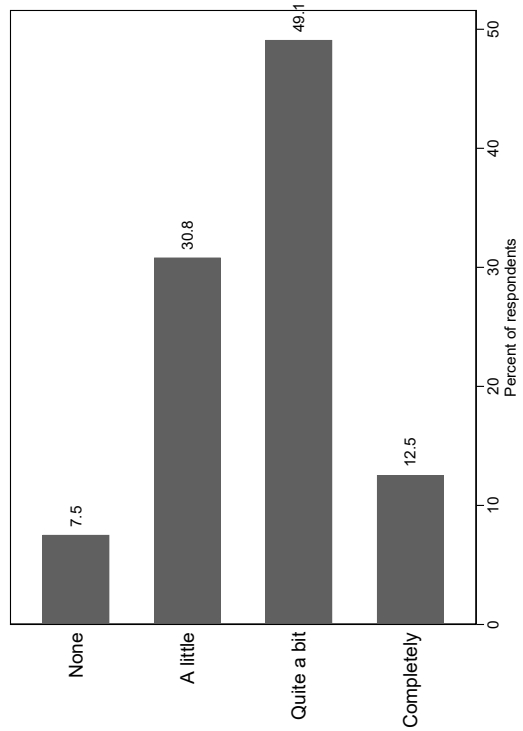


Notes: The figure illustrates the three answers from a question that was directed at measuring the respondent's emotions after receiving the treatment. It asks: "Please indicate how much you experienced the following emotional states when you watched the video / realized the virtual activity: a. Compassion; b. Distress; and/or c. Happiness". The respondent answers by choosing one choice for each choice a, b, and c, from a Likert scale from one to ten, where one means "Not at all" and ten means "A lot".

Figure (A.7) Measuring Perspective-Taking



Panel A: How aware were you of outside distractions around you during the activity?



Panel B: How much did you feel the experience of the Venezuelan refugee was an extension of yourself?

Notes: The figure illustrates the two questions asked to assess respondent's level of perspective-taking during both treatments. The questions were adapted from Behm-Morawitz et al. (2016). The first question asks the respondent to choose their level of awareness from four options: "Very unaware"; "Unaware"; "Aware"; and "Very aware". The statements is: "How aware were you of outside distractions around you during the activity?". The second question asks: "How much did you feel the experience of the Venezuelan refugee was an extension of yourself?". The respondents answer by selecting a number from a scale from one to four, where one means "none" and four means "completely".

Appendix B: Survey Instrument

I. Assessing depth of perspective-taking (only for individuals assigned to EOZ treatment and video treatment)

1. How much did you feel the experience of the Venezuelan refugee was an extension of yourself?
a. Completely b. Quite a bit c. A little d. None
2. How aware were you of outside distractions around you during the activity?
a. Very aware b. Aware c. Unaware d. Very unaware

II. Comprehension assessment

EOZ treatment recipients:

1. What was the name of the main character of the story?
a. Mile b. Lina c. Diana d. Paola
2. The main character and her husband have to decide between arriving to:
a. Cúcuta and Bucaramanga b. Bucaramanga and Bogotá c. Riohacha and Bogotá d. Bucaramanga and Riohacha
3. Where is the main character from?
a. Caracas b. Cúcuta c. Maracaibo d. Manzanillo

Video treatment recipients:

1. What sentence does describe your experience with the internet connection:
a. I watch the video without interruptions. b. The video was interrupted only once. c. The video was interrupted more than once. d. Could not watch the video because it was frequently interrupted.
2. What is the title of the video?
a. The perils of migrants b. Walking for freedom c. Migration from Colombia to Venezuela
3. The shelter that is shown in the video, which of the following migrants are allowed to sleep in:
a. Only children b. Only women and children c. All migrants (independent of sex and age) d. Only migrants that have a passport
4. Approximately, how many Venezuelans have fled their country?
a. 1 million b. 3 million c. 5 million d. 7 million

III. General characteristics

1. What is your gender?
a. Female b. Male c. Other
2. In what year where you born?
3. What is your marital status? a. Married/Living together b. Separated c. Widowed d. Single e. Other
4. In what country where you born?
a. Colombia b. Venezuela c. Other
5. Where did you live 5 years ago?
a. In the same municipality in Colombia where I live now b. In a different municipality in Colombia than where I live now c. In a different country
6. What is your religion?
a. Catholic b. Evangelic c. Jewish d. Protestant e. Jehovah witness f. Agnostic/Atheist g. Other
7. Left and right political trends are often spoke of. According to the meaning that the terms “left” and “right” have for you, with what political tendency do you sympathize?
a. Left b. Center-left c. Center d. Center-right e. Right f. NR
8. How many people live in your household? Think of people who you share a meal with on most days.
9. How many years of education have you completed? (please start to count from the first year of elementary school).
10. To what strata does you're your dwelling belong to?
a. Strata 1 b. Strata 2 c. Strata 3 d. Strata 4 e. Strata 5 f. Strata 6
11. Think of your ten closest family members and friends. Of those:
a. How many are Colombians? b. How many are Venezuelans? c. How many are from another nationality? (Please check that the upper three responses sum up to ten.)
12. Do you have any children?
a. Yes b. No
13. ¿What is your household's average monthly income? \$0-\$999,999; \$1,000,000-\$4,999,999; \$5,000,000 - \$9,999,999; \$10,000,000-\$14,999,999; \$15,000,000-\$19,999,999; \$20,000,000 - \$24,999,999; \$25,000,000 – \$29,999,999; \$30,000,000 - \$34,999,999; \$35,000,000- \$39,999,999; \$40,000,000+.

IV. Misinformation

1. What percent of the Colombian population do Venezuelans represent today? (Please choose a number between 0% and 100%)

2. In Colombia, an average citizen has around 6 years of education (which is equivalent to having finished primary school). How many years of average education do you think Venezuelan migrants in Colombia have?
3. Please choose the statements that best describe your opinions (you may choose more than one option):
 - a. Venezuelan immigrants have access to the Colombian's subsidized health system.
 - b. Venezuelans' children can attend public schools in Colombia.
 - c. Venezuelans' children born in Colombia, are Colombians (they have the right to get the Colombian nationality).

V. Attitudes Towards Venezuelan Refugees

1. List experiment: How many of the following issues annoy you? [Please tell us how many not which of them]
 - a. Homeless people sleeping on the street
 - b. People talking loud close to me
 - c. People who cut in line
 - d. People from other countries coming to live in my country (randomly assigned to all participants)
2. Which relates the most with a Venezuelan immigrant living in Colombia that is poor?
 - a. Lack of effort on his or her own part
 - b. Circumstances beyond his or her control
3. Imagine two people, Carlos and Diego, currently living in Colombia with their families. Carlos is born in Colombia, while Diego legally moved to Colombia five years ago from Venezuela. They are both 35, have three children, and earn the same low income from their jobs. In your opinion, does Diego pay more, the same, or less in income taxes than Carlos?
 - a. A lot more b. More c. Same d. Less e. A lot less
4. In your opinion does Diego, who is a Venezuelan immigrant, receive more, the same, or less government transfers (such as e.g., public assistance, Familias en Acción, formation programs like SENA, unemployment benefits during unemployment spells, educational scholarships or housing subsidies) than Carlos?
 - a. A lot more b. More c. Same d. Less e. A lot less
5. The Colombian government is obligated to help Venezuelan immigrants.
 - a. Strongly disagree b. Disagree c. Agree d. Strongly agree
6. Colombians have the right to keep Venezuelan immigrants out of their neighborhoods and Venezuelans should respect that right.
 - a. Strongly disagree b. Disagree c. Agree d. Strongly agree
7. I would vote for a policy to increase government spending to assist Venezuelan immigrants
 - a. Strongly disagree b. Disagree c. Agree d. Strongly agree

8. Please read the following statements and choose one:

- a. Venezuelan immigrants should have as good a chance as anyone to get any kind of job in Colombia.
- b. Colombians should have the first chance at any kind of job.

9. Please, read the following statements and tell us if you: “Strongly agree”, “Agree”, “Disagree”, “Strongly disagree”.

- a. Immigrants are good for a country’s economy.
- b. Immigrants come to compete for our jobs.
- c. Immigrants increase crime.
- d. Immigrants improve our society by bringing new ideas and cultures.
- e. In general, what immigrants contribute to a country is more than what they take away from it.

VI. Altruism

1. How willing are you to give to good causes without expecting anything in return? Please indicate your answer on a scale from 0 to 10, where 0 means you are “completely unwilling to do so” and a 10 means you are “very willing to do so”. You can also use any numbers between 0 and 10 to indicate where you fall on the scale, like 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

2. At the end of this survey you will receive 10,000 additional COP. You can keep that money or you can donate it to the following organizations in Colombia. How would you like to distribute that money between?

* Please have in mind that all the resources you decide to donate, will in fact be delivered to the chosen organizations.

The researchers of this project are committed to doing it.

a. You: \$ b. Fundación Juntos se Puede. Organization that supports Venezuelan immigrants to access health, education and legal advice. \$ c. Un techo por mi país: Organization that builds houses to vulnerable population in Colombia: \$

* Once this study is finished, we estimate that by October of 2020, REBEL will send the total funds donated from the participants of this study to each organization. While donating, REBEL will explain to the organizations that the funds come from a study, without giving any details about who donated, or the relation of the Inter-American Development Bank and the University of Southern California with the study. After doing this, REBEL will send a proof to all the participants of the donations done.

