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Attitudes Towards Migrants during Crisis Times

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ABSTRACT

Attitudes Towards Migrants during Crisis Times[*]

How are natives' attitudes towards migrants shaped by economic crises? Natives could show more empathy towards migrants as everyone faces a common threat. Alternatively, natives' prejudice could rise as competition for scarce economic opportunities increases. We conduct an online survey to 3,400 Colombian citizens and randomly prime half of them to think about the economic consequences of COVID-19, before eliciting their altruism and attitudes towards Venezuelan forced migrants. We find that natives' attitudes towards migrants are substantially more negative in the treatment relative to the control group. Individuals ages 18 to 25 years, however, respond by showing more altruism.

JEL Classification:	D72, F2, O15, R23
Keywords:	migration, COVID-19, attitudes, priming, altruism

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I   Introduction

Migration is a divisive issue. Anti-immigrant sentiments are widespread across several countries and recent opinion surveys suggest that the world has become less accepting of migrants.[1] Prejudice against migrants can lead to social exclusion and preclude migrant's integration inducing large economic and social costs in hosting societies. Understanding how individuals' attitudes towards migrants respond to different stimuli is key to inform policy design and to target inclusive programs more effectively.

We examine how altruism and attitudes towards migrants are impacted by economic crises. Natives may improve their attitudes towards migrants when facing a common economic crisis due to a sense of self-vulnerability or unity. For example, a crisis may materialize in a feeling of self-vulnerability that might make natives more empathetic about the situation of other vulnerable groups. Moreover, attitudes towards migrants may improve as a society unites, when facing a common threat. We call these positive responses the *empathy channel*. Alternatively, natives' resentment towards migrants can rise since crisis increase competition for scarce resources, a response we call the *resentment channel*. We also study whether individuals in their *impressionable years* (18 to 25 years old), an age at which humans have shown to develop an important share of their prosocial behaviors (Giuliano and Spilimbergo, 2014), react differently to migrants during crises times.

We focus on examining the effects of the COVID-19 pandemic on natives' altruism and attitudes towards migrants. Identifying the effect of COVID-19 on attitudes is challenging because simply comparing individual views before an after the shock can lead to confounding the effect of the pandemic with other concurring events. For instance, during 2020, besides experiencing the spread of the disease and the economic crises that followed, many countries implemented policies that restricted migration across international borders while a few countries even implemented policies such as migratory amnesties, which can arguably have an effect on attitudes towards migrants.

To isolate the effect of COVID-19 on attitudes, we conduct an online survey experiment with 3,400 Colombian nationals. In the experiment half of our sample of 3,400 Colombian nationals (the treatment group) was randomly assigned to receive a COVID-19 priming, before answering a survey that measured their altruism and attitudes towards Venezuelan migrants.[2] Our experiment was stratified by age and gender and respondents were recruited through Facebook adds.

Colombia is an interesting setting to conduct our experiment since it is the primary recipient of the massive exodus of Venezuelan migrants fleeing from the humanitarian crisis in their country. By 2020, more than 5 million

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[1] See the evolution of the migrant accepting index from the Gallup report collected in 140 countries between 2016 and 2019 at: https://news.gallup.com/poll/320678/world-grows-less-accepting-migrants.aspx

[2] Priming is a technique applied in psychology that engages people in a task which exposes them to stimuli. The prime typically consists of meanings, for example words, that activate associated memories. This process may influence people's performance in a subsequent task.

Venezuelans had left their country and of those, approximately 2 million settled in Colombia.[3] As such, we examine the impacts of a profound economic crisis (the COVID-19 pandemic) in a country facing a massive inflow of migrants (equivalent to a shock of approximately 4 percent of its total population in the last five years).[4]

We estimate the effects of the COVID priming on five main outcomes: self-reported altruism, a measure of policy altruism corresponding to support towards public policies that help migrants, attitudes about the work effort of migrants, attitudes about the effects of Venezuelan migration on the Colombian economy, and attitudes about whether Venezuelan migrants contribute more or less in taxes than Colombian citizens.

We confirm that our treatment successfully makes the COVID-19 crisis more salient for treated individuals relative to those in the control group. To this end, towards the end of the survey, we ask respondents in each group two questions. First, an open question in which they report the worst crisis faced by Colombia in the last 50 years. Second, a question requiring them to order from first to third the worst crises faced by Colombia in the last 10 years among the following options: illegal drug trafficking, internal armed conflict, and COVID-19. The responses to both questions confirm that our treatment increases the salience of the pandemic. Individuals in the treatment group bring up the COVID-19 crisis in the open question more often relative to the control group. They also rank COVID-19 as a worse crisis than drug trafficking and the internal armed conflict.

We document four main findings. First, our results strongly support the validity of the *resentment channel* whereby treated natives resent migrants in times of economic crisis. Particularly, treated individuals consistently report more negative attitudes towards migrants relative to the control group. Natives primed with COVID-19 are less likely to think that a poor immigrant is in that situation due to circumstances beyond their control (0.04 standard deviations lower than the control group), are more likely to hold negative opinions about the impacts that migrants have on the economy (0.07 standard deviations lower than the control group), and about their tax contributions (0.19 standard deviations lower than the control group).

Second, we are not able to distinguish statistically negative effects of the COVID-19 priming on the self-reported measures of altruism or policy altruism (measured as support towards public policies that help migrants) of treatment recipients relative to the control group. The point estimates are negative but their standard errors are large.

Third, we document that individuals in their *impressionable years*, i.e., ages 18 to 25, report substantial improvements in altruism when primed with the COVID-19 crisis relative to the control group. These individuals are also more prosocial and have better attitudes towards migrants in general across the treatment and control groups relative to older individuals. Individuals in this age bracket, consequently, could be excellent candidates to target programs

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[3]In practice, however, migration from Venezuela to Colombia is likely higher as many migrants are in an irregular migratory status and may never formally register out of fearing deportation.

[4]In parallel, there is also evidence that attitudes towards migrants have deteriorated in the country: according to Gallup's Migrants' Acceptance Index, Colombia is the third country in the world where acceptance dropped the most between 2016 and 2019.

aimed at improving prosocial behaviors and reducing prejudice.

Finally, we repeat our survey experiment to 2,892 different individuals after the public announcement of a successful trial of one of the COVID-19 vaccines in Colombia. The objective of conducting the repeated experiment was to test whether our findings were maintained after natives received positive prospects about the future economic outlook. Interestingly, were not able to distinguish any significant effects of the COVID-19 priming on any of the five outcomes that we study after the positive news on the vaccines were released. Hence, altruism and attitudes towards migrants are affected dramatically by the general concurrent economic context and news. Particularly, these results suggest that crises increase antipathy towards migrants, but this effect can be reversed when positive news arrive.

Relation to the literature: Our research is closely related to four branches of the literature. The first one studies how attitudes and behaviors towards migrants can be modified in experimental settings. This literature has focused on the effects of information provision and has documented high levels of misinformation among respondents in developed countries regarding the size and characteristics of the migrant population (Alesina et al., 2018; Grigorieff et al., 2020). However, the evidence on the effectiveness of information provision in shifting attitudes and behaviors is somewhat mixed perhaps because the type of information provided and how it is delivered seem to matter. While providing information about the true size and characteristics of the migrant population can improve attitudes but not behaviors or policy preferences regarding undocumented migration (Grigorieff et al., 2020), providing subjects with information about the results from research which shows no adverse labor market impact of migration can shift both attitudes and behaviors towards low-skilled immigrants in a more positive way (Haaland and Roth, 2020). Also, providing information in an anecdotal way, seems to be more effective in shifting attitudes than information provided in a factual way (Alesina et al., 2018).

The second group of studies, analyzes the determinants of individual attitudes and preferences regarding income redistribution or altruism. These studies have shown that context, culture, and history, both individual and collective, shape attitudes towards redistribution (Luttmer and Singhal, 2011); and so do individual characteristics such as income, race, sex, and education (Alesina et al., 2011; Facchini and Mayda, 2006). Regarding the impacts of migration on prosocial behaviors, most of the evidence has been concentrated on the impacts of migration on preferences for redistribution and trust. These studies conclude that the misconceptions that are generally held about the characteristics of immigrants in receiving countries affect natives' preferences regarding redistribution and prosocial behaviors (Alesina et al., 2019). Regarding trust, studies that analyze trust and reciprocity between natives and immigrants have mixed results. For example, in the Dutch context Cettolin and Suetens (2018) find that natives trust and reciprocate less to immigrants that come from non-western countries. By contrast, when immigrants are similar in language, culture and religion, natives might be more trusting and altruistic towards immigrants than towards other natives (Hassan et al., 2019).