VII. Trust

For the following statements please choose one answer:

- 1. One can trust other people.
- a. Strongly disagree b. Disagree c. Agree d. Strongly agree

2. In general, other people have good intentions toward me.
a. Strongly disagree b. Disagree c. Agree d. Strongly agree
3. One can rely on other people, even if one does not know them well.
a. Strongly disagree b. Disagree c. Agree d. Strongly agree
4. One can trust in Venezuelan migrants.
a. Strongly disagree b. Disagree c. Agree d. Strongly agree

VII. Empathic and Perspective Taking Scale

The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter. On the scale, where A “Describes me very well” and E “Does not describe me well”.

Please read each item carefully before responding. Answer as honestly as you can.

1. I sometimes find it difficult to see things from the “other guy’s” point of view.(PT) (-)
2. I often have tender, concerned feelings for people less fortunate than me. (EC)
3. I try to look at everybody’s side of a disagreement before I make a decision. (PT)
4. Sometimes I don’t feel very sorry for other people when they are having problems. (EC) (-)
5. I sometimes try to understand my friends better by imagining how things look from their perspective. (PT)
6. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)
7. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments. (PT) (-)
8. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them. (EC) (-)
9. I believe that there are two sides to every question and try to look at them both. (PT)
10. I would describe myself as a pretty soft-hearted person. (EC)
11. When I’m upset at someone, I usually try to “put myself in his shoes” for a while. (PT)
12. I am often quite touched by things that I see happen. (EC)
13. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PT)
14. When I see someone get hurt, I tend to remain calm. (EC) (-)
15. Other people’s misfortunes do not usually disturb me a great deal. (EC) (-)

PT = perspective-taking scale; EC = empathic concern scale.

NOTE: (-) denotes item to be scored in reverse fashion

A = 0, B = 1, C = 2, D = 3, E = 4

Except for reversed-scored items, which are scored:

A = 4, B = 3, C = 2, D = 1, E = 0

VIII. Social desirability bias: For all groups

1. It is sometimes hard for me to go on with my work if I am not encouraged. True/False
2. There have been times when I was quite jealous of the good fortune of others. True/False
3. I am always willing to admit when I make a mistake. True/False
4. I am always courteous, even to people who are disagreeable. True/False

IX. Emotions (for EOZ and video treatment groups)

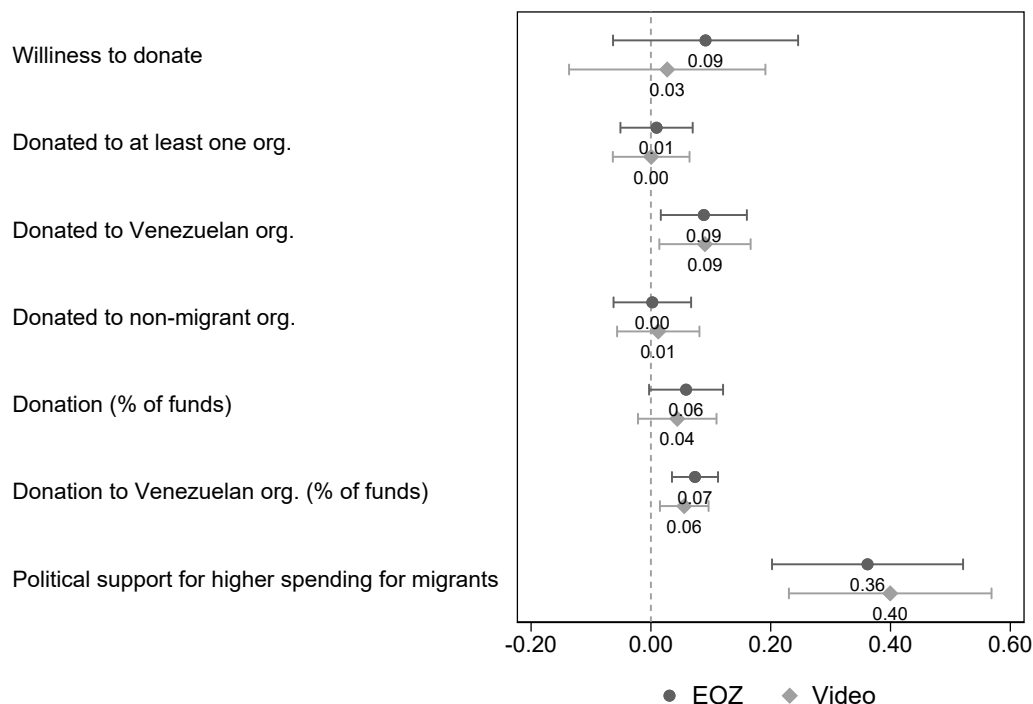
1. Below you will find a scale with different adjectives that characterize different emotional states. On a scale of 1 to 10, where 1 means "Not at all" and 10 means "A lot", please indicate how much you experienced the following emotional states when you watched the video / realized the virtual activity. You can also use any numbers between 1 and 10 to indicate where you fall on the scale, like 1, 2, 3, 4, 5, 6, 7, 8, 9, 10:

- a. Compassion:
- b. Distress:
- c. Happiness:

Appendix C: Robustness Tests

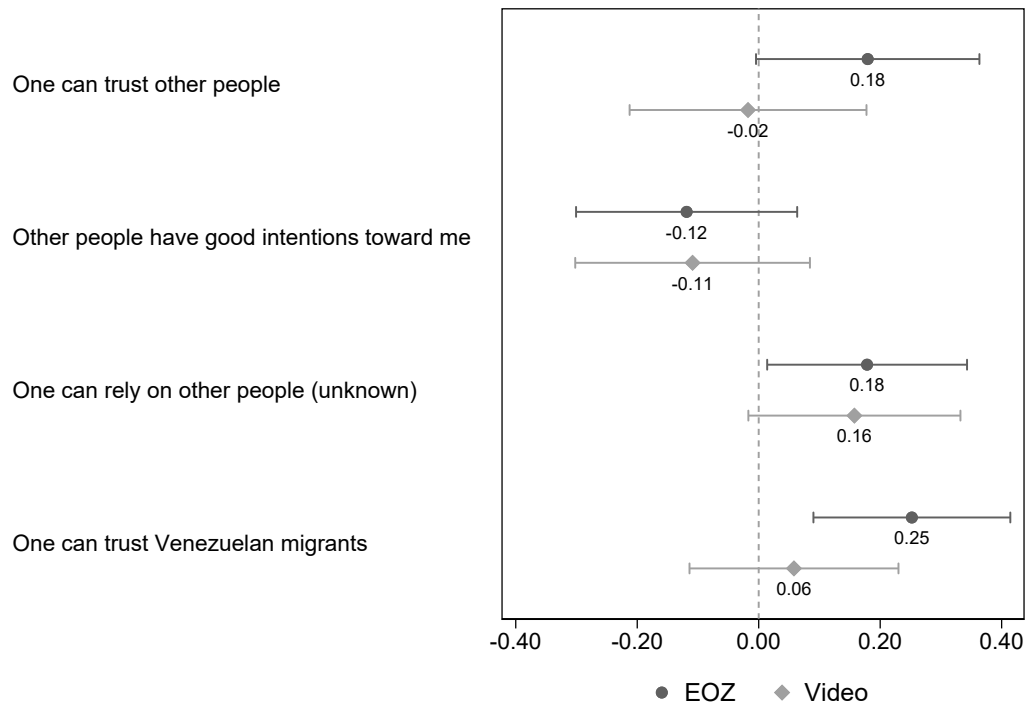
Testing the Robustness of Main Results to Adding Controls