The third one is grounded on psychology and examines the effects of priming. Priming is a process commonly applied in psychology research that exposes subjects to certain stimuli. A stimulus can be made in the form of words to recall or activate mental representations (Simmons et al., 2010; Bargh and Chartrand, 2000). Those representations make memories salient in the form of stereotypes, attitudes, or individual characterizations (Tulving et al., 1982; Samson et al 2014). Recently, this method has become popular in economic research. Some of its most common uses pretend to highlight individual characteristics (Benjamin et al., 2010; Cohn et al., 2015; Benjamin et al., 2016), or recall past traumatic events to examine its causal effects on economic behavior (Lerner et al., 2003; Callen et al., 2014).

Finally, we also contribute to a recent but growing literature that studies the impacts of the COVID-19 pandemic on people's attitudes using survey experiments. Some studies have been using modules on COVID to prime respondents and then measure outcomes of interest such as: interpersonal trust, values, and policy preferences (Daniele et al., 2020) or solidarity and fairness (Cappelen et al., 2020). Others have used information provision to examine changes in individuals' views about the trade-offs between public health conditions and civil liberties (Alsan et al., 2020) and changes in economic anxiety (Fetzer et al., 2020).

We contribute to the literature by examining the effects of an economic crisis on natives' self-reported prosocial behaviors and attitudes towards migrants. We also examine whether natives exhibit heterogeneous responses according to their age and gender.

II   Venezuelan Migration to Colombia

Venezuela, known in the past as the *economic gem* of Latin America, was an extremely prosperous country around the late 80s and early 90s. This began to change in 1998 with the election of successive populist regimes. These regimes carried out expropriations of private property and instituted constitutional amendments that created a profound institutional and economic crisis. In more recent years, the economic crisis has become endemic as oil prices fell, the United States imposed drastic economic sanctions, and the private sector virtually disappeared from the country. After 2015, social protests and political violence have become rampant. This scenario created a process of human displacement across borders with no precedent in Latin America.

By 2020, the Venezuelan crisis has become one of the largest humanitarian crisis in the world with over 5 million individuals having fled the country. Colombia is the top host of Venezuelan migrant flows. By 2020, the Colombian government reported that more than 2 million Venezuelans were registered with UN Refugee Agency to stay in the country. The real number of Venezuelan migrants in Colombia, however, is likely larger due to irregular migration.

Colombia is one of the most generous countries in terms of the support it has offered to Venezuelan migrants. In 2018 the government regularized approximately half a million Venezuelan migrants, in 2020, it granted all irregular migrants access to complete health services. Moreover, in 2021 it also offered a temporal regularization (for up to 10 years) to all the irregular migrants living in the country.

As in other countries that experience a large surge of migrants in a short period of time, the Venezuelan migration has sparked strong reactions from Colombian natives. Some Colombians have embraced migrants with solidarity, but others resent them and blame them for Colombia's current problems.

III   The Survey Experiment

We carried out an online survey experiment in Bogotá with 3,400 Colombian Facebook users. Bogotá has a population of 10.7 million with 7.8 million Facebook users. The experiment was stratified by age group and gender and respondents were recruited through Facebook adds. Figure A.1 illustrates the recruiting adds used, which invited individuals to respond questions about the current situation in Bogotá and did not mention migrants nor the COVID-19 pandemic. In total, 47,376 individuals living in Bogotá clicked on the Facebook adds, of which 34,034 went to the first page of the survey. Of these individuals 5,908 began the survey and 4,333 finished it. These numbers imply a success rate of the Facebook ads of 12.7% of the population exposed to the adds. The actual number of completed surveys was 3,413 as some respondents were not Colombians, did not consent to participate in the experiment, were not living in Bogotá, or answered the survey more than once.

All respondents answered a survey of 31 questions divided in five modules: i) basic sociodemographic characteristics, ii) COVID-19, iii) crises, iv) attitudes towards migrants, and v) social desirability. Table A.1 presents the order in which the treatment and control groups answered each of the modules. The order of the modules was carefully chosen to prevent priming the control group before asking them about their prosocial behaviors and attitudes towards migrants. The treatment group answered the modules in the order they were listed above, whereas the control group answered the modules in the following order: i) basic sociodemographic characteristics, ii) attitudes towards migrants, iii) crises, iv) COVID-19, and v) social desirability. Respondents were not able to identify the different modules as we applied a continuous questionnaire.

Specifically, each of the modules collected the following information:

1. *Basic Sociodemographic characteristics:* includes individual demographics including gender, age, education, economic strata (measured in Colombia according to the area of residence), religion, and political orientation (measured in scale of 1 to 10 from left to right).

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2. *COVID-19:* this module asked individuals to think about their situation in March of 2020 (before the pandemic) and compare it with their current situation to asses whether someone in their family had lost their job or experienced a reduction in their working hours. They were also asked to report how many people they knew who contracted COVID-19, and to report their perceptions on poverty trends in Colombia as a consequence of the pandemic.

3. *Crises:* this module's objective was to verify whether the COVID-19 module made the crisis more salient to the treatment group. For this purpose, we asked individuals two questions. The first one is an open question about what was the worst crisis faced by Colombia in the last 50 years. Using the answers to this question we created an indicator variable equal to one for any answer which included the words pandemic, COVID-19, or coronavirus. The second question asked individuals to rank the following three crisis in Colombia from worst to least bad: illegal drug trafficking, armed conflict, and COVID-19. We subsequently, created a variable that gives a score of 3 to anyone who ranks COVID-19 as the worst crisis, 2 if COVID-19 is the second worst crisis, and 1 if COVID-19 is listed as the third worst crisis.

4. *Prosocial behaviors and attitudes towards migrants:* in this module we collected information on our five main outcomes of analysis and additional secondary outcomes for exploratory analysis. Our five main outcomes include two measures of altruism: one is a self-reported measure and the other one measures policy altruism according to voter's support to public aid to migrants. The other three outcomes measure natives' attitudes towards migrants (these are described in detail in the next section). Additionally, we also collected information on individuals' information about Venezuelan migrants in Colombia (the perceived share of Venezuelans in the country's population and their levels of education) and we also elicited native's perceptions about migrants' impacts on Colombian labor markets, culture, and crime.

5. *Social desirability:* the module included four questions aimed at constructing a social desirability scale for each individual. 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. Particularly, we used 4 of the 33 questions of Crowne and Marlowe (1960) scale to construct an index from 1 (no social desirability) to 4 (maximum social desirability) and standardize it

for ease of interpretation. Each question's answer was assigned a score of 1 or 0 depending on whether the scale identified the answer with someone that wanted to be socially desirable as explained in Crowne and Marlowe (1960). The four questions—with possible answers: true or false—were:

- It is sometimes hard for me to go on with my work if I am not encouraged. (False was associated with social desirability).
- There have been times when I was quite jealous of the good fortune of others. (False was associated with social desirability).
- I am always courteous, even to people who are disagreeable. (True was associated with social desirability).
- I'm always willing to admit it when I make a mistake. (True was associated with social desirability).

Descriptive statistics for all the variables in the survey are presented in Table I.

IV Estimation Strategy

We evaluate the effects of the program by estimating the average treatment effect, as specified in our pre-analysis plan (PAP) Rodríguez Chatruc and Rozo (2019), using the following model

$$Y_i = \alpha + \lambda T_i + \epsilon_i \tag{1}$$

where the dependent variable Y_i represents the outcome for individual i as measured in the survey and standardized using the mean and standard deviation of the control group for ease of interpretation and $T \in \{0, 1\}$ is the assigned treatment status to COVID priming of the individual. Finally, ϵ_i represents the error term.

We examine the effects of the COVID priming on five main outcomes which include: i) *Altruism*, measured as the self-reported willingness to donate to good causes (ranges from 1 to 10, where 10 corresponds to "very willing to donate"),[5] ii) *Policy altruism*, measured as agreement to whether the "Colombian government should support Venezuelan migrants" (Likert scale from 1 to 4, where 4 corresponds to "strongly agree") iii) *Opinion on effort*, an indicator variable equal to one if the respondent answers that Venezuelan migrants are poor due to lack of self-effort), iv) *Opinion on economy*, measures whether migrants are good for the economy (Likert scale from 1 to 4, where 4 corresponds to "strongly agree"), iv) *Opinion on taxes*, the opinion about whether Venezuelan migrants pay more or less taxes than

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[5]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".

Colombians (scale from 1 to 5, where 5 represents a lot more).[6] The first two variables attempt to capture natives' prosocial behaviors in general and variables iii) through v) attempt to capture natives' attitudes towards migrants.

We examine the effects of the program for the entire sample and broken up by gender and age group (18-25, 35-44, 45-54, and 55+), as mentioned in the pre-analysis plan. For that purpose, we interact an indicator variable for males and an indicator variable for the impressionable years (18 to 25) with the main explanatory variables in equation 1.

V   Results

V.1   Experiment Success

First we show that there was a successful randomization of the priming treatment by testing whether there are statistical significant differences in the observed socio-demographic variables collected between the individuals in the treatment and the control groups. The results are presented in Table II. Our results are reassuring as we observe that both groups of individuals are generally balanced in all the observed variables. Moreover, the variables are not jointly statistically different between groups as confirmed by the joint orthogonality test.