Figure (C.1) Impacts of the Programs on Altruism



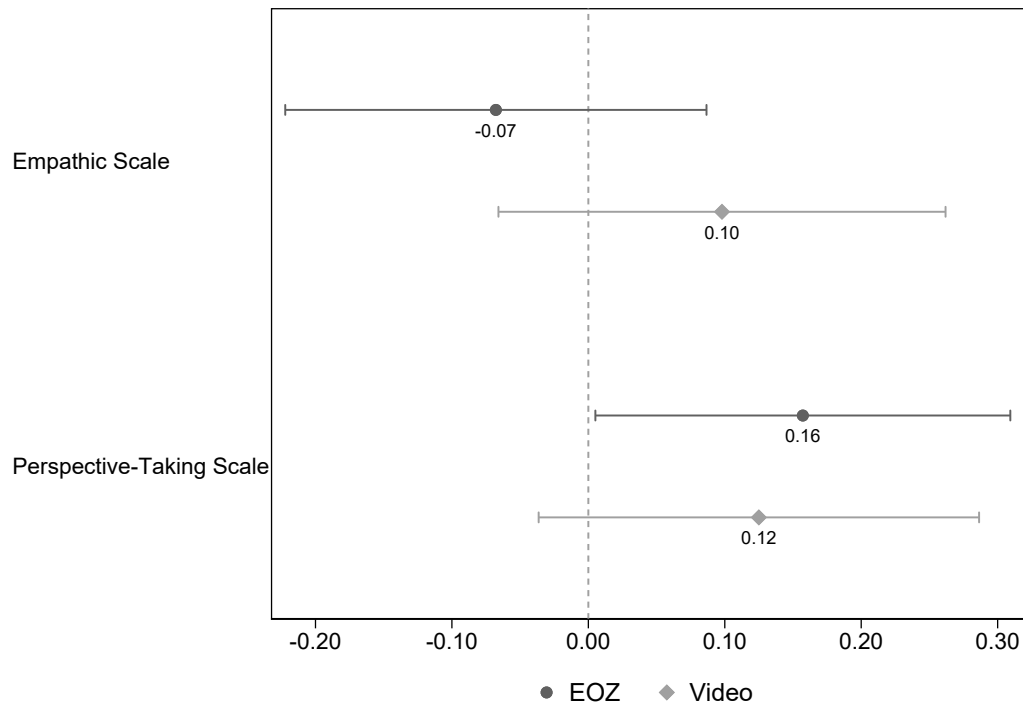
Notes: The figure illustrates the estimates of equation 1 with controls. We include all the controls that describe the sociodemographic variables collected in the survey instrument (see Table I for details). The figure's first variable is a self-reported question adapted from Falk et al. (2018), who validated the question experimentally in Colombia. It asks: "How willing are you to give to good causes without expecting anything in return?" The answer is a choice from a Likert scale from zero to ten, where zero means "completely unwilling to do so" and ten means "very willing to do so". The second variable in the Figure presents the results of an incentivized dictator game presented to each individual in the following way: "At the end of this survey you will receive 10,000 additional COP. You can keep that money or you can donate it to the following organizations in Colombia. How would you like to distribute that money between? a. You; b. *Fundación Juntos se Puede*: an organization that supports Venezuelan migrants in Colombia to access health, education, and legal advice, and c. *Un techo por mi país*: an organization that builds houses to vulnerable population in Colombia." The last variable comes from a statement that asks: "I would vote for a policy to increase government spending to assist Venezuelan immigrants". Respondents answer by choosing a choice from a Likert scale. Higher values imply more political support. The variable was transformed to z-scores using the control group mean and deviation to ease interpretation. Overall sample size of the figure is 808, except for the donations to Venezuelan organizations as a percentage of funds that has a sample size of 658. Donated to Venezuelan organization is an indicator variable equal to 1 if the respondent donated to a charity that supports migrants in Colombia (control group mean: 0.669). Donated to a non-migrant organization is an indicator variable equal to 1 if the respondent donated to the non-migrant charity organization (control group mean: 0.783). The share of donation to Venezuelan organization has a control mean of 0.393, and the total donations as a percentage of funds has a control mean of 0.458. The figure reports 95 % confidence intervals.

Figure (C.2) Impacts of the Programs on Trust



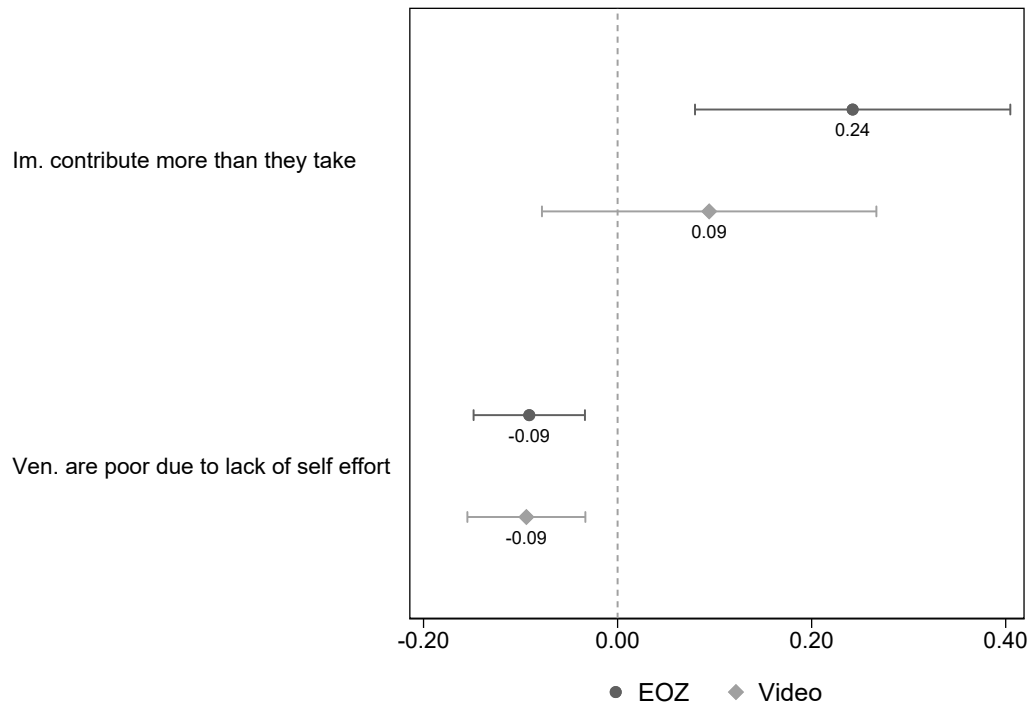
Notes: The figure illustrates the estimates of equation 1 with controls. We include all the controls that describe the sociodemographic variables collected in the survey instrument (see Table I for details). The first three questions are taken from [Kosse et al. \(2020\)](#) and have been experimentally validated by [Fehr et al. \(2002\)](#) and [Falk et al. \(2016\)](#). Each variable is a z-score estimated with the mean and standard deviation from the control group. The figure reports 95 % confidence intervals. The sample size is 808.

Figure (C.3) Impacts of the Programs on Empathic and Perspective-Taking Scales



Notes: The figure illustrates the estimates of equation 1 with controls. We include all the controls that describe the sociodemographic variables collected in the survey instrument (see Table I for details). The scales come from the Interpersonal Reactivity Index (IRI) originally formulated by Davis (1980, 1983). The scale has been validated in Colombia by Pérez-Albéniz et al. (2003). The questions allow the construction of an *empathic concern* and *perspective-taking* scale. The *perspective-taking* scale has six statements that measure the reported tendency to spontaneously adopt the psychological point of view of others in everyday life. The *empathic concern* scale has eight statements that assess the tendency to experience feelings of sympathy and compassion for unfortunate others. For each of the fourteen statements the respondent answers by choosing a Likert scale from zero to four, where zero represents "does not describe me well" and four represents "describes me very well". According to the answer he gets a score of zero to four, respectively, and the total score is the sum of the total points. All variables are reported as z-scores constructed with the mean and standard deviations of the control group. The sample size is 808. The figure reports 95 % confidence intervals.

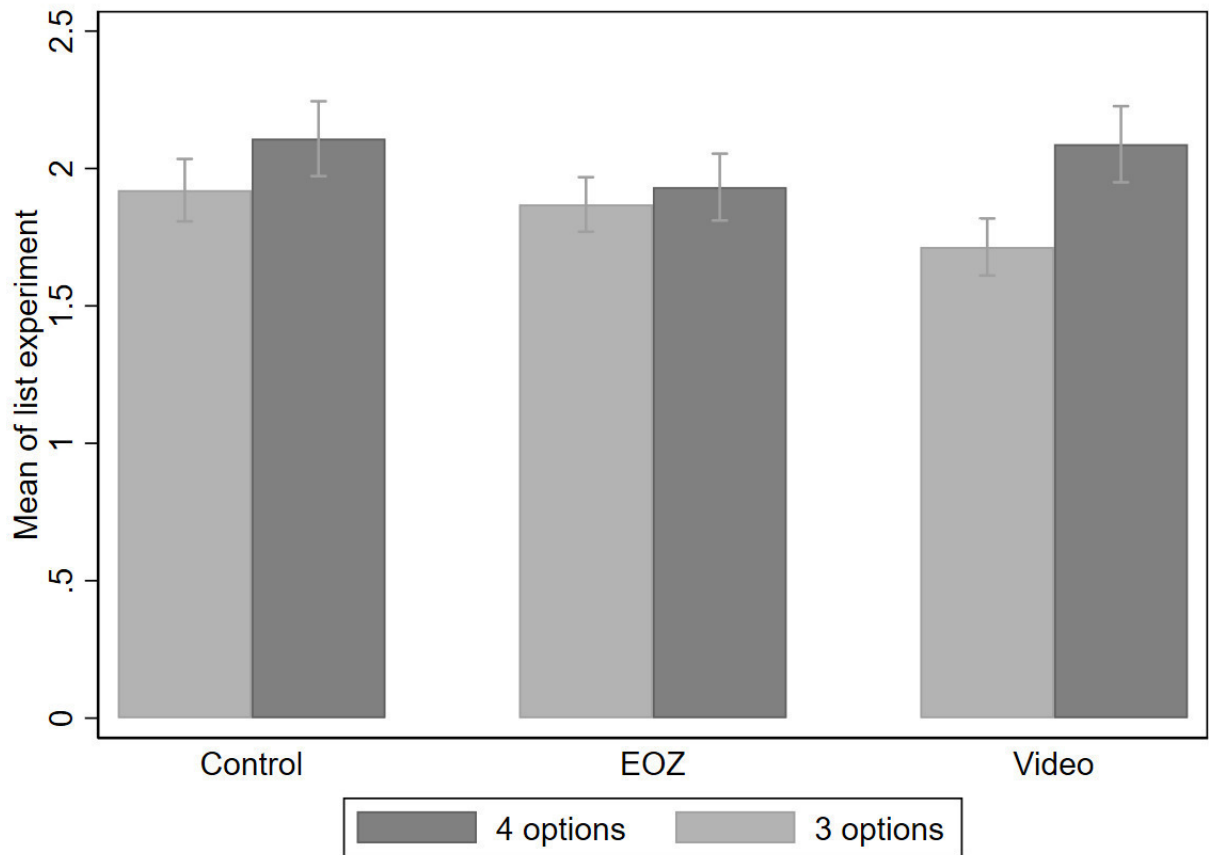
Figure (C.4) Impacts of the Program on Beliefs Towards Migrants