We also test the efficacy of our priming treatment by asking individuals in both groups to answer two questions. The question allows us to construct an indicator variable that takes the value of one if individuals mentioned words like "COVID-19", "Coronavirus", or "pandemic" to the open question: "What is the worst crisis that Colombia has faced in the last 50 years?". When coding this variable we included corrections for phonetic approximations of these words to account for possible spelling mistakes. The second question asked individuals to rank three crises that Colombia has faced in the last 10 years from worst to less intense. The three crises are: illegal drug trafficking, armed conflict, and the COVID-19 pandemic. We then created a score that takes one of three values: "3" for individuals who ranked COVID-19 as the most serious crisis, "2" for individuals that ranked COVID-19 second, and "1" for individuals who ranked COVID-19 as the third worst problem.

Although both groups answered these questions, individuals in the treatment group answered them *after* the COVID-19 module whereas individuals in the control group answered them *before* the COVID-19 module and after the module on attitudes towards migrants. In this way, individuals in the treatment group were primed to think about COVID-19 before answering the crisis questions while individuals in the treatment group were not. Also, since individuals in the control group answered these questions after assessing their attitudes towards migrants, they were

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[6]It corresponds to the following statement: "Consider two individuals, Carlos and Diego, who currently live in Colombia with their families. Carlos was born in Colombia and Diego was born in Venezuela and moved 5 years ago to Colombia. They are both 35 years of age, have three children and earn low incomes. In your opinion, ¿Diego the Venezuelan, pays less, the same, or more taxes than Carlos the Colombian?" Individuals could select the choice from a five choice Likert scale where 1 represented "a lot more" and 5 represented "a lot less". The question was adapted from Alesina et al. (2018).

not primed to think about any crisis before we elicited their opinions on migrants.

The formal test of the efficacy of our treatment is presented in Table B.1 and illustrated in Figure I. The table shows a regression of the two variables that measure the salience of the pandemic on a treatment indicator for priming. Our results strongly support that our treatment was successful in making the COVID-19 crisis salient for treatment recipients. Particularly, treatment recipients rank the pandemic as the worst problem in the last year more often relative to the control group (column 1). They also report that COVID-19 is the worst crisis in the last 50 years in Colombia 7.3 percentage points more than the control group (column 2).

V.2 Main Results

The main results of our experiment are illustrated in Figure I and presented in Table D.2. The figure illustrates the point estimates of equation 1 and its 95% confidence intervals. The coefficients for all of our primary outcomes suggest that the COVID-19 crisis has had a negative impact on the attitudes of Colombian nationals towards Venezuelan migrants in Colombia. Particularly, we identify negative effects of the treatment on the three outcomes that we study: opinion on effort, opinion on economy, and opinion on taxes. The size of the effects are large. In particular, the results in columns (3), (4), and (5) suggest that individuals primed with the COVID-19 crisis show reductions of 0.035 standard deviations (sd) in their opinion on the effort of migrants, 0.067 sd in their opinions of the effects that migrants may have on the Colombian economy, and 0.19 sd in their opinions of whether Venezuelan migrants contribute more to taxes than Colombians.

We are, however, not able to distinguish any statistically significant effects of the priming treatment on altruism (in general) or on our measure of policy altruism as illustrated in columns (1) and (2). Our results are in line with previous studies that examine the effects of economic downturns on the attitudes of whites towards blacks in the United States (Bianchi et al., 2018).

V.3 Heterogeneous Effects

We examine heterogeneous effects of our treatment by gender and age as specified in our pre-analysis plan. The results are presented in Panel B and C of Table D.2.

Gender

We are not able to estimate any statistically significant heterogeneous effects of the program by gender as evidenced by the first row of Panel B. Yet, the marginal effects of our main outcomes for males are statistically significant for the variables of opinion on the economy and on taxes. They suggest, in general, that males have worse attitudes towards

migrants relative to females. In fact, the coefficient of the marginal effects for males is negative for all the main outcomes that we examine.

Impressionable Years

Two main results emerge in this regard. First, we find evidence suggesting that individuals in their impressionable years (ages 18 to 25) show remarkably higher altruism when primed with COVID-19 relative to other adults (see the first row of Panel C in Table D.2). The results on the attitudes towards migrants (as measured by opinion on effort, economy, and taxes) of individuals in this age group are mixed, exhibiting some negative and positive coefficients. Second, we observe that individuals in their impressionable years, in both the treatment and control groups, have more positive views about migrants (as illustrated by the estimated coefficients for the indicator variable of population ages 18-25). Overall, these two findings are translated into positive marginal effects of impressionable years on altruism.