Notes: The figure illustrates the estimates of equation 1 with controls using as outcomes two statements that were directed at measuring respondent's attitudes towards migrants. We include all the controls that describe the sociodemographic variables collected in the survey instrument (see Table I for details). The first variable corresponds to agreement with the statement: "In general, what immigrants contribute to a country is more than what they take away from it", with possible answers being: "Strongly agree", "Agree", "Disagree", and "Strongly disagree". The figure illustrates the z-score of this variable, which was constructed using the mean and deviation from the control group. We also examine the effects of the program on the following question: "Which relates the most with a Venezuelan immigrant living in Colombia that is poor? a. Lack of effort on his or her own part or ;b. Circumstances beyond his or her control". We report an indicator variable equal to 1 if the respondent answered the specific choice "a" (control group mean: 0.206). The sample size is 807. The figure reports 95 % confidence intervals.

Measuring Social Desirability Bias

Figure (C.5) Results of the List Experiment



Notes: The figure illustrates the results of the listing experiment randomly assigned to all participants. The respondents were asked: "How many of the following issues annoy you? [Please respond how many not which of them]". The options were: "a. Homeless people sleeping on the street"; "b. People talking loud close to me"; "c. People who cut in line"; "d. People from other countries coming to live in my country". Option d was the statement assigned randomly so that only half of the participants got this statement.

Appendix D: Heterogeneous Effects by Student Status

Table (D.1) Testing Balance Between Groups - Students

Means by Treatment Assignment						
	Treatment EOZ Group (1)	Treatment Group (2)	Video Group (3)	Overall Sample		
				Mean	S.D.	
Male [=1]	0.39	0.51	0.51	0.46	0.50	
Age	22.03	21.77	21.45	21.76	3.08	
Married [=1]	0.03	0.01	0.00	0.01	0.00	
Religious [=1]	0.76	0.78	0.77	0.77	0.42	
Ideology (1 Left - 5 Right)	2.47	2.46	2.60	2.51	1.08	
Household size	3.21	3.11	2.96	3.10	1.39	
Education	14.09	13.93	12.75	13.61	3.73	
Income (1 low- 10 high)	2.40	2.48	2.38	2.41	1.08	
Economic Strata 1	0.06	0.03	0.04	0.04	0.20	
Economic Strata 2	0.25	0.20	0.29	0.25	0.43	
Economic Strata 3	0.42	0.44	0.42	0.42	0.49	
Economic Strata 4	0.19	0.24	0.20	0.21	0.41	
Economic Strata 5	0.07	0.07	0.05	0.06	0.24	
Economic Strata 6	0.03	0.02	0.01	0.02	0.13	
Venezuelan friends (% of 10 as closest friends)	0.03	0.02	0.02	0.02	0.09	
Children [=1]	0.05	0.05	0.04	0.05	0.21	
Joint orthogonality test p-value						0.88
Sample Size	200	167	167			0.02

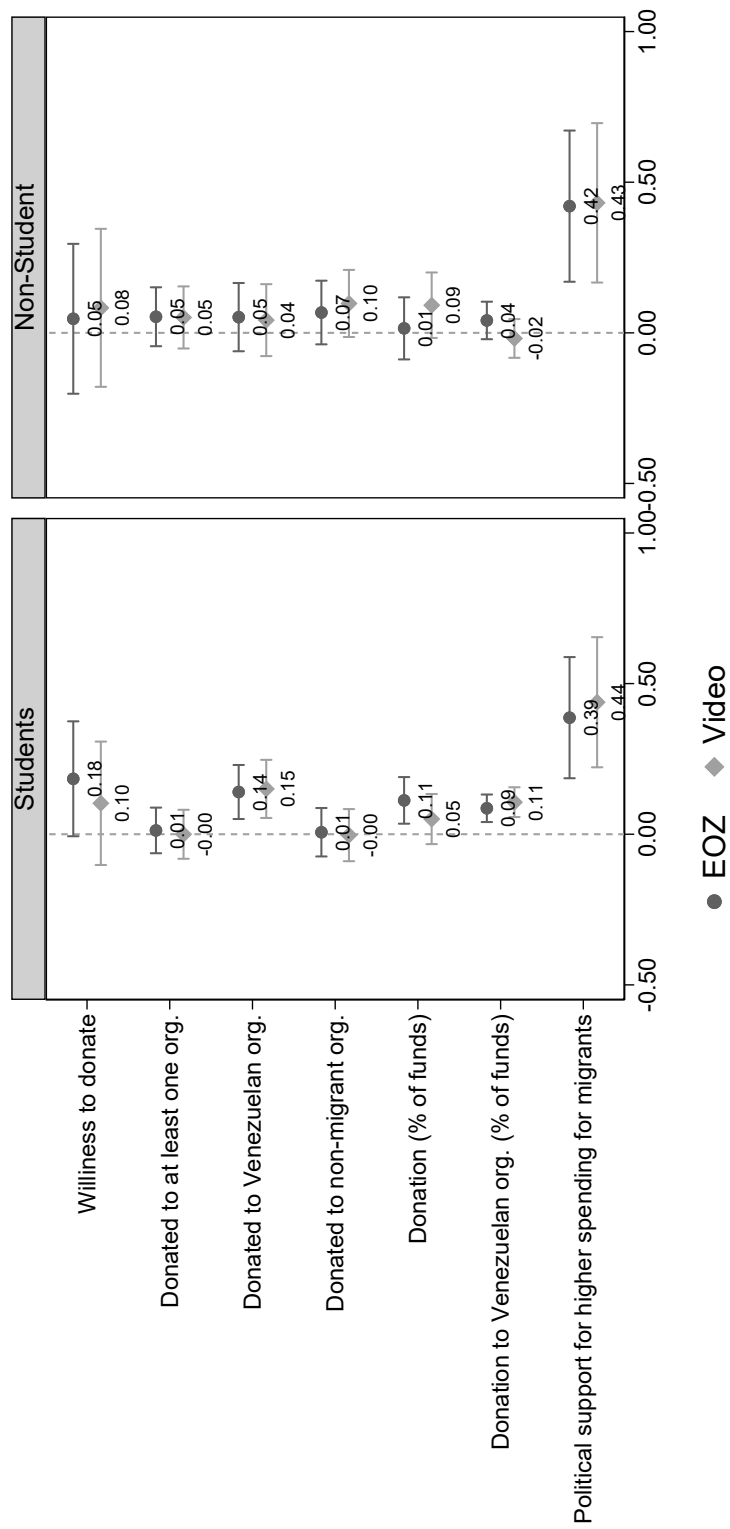
Notes: The joint orthogonality test is a joint significance test of all the covariates from a multinomial logit of the treatment status in all the independent covariates listed in the table.

Table (D.2) Testing Balance Between Groups - Non-students

	Means by Treatment Assignment						P-value (1) vs (3)	P-value (2) vs (3)	P-value (1) vs (2)
	Treatment EOZ Group (1)	Treatment Group (2)	Video Group (3)	Overall Sample					
				Mean	S.D.				
Male [=1]	0.45	0.48	0.47	0.46	0.50	0.74	0.92	0.66	
Age	30.98	31.29	30.61	30.95	10.60	0.78	0.66	0.84	
Married [=1]	0.17	0.16	0.12	0.15	0.36	0.31	0.47	0.81	
Religious [=1]	0.89	0.81	0.83	0.84	0.36	0.21	0.72	0.11	
Ideology (1 Left - 5 Right)	2.53	2.64	2.63	2.60	1.11	0.56	0.96	0.53	
Household size	2.69	2.86	2.60	2.71	1.37	0.59	0.18	0.40	
Education	15.11	15.17	14.88	15.05	4.38	0.68	0.65	0.92	
Income (1 low- 10 high)	2.06	2.17	2.35	2.19	1.05	0.07	0.28	0.33	
Economic Strata 1	0.07	0.04	0.07	0.06	0.24	0.95	0.46	0.41	
Economic Strata 2	0.30	0.26	0.33	0.30	0.46	0.62	0.23	0.46	
Economic Strata 3	0.41	0.44	0.31	0.39	0.49	0.13	0.08	0.75	
Economic Strata 4	0.15	0.20	0.25	0.20	0.40	0.06	0.45	0.29	
Economic Strata 5	0.05	0.06	0.01	0.04	0.20	0.07	0.04	0.71	
Economic Strata 6	0.02	0.00	0.03	0.02	0.13	0.57	0.10	0.20	
Venezuelan friends (% of 10 closest)	0.03	0.03	0.02	0.03	0.07	0.11	0.19	0.90	
Children [=1]	0.28	0.31	0.31	0.30	0.46	0.63	0.93	0.71	
Joint orthogonality test p-value							0.23		
Sample Size	116	105	105						