We also examine the effects of the treatment in the five age groups that we proposed in our pre-analysis plan. We are, however, not able to see any clear patterns on the heterogeneous effects of the treatment by smaller age groups (see Figure C.1 of Appendix C).

V.4   Assessing social desirability bias

A relevant concern with the validity of our results is that individuals may be responding to our questions in a way that they believe is more socially desirable rather than choosing responses that are reflective of their true thoughts or feelings. These behaviors can be problematic in our setting if the treatment and control groups show different social desirability biases. Particularly, we are concerned that treated individuals may exhibit more social desirability bias and may be afraid to honestly report their views towards migrants.

To asses this threat, we use the social desirability index that we described in section III and explore whether there are heterogeneous effects of the priming treatment according to each individual's index. The results of this exercise are presented in Table B.2. They suggest that there is a disproportionate response of treatment recipients that had a higher social desirability index for two of our main outcomes (opinions on effort and the economy). However, we actually observe that those individuals with a higher social desirability index showed more negative attitudes towards migrants. Therefore, it is not the case that individuals with a higher social desirability bias were not comfortable reporting their true views against migrants.

V.5   Exploratory analysis

Heterogeneous effects by education level

We explore whether individuals who finished high school or have more education than high school show heterogeneous effects towards migrants after being primed with the COVID-19 crisis. The results are presented in Table B.3 and suggest that individuals with higher education who are treated show larger support for policy altruism towards Venezuelan migrants. The results for the other variables are not statistically significant.

Impacts on beliefs about migrants

We also explore if the changes in the attitudes towards migrants when primed by the COVID-19 crisis can be explained or are correlated with the beliefs that individuals have about the impacts of migrants in the economy: i) migrants increase competition for national jobs, ii) migrants increase crime, or iii) migrants bring new ideas. The results of the exercise are presented in Table B.4. We are not able to identify significant changes in any of these three outcomes. Yet, the signs of the coefficients suggest that all the individuals in the treatment group have more negative views than the individuals in the control group.

Impacts on misinformation

We also explore whether the treatment can impact the misconceptions about Venezuelan migration in Colombia (see Alesina et al., 2018;Grigorieff et al., 2020). For this purpose, we explore the effects of the treatment on the beliefs about the Venezuelans' share of Colombian population and the Venezuelans' average years of education. Surprisingly, we observe that the treatment actually affects these variables increasing the misconceptions that the general public has on the size of the migration shock and on the average years of education of a Venezuelan migrant (see Table B.5). In particular, when primed, individuals reports substantially larger migration shocks relative to the control group. They also report that migrants have lower levels of education.

VI   Are Attitudes Towards Migrants Impacted by Positive News?

We repeat our survey to 2,892 individuals after the public announcement of a successful trial of the first COVID-19 vaccine.[7] The objective of conducting the repeated experiment was to test whether our findings were maintained after individuals receive positive prospects about an economic crisis. The results are presented in Appendix D. Interestingly, we are not able to distinguish any significant effects of the priming on any of the five outcomes that we study any longer. Our result suggests that altruism and attitudes towards migrants are affected dramatically by the general economic context that individuals face. Particularly, crisis times increase antipathy towards migrants, but these effect

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[7]The survey was conducted also after Joe Biden was declared president elect of the United States.

seems to be reversed when positive news arrive.

VII Concluding Remarks

We explore the effects that economic crises, such as the one prompted by the COVID-19 pandemic, can have on altruism and on attitudes towards migrants in contexts of large migration flows. For this purpose, we ran a survey experiment in which we primed Colombian citizens to recall the COVID-19 pandemic before eliciting self-reported behaviors and attitudes towards migrants. We find that attitudes towards migrants are negatively impacted by priming, suggesting that solidarity towards more vulnerable populations does not increase in times of crisis. Our results support the validity of the *resentment channel*, suggesting that crises increase negative attitudes towards migrants. Individuals on their impressionable years, however, react in the opposite direction showing larger altruism when primed with the crisis.

Our results highlight the importance of support towards vulnerable migrants in times of crisis as vulnerable populations could be facing more prejudice and lower support from hosting communities. Our results also suggest that the impressionable years are age windows in which treatments that attempt to improve individual prosocial behaviors could be most effective.

Our analysis was carried out through Facebook and it is likely that users of this platform have specific characteristics that may be correlated with their prosocial behaviors and prejudice towards migrants. Facebook users, for example, may have more exposure to the media content in Facebook platforms. As long as these characteristics are comparable across treatment and control groups this should not affect our results. However, in the future promising research initiatives should attempt to examine whether our results can be generalized to other population groups.

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Table (I) Descriptive Statistics

Variable	Observations	Average	Std. Deviation	Min	Max
Panel A: Socio-demographic characteristics					
Male [=1]	3,399	0.53	0.50	0.00	1.00
Age (years)	3,413	40.80	14.61	18.00	95.00
Education: Secondary or More [=1]	3,407	0.97	0.16	0.00	1.00
Economic Strata: 1 [=1]	3,397	0.09	0.29	0.00	1.00
Economic Strata: 2 [=1]	3,397	0.35	0.48	0.00	1.00
Economic Strata: 3 [=1]	3,397	0.39	0.49	0.00	1.00
Economic Strata: 4 [=1]	3,397	0.12	0.33	0.00	1.00
Economic Strata: 5 [=1]	3,397	0.04	0.19	0.00	1.00
Economic Strata: 6 [=1]	3,397	0.01	0.11	0.00	1.00
Religious [Yes =1]	3,311	0.87	0.34	0.00	1.00
Ideology (1 Left - 10 Right)	2,446	5.39	1.92	1.00	10.00
Panel B: Primary Outcomes					
Altruism*: willingness to donate (1= very willing to do so)	3,131	0.70	0.26	0.10	1.00
Policy Altruism*: Col. government should help Venezuelans (1= Strongly Agree)	3,384	0.47	0.24	0.25	1.00
Opinion on Effort*: Ven. are poor due to circumstances beyond their control (1=Yes)	3,346	0.57	0.49	0.00	1.00
Opinion on Economy*: Ven. are good for the economy (1= Strongly Agree)	3,360	0.47	0.24	0.25	1.00
Opinion on Taxes*: Ven. pay more taxes than Colombians (1= A lot more)	3,413	0.42	0.18	0.20	1.00
Panel C: Secondary Outcomes					
Opinion on Jobs*: Migrants compete for national jobs (1= Strongly Agree)	3,380	0.74	0.26	0.25	1.00
Opinion on Culture*: Migrants bring new ideas and cultures (1= Strongly Agree)	3,383	0.45	0.24	0.25	1.00
Opinion on Crime*: Migrants increase crime (1= Strongly Agree)	3,377	0.80	0.26	0.25	1.00
Perception about Size: Venezuelans' share of Colombian population	3,273	32.38	25.50	1.00	99.00
Perception about Education: Venezuelans' average years of education	2,901	6.66	3.81	1.00	21.00
Panel C. Covid 19 priming					
Did you lose your job because of the pandemic [1=Yes]	3,412	0.80	0.40	0.00	1.00
Colombian poverty has increased because of the pandemic* (1=Increased)	3,411	0.95	0.16	0.33	1.00
Pop.you know with COVID: No one	3,409	0.19	0.39	0.00	1.00
Pop.you know with COVID: 1-2	3,409	0.25	0.43	0.00	1.00
Pop.you know with COVID: 3-5	3,409	0.29	0.46	0.00	1.00
Pop.you know with COVID: 6-10	3,409	0.15	0.36	0.00	1.00
Pop.you know with COVID: More than 10	3,409	0.12	0.32	0.00	1.00
Panel D. Listing Experiment and Social Desirability Index					
COVID-19 worst crisis that Colombia has faced in the last 50 years (1=Yes)	3,413	0.14	0.35	0.00	1.00
COVID-19 worst problem in last 10 years (3=Worst, 2= Second Worst, 1= Third Worst)	3,278	1.45	0.75	1.00	3.00
Social desirability index	3,376	2.70	1.00	0.00	4.00

Notes: *We normalized these variables by dividing them on the maximum value to facilitate their interpretation. *Altruism* is measured as the self-reported willingness to donate to good causes (ranges from 1 to 10, where 10 corresponds to "very willing to donate"),it was adapted from Falk et al. (2018), who validated the question experimentally in Colombia. 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". *Policy altruism* is measured as agreement to whether the "Colombian government should support Venezuelan migrants" (Likert scale from 1 to 4, where 4 corresponds to "strongly agree"),*Opinion on effort* is an indicator variable equal to one if the respondent answers that Venezuelan migrants are poor due to lack of self-effort, *Opinion on economy*, measures whether migrants are good for the economy (Likert scale from 1 to 4, where 4 corresponds to "strongly agree"), and *Opinion on taxes*, measures the opinion about whether Venezuelan migrants pay more or less taxes than Colombians (scale from 1 to 5, where 5 represents a lot more). It corresponds to the following statement: "Consider two individuals, Carlos and Diego, who currently live in Colombia with their families. Carlos was born in Colombia and Diego was born in Venezuela and moved 5 years ago to Colombia. They are both 35 years of age, have three children and earn low incomes. In your opinion, ¿Diego the Venezuelan, pays less, the same, or more taxes than Carlos the Colombian?" Individuals could select the choice from a five choice Likert scale where 1 represented "a lot more" and 5 represented "a lot less". The question was adapted from Alesina et al. (2018).