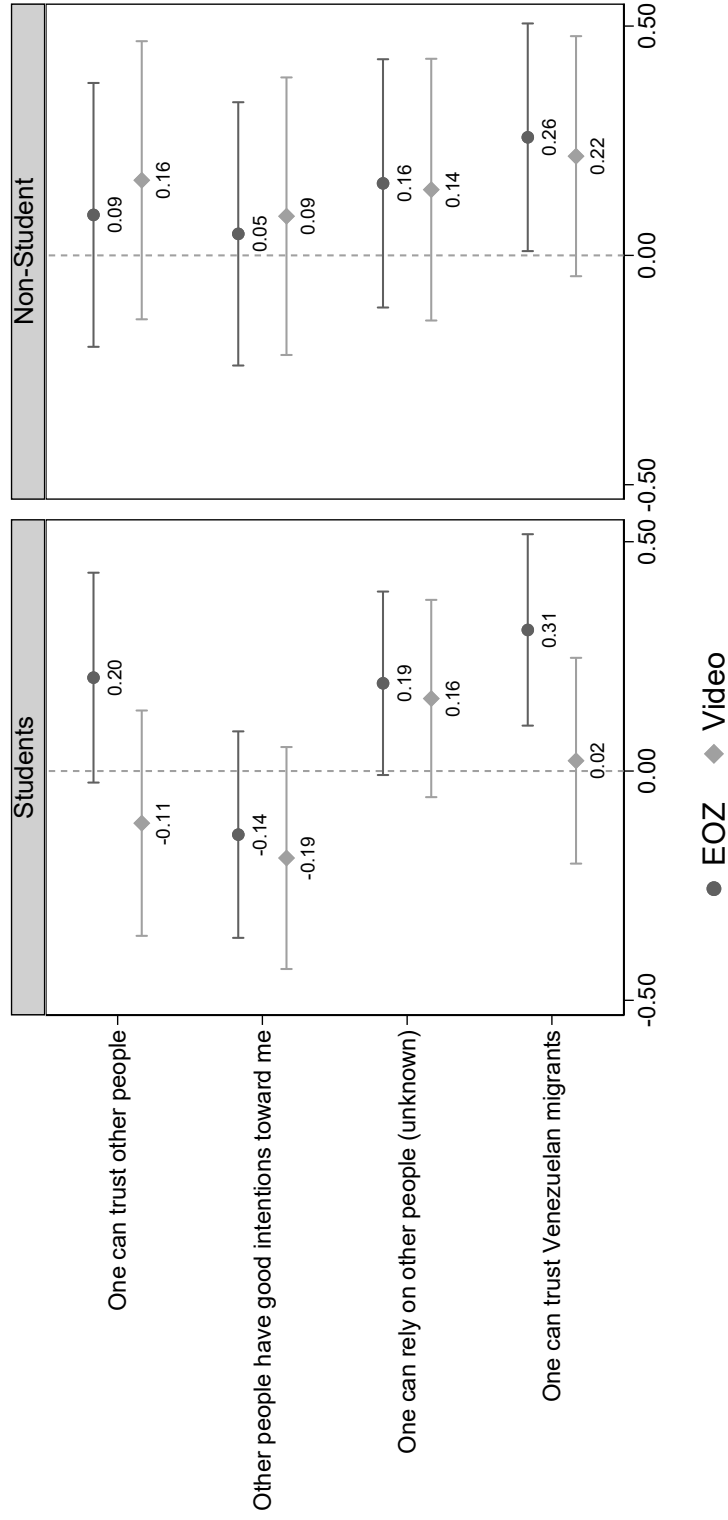
Notes: The joint orthogonality test is a joint significance test of all the covariates from a multinomial logit of the treatment status in all the independent covariates listed in the table.

Figure (D.1) Impacts of the Program on Altruism



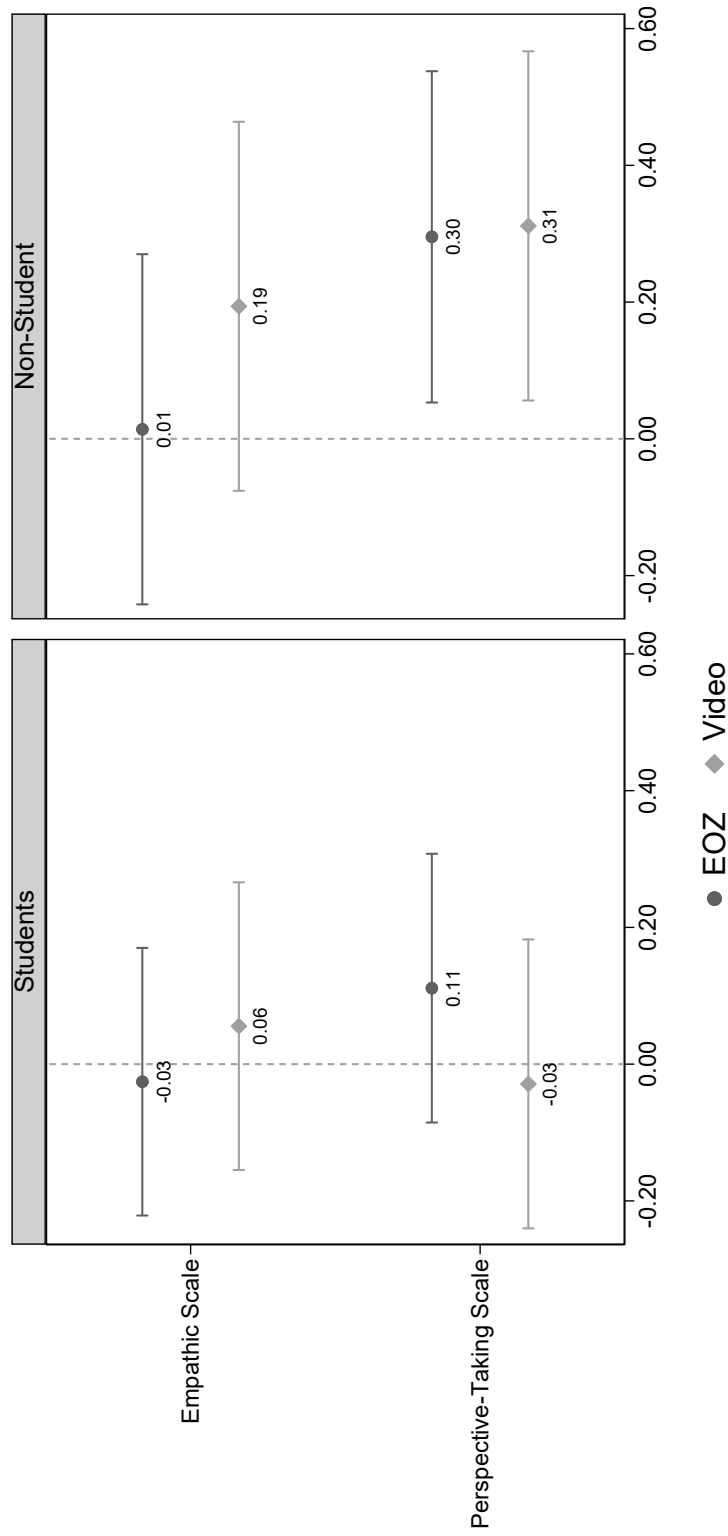
Notes: The figure illustrates the estimates of equation 1 for students and non-students. The first variable is a self-reported question adapted from Falk et al. (2018), who validated the question experimentally in Colombia. It reads: "How willing are you to give to good causes without expecting anything in return?" The answer is a choice from a Likert scale from zero to ten, where zero means "completely unwilling to do so" and ten means "very willing to do so". The second variable describes the results of an incentivized dictator game presented to each individual in the following way: "At the end of this survey you will receive 10,000 additional COP. You can keep that money or you can donate it to the following organizations in Colombia. How would you like to distribute that money between? a. You; b. *Fundación Juntos se Puede*: an organization that supports Venezuelan migrants in Colombia to access health, education, and legal advice, and c. *Un techo para mi país*: an organization that builds houses to vulnerable population in Colombia." The last variable comes from a statement that reads: "I would vote for a policy to increase government spending to assist Venezuelan immigrants". Respondents answer by choosing a choice from a Likert scale. Higher values imply more political support. The variable was transformed to z-scores using the control group mean and deviation to ease interpretation. Sample size in the figure for students is 505 and for non-students is 300, except for the Donations to Venezuelan organizations as a percentage of funds which has a sample size of 411 for students and 244 for non-students, since not every participant made a donation. Donated to Venezuelan organization is 1 if the respondent donated to a charity that supports migrants in Colombia (control group mean for students: 0.635; control group mean for non-students: 0.724). Donated to a non-migrant organization is 1 if the respondent donated to the non-migrant charity organization (control group mean for students: 0.808; control group mean for non-students: 0.743). The share of donation to Venezuelan organization has a control mean of 0.361 for students and 0.446 for non-students, and the total donations as a percentage of funds has a control mean of 0.448 for students and non-students 0.475. The figure reports 95 % confidence intervals.

Figure (D.2) Impacts of the Program on Trust



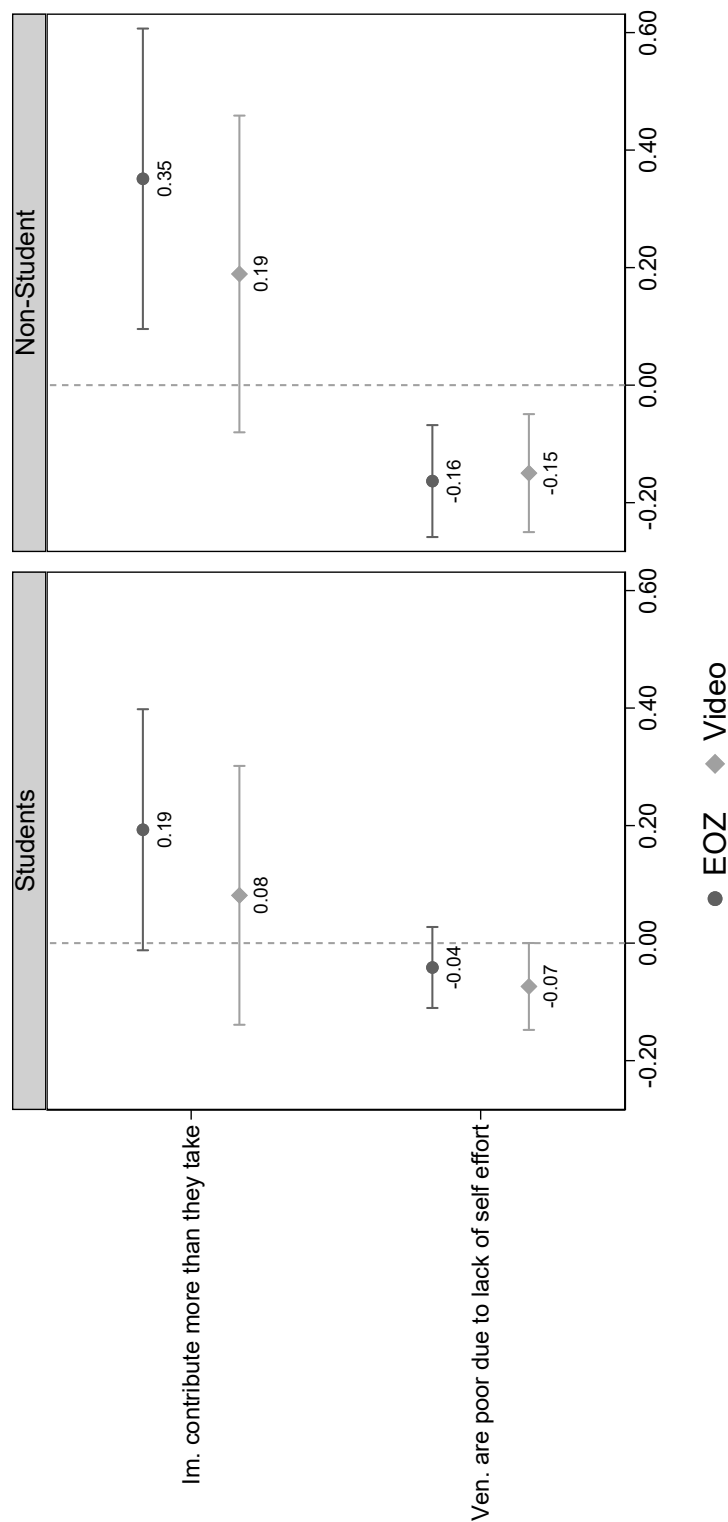
Notes: The figure illustrates the estimates of equation 1 for students and non-students. The first three questions are taken from [Kosse et al. \(2020\)](#) and have been experimentally validated by [Fehr et al. \(2002\)](#) and [Falk et al. \(2016\)](#). Each variable is a z-score estimated with the mean and standard deviation from the control group. The sample sizes of the figure are 505 for students and 300 for non-students. The figure reports 95 % confidence intervals.

Figure (D.3) Impacts of the Program on Empathy and Perspective-Taking Scales



Notes: The figure illustrates the estimates of equation 1 for students and non-students. The scales come from the Interpersonal Reactivity Index (IRI) originally formulated by Davis (1980, 1983). The scale has been validated in Colombia by Pérez-Albéniz et al. (2003). The questions allow the construction of an *empathic concern* and *perspective-taking* scale. The *empathic concern* scale has eight statements that assess the tendency to experience feelings of sympathy and compassion for unfortunate others. The *perspective-taking* scale has six statements that measure the tendency to spontaneously adopt the psychological point of view of others in everyday life. For each of the fourteen statements the respondent answers by choosing a Likert scale from zero to four, where zero represents "does not describe me well" and four represents "describes me very well". According to the answer, the respondent gets a score of zero to four, respectively, and the total score is the sum of the total points. All variables are reported as z-scores constructed with the mean and standard deviations of the control group. The sample sizes of the figure are 505 for students and 300 for non-students. The figure reports 95 % confidence intervals.

Figure (D.4) Impacts of the Program on Attitudes Towards Migrants



Notes: The figure illustrates the estimates of equation 1 for students and non-students using as outcomes two statements that were directed at measuring respondent's attitudes towards migrants. The first statements asks the respondent to choose their level of agreement from four options: "Strongly agree", "Agree", "Disagree", and "Strongly disagree". The statements is: "In general, what immigrants contribute to a country is more than what they take away from it". The figure illustrates a z-score of this variable, which was constructed using the mean and deviation from the control group. We also examine the effects of the program on the following question: "Which relates the most with a Venezuelan immigrant living in Colombia that is poor?; a. Lack of effort on his or her own part; or b. Circumstances beyond his or her control". For this last question we only report an indicator variable equal to 1 if the respondent answered the choice "a" (control group mean for students: 0.168; control group mean for non-students: 0.267). The sample sizes of the figure are 504 for students and 300 for non-students. The figure reports 95 % confidence intervals.

Appendix E: Heterogeneous Effects by Gender

Table (E.1) Testing Balance Between Groups - Male

	Means by Treatment Assignment					
	Treatment Group (1)	EOZ	Treatment Group (2)	Video Group (3)	Control Group (3)	Overall Sample
						Mean S.D.
Age	25.29		24.58		24.86	24.96 8.00
Married [=1]	0.08		0.07		0.06	0.07 0.25
Religious [=1]	0.86		0.86		0.83	0.85 0.36
Ideology (1 Left - 5 Right)	2.50		2.47		2.47	2.48 1.11
Household size	2.97		2.92		2.83	2.91 1.39
Education	14.27		14.36		13.46	14.05 4.07
Income (1 low- 10 high)	2.25		2.31		2.28	2.27 1.02
Economic Strata 1	0.06		0.04		0.04	0.05 0.22
Economic Strata 2	0.28		0.27		0.33	0.30 0.46
Economic Strata 3	0.39		0.40		0.40	0.40 0.49
Economic Strata 4	0.18		0.24		0.19	0.20 0.40
Economic Strata 5	0.07		0.05		0.02	0.05 0.22
Economic Strata 6	0.02		0.00		0.01	0.01 0.11
Venezuelan friends (\% of 10 as closest friends)	0.04		0.02		0.02	0.03 0.30
Children [=1]	0.17		0.14		0.15	0.15 0.09
						0.36 0.71
Joint orthogonality test p-value						0.66
Sample Size	186		139		139	

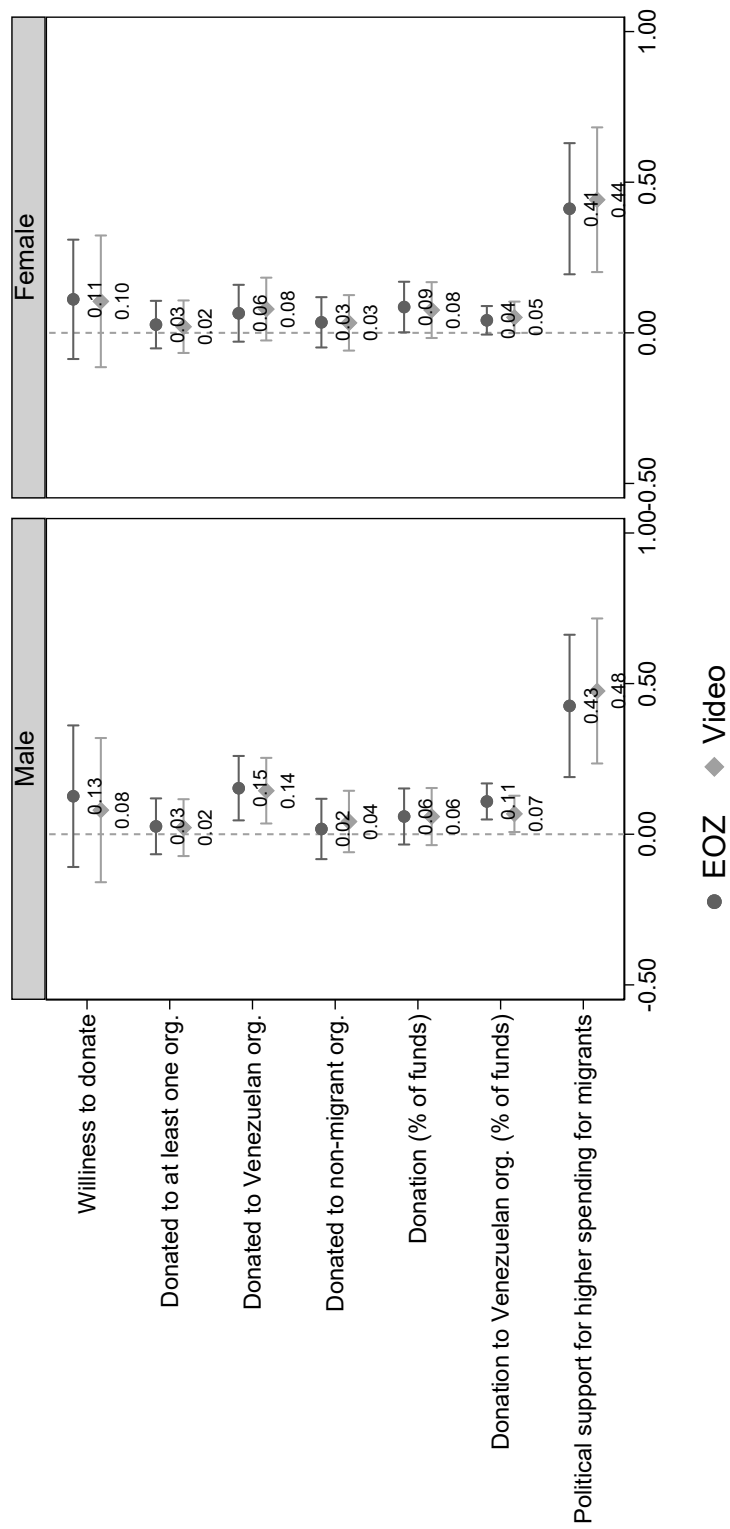
Notes: The joint orthogonality test is a joint significance test of all the covariates from a multinomial logit of the treatment status in all the independent covariates listed in the table.

Table (E.2) Testing Balance Between Groups - Female

	Means by Treatment Assignment						P-value (1) vs (3)	P-value (2) vs (3)	P-value (1) vs (2)
	Treatment EOZ Group (1)	Treatment Group (2)	Video Group (3)	Overall Sample					
				Mean	S.D.				
Age	25.35	26.37	25.12	25.59	8.57	0.81	0.28	0.36	
Married [=1]	0.08	0.07	0.04	0.07	0.25	0.11	0.20	0.77	
Religious [=1]	0.73	0.72	0.76	0.74	0.44	0.60	0.47	0.84	
Ideology (1 Left - 5 Right)	2.49	2.59	2.74	2.61	1.07	0.07	0.28	0.50	
Household size	3.09	3.11	2.82	3.00	1.40	0.10	0.10	0.93	
Education	14.74	14.45	13.70	14.29	4.01	0.04	0.17	0.51	
Income (1 low- 10 high)	2.31	2.41	2.46	2.39	1.13	0.29	0.77	0.41	
Economic Strata 1	0.07	0.02	0.05	0.05	0.22	0.58	0.26	0.10	
Economic Strata 2	0.25	0.17	0.28	0.23	0.42	0.56	0.05	0.16	
Economic Strata 3	0.45	0.47	0.35	0.42	0.49	0.10	0.06	0.79	
Economic Strata 4	0.16	0.21	0.25	0.21	0.41	0.08	0.53	0.28	
Economic Strata 5	0.05	0.09	0.05	0.06	0.24	0.97	0.15	0.16	
Economic Strata 6	0.02	0.02	0.02	0.02	0.15	0.98	0.91	0.93	
Venezuelans friends (% of 10 closest friends)	0.02	0.02	0.01	0.02	0.07	0.70	0.59	0.80	
Children [=1]	0.09	0.17	0.14	0.13	0.34	0.27	0.51	0.08	
Joint orthogonality test p-value							0.02		
Sample Size	130	133	133						

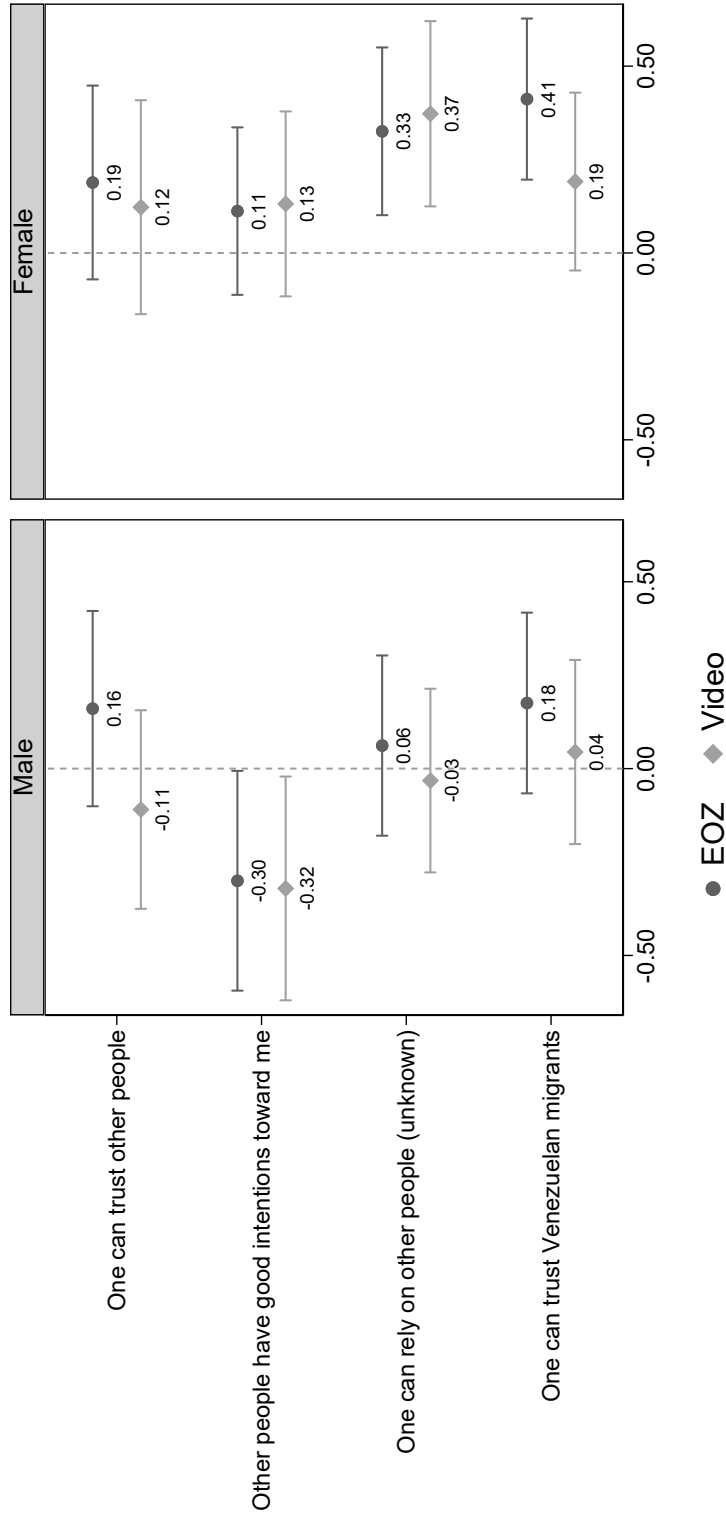
Notes: The joint orthogonality test is a joint significance test of all the covariates from a multinomial logit of the treatment status in all the independent covariates listed in the table.

Figure (E.1) Impacts of the Program on Altruism



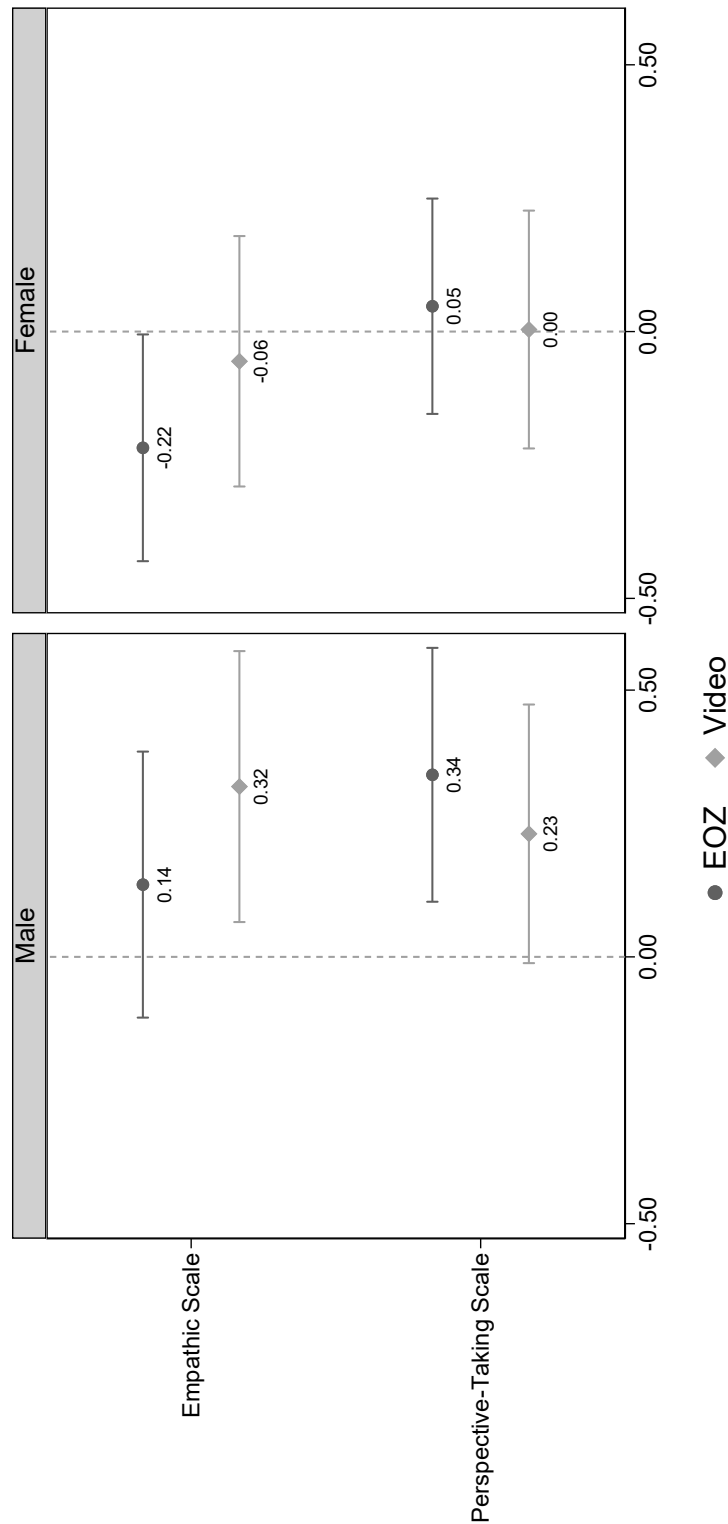
Notes: The figure illustrates the estimates of equation 1 for males and females. The first variable is a self-reported question adapted from Falk et al. (2018), who validated the question experimentally in Colombia. It reads: "How willing are you to give to good causes without expecting anything in return?" The answer is a choice from a Likert scale from zero to ten, where zero means "completely unwilling to do so" and ten means "very willing to do so". The second variable describes the results of an incentivized dictator game presented to each individual in the following way: "At the end of this survey you will receive 10,000 additional COP. You can keep that money or you can donate it to the following organizations in Colombia. How would you like to distribute that money between? a. You; b. *Fundación Juntos se Puede*: an organization that supports Venezuelan migrants in Colombia to access health, education, and legal advice, and c. *Un techo por mi país*: an organization that builds houses to vulnerable population in Colombia." The last variable comes from a statement that reads: "I would vote for a policy to increase government spending to assist Venezuelan immigrants". Respondents answer by choosing a choice from a Likert scale. Higher values imply more political support. The variable was transformed to z-scores using the control group mean and deviation to ease interpretation. Sample sizes of the figure for males is 384 and for females is 444, except for the Donations to Venezuelan organizations as a percentage of funds that has a sample size of 308 for males and 365 for females. Donated to Venezuelan organization is 1 if the respondent donated to a charity that supports migrants in Colombia (control group mean for males: 0.624; control group mean for female: 0.708). Donated to a non-migrant organization is 1 if the respondent donated to the non-migrant charity organization (control group mean for male: 0.759; control group mean for female: 0.803). The share of donations to a Venezuelan organization has a control mean of 0.385 for males and 0.400 for females, and the total donations as a percentage of funds has a control mean of 0.454 for males and females 0.461. The figure reports 95 % confidence intervals.

Figure (E.2) Impacts of the Program on Trust



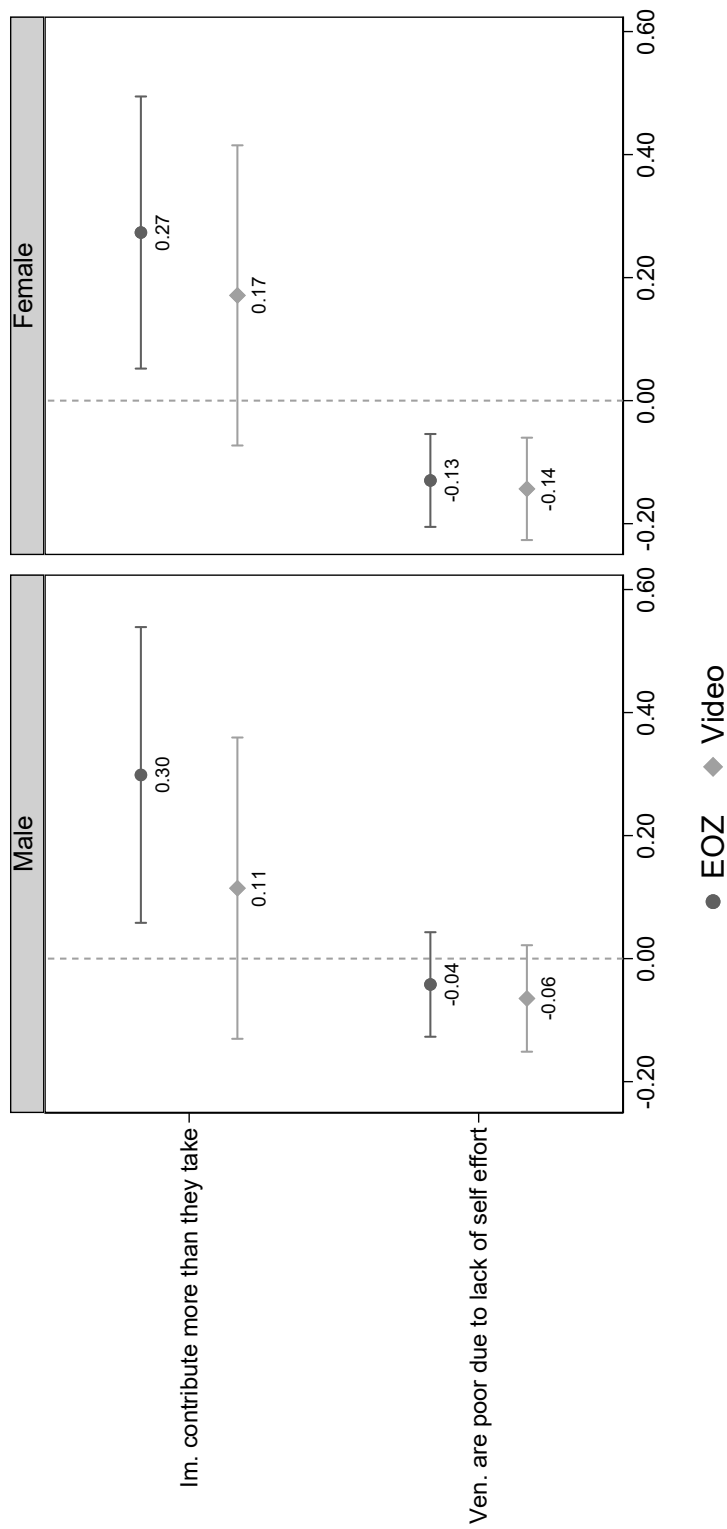
Notes: The figure illustrates the estimates of equation 1 for males and females. The first three questions are taken from [Kosse et al. \(2020\)](#) and have been experimentally validated by [Fehr et al. \(2002\)](#) and [Falk et al. \(2016\)](#). Each variable is a z-score estimated with the mean and standard deviation from the control group. The sample size is 384 for males and 444 for females. The figure reports 95 % confidence intervals.

Figure (E.3) Impacts of the Program on Empathy and Perspective-Taking Scales



Notes: The figure illustrates the estimates of equation 1 for males and females. The scales come from the Interpersonal Reactivity Index (IRI) originally formulated by Davis (1980, 1983). The scale has been validated in Colombia by Pérez-Albéniz et al. (2003). The questions allow the construction of an *empathic concern* and *perspective-taking* scale. The *perspective-taking* scale has six statements that measure the reported tendency to spontaneously adopt the psychological point of view of others in everyday life. The *empathic concern* scale has eight statements that assess the tendency to experience feelings of sympathy and compassion for unfortunate others. For each of the fourteen statements the respondent answers by choosing a Likert scale from zero to four, where zero represents "does not describe me well" and four represents "describes me very well". According to the answer he gets a score of zero to four, respectively, and the total score is the sum of the total points. All variables are reported as z-scores constructed with the mean and standard deviations of the control group. The sample size is 384 for males and 444 for females. The figure reports 95 % confidence intervals.

Figure (E.4) Impacts of the Program on Attitudes Towards Migrants



Notes: The figure illustrates the estimates of equation 1 for males and females using as outcomes two statements that were directed at measuring respondent's attitudes towards migrants. The first statements asks the respondent to choose their level of agreement from four options: "Strongly agree", "Agree", "Disagree", and "Strongly disagree". The statements is: "In general, what immigrants contribute to a country is more than what they take away from it". The figure illustrates a z-score of this variable, which was constructed using the mean and deviation from the control group. We also examine the effects of the program on the following question: "Which relates the most with a Venezuelan immigrant living in Colombia that is poor?; a. Lack of effort on his or her own part ;b. Circumstances beyond his or her control". For this last question we only report an indicator variable equal to 1 if the respondent answered the choice "a" (control group mean for males: 0.180; control group mean for females: 0.234). The sample size is 384 for males and 443 for females. The figure reports 95 % confidence intervals.