Table (II) Testing Balance Between Groups

|	Means by Treatment Assignment		Overall Sample		P-value
	Priming Group (1)	Control Group (2)	Mean	St. Deviation	(1) vs (2)
Male [=1]	0.59	0.6	0.6	0.49	0.73
Age	40.7	40.13	40.4	14.92	0.35
Ed: Secondary or More	0.99	0.98	0.99	0.12	0.38
Economic Strata: 1	0.07	0.08	0.08	0.27	0.36
Economic Strata: 2	0.32	0.31	0.31	0.46	0.39
Economic Strata: 3	0.41	0.4	0.4	0.49	0.67
Economic Strata: 4	0.14	0.15	0.15	0.35	0.39
Economic Strata: 5	0.04	0.05	0.05	0.21	0.21
Economic Strata: 6	0.02	0.01	0.02	0.12	0.10
Religious [Yes =1]	0.85	0.82	0.84	0.37	0.12
Ideology (1 Left - 10 Right)	5.37	5.41	5.39	1.92	0.58
Joint orthogonality test p-value					0.15
Sample Size	1,160	1,228		2,388	

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

Table (III) Priming Effects On Altruism and Attitudes Towards Migrants

Dep. Variable (z-scores)	Altruism	Policy Altruism	Opinion on Effort	Opinion on Economy	Opinion on Taxes
	(1)	(2)	(3)	(4)	(5)
Panel A: Main Estimates					
Treatment (Priming=1)	-0.037	-0.021	-0.035**	-0.067**	-0.190***
	(0.036)	(0.035)	(0.017)	(0.034)	(0.034)
R-squared	0.000	0.000	0.001	0.001	0.009
Observations	3,131	3,384	3,346	3,360	3,413
Panel B: Heterogeneous Effects - Gender					
Priming=1 × Male	-0.057	0.038	0.043	-0.097	-0.028
	(0.073)	(0.070)	(0.034)	(0.068)	(0.068)
Priming=1	-0.006	-0.040	-0.058**	-0.014	-0.173***
	(0.054)	(0.051)	(0.025)	(0.050)	(0.050)
Male	-0.051	0.217***	0.022	0.374***	0.041
	(0.051)	(0.049)	(0.024)	(0.048)	(0.048)
Marginal Effects [Male=1]	-0.064	-0.002	-0.016	-0.111**	-0.202***
	(0.050)	(0.048)	(0.023)	(0.046)	(0.046)
R-squared	0.002	0.014	0.004	0.028	0.009
Observations	3,117	3,370	3,332	3,346	3,399
Panel C: Heterogeneous Effects - Age (Impressionable Years)					
Priming=1 ×Pop. Aged 18-25	0.239***	0.048	-0.032	-0.051	0.142*
	(0.090)	(0.087)	(0.043)	(0.086)	(0.084)
Priming=1	-0.085**	-0.028	-0.028	-0.055	-0.212***
	(0.041)	(0.039)	(0.019)	(0.038)	(0.037)
Pop. Aged 18-25	0.011	0.163***	0.079***	0.214***	0.338***
	(0.062)	(0.061)	(0.030)	(0.059)	(0.058)
Marginal Effects [Pop. Aged 18-25=1]	0.154*	0.02	-0.060	-0.106	-0.070*
	(0.080)	(0.078)	(0.038)	(0.077)	(0.075)
R-squared	0.005	0.006	0.004	0.007	0.036
Observations	3,131	3,384	3,346	3,360	3,413

Notes: The dependent variable represents the outcome for individual as measured in the survey. It was standardized using the mean and standard deviation of the control group. The variable *Treatment (Priming=1)* is the assigned treatment status to the COVID-19 priming. The table presents the estimates of a simple OLS regression of the dependent variable on the treatment status. For the heterogeneous effects, we interact the variable on *Treatment (Priming=1)* with an indicator variable for being male and ages 18 to 25 years old, respectively. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Robust standard errors are reported in parentheses.

Figure (I) Summary Results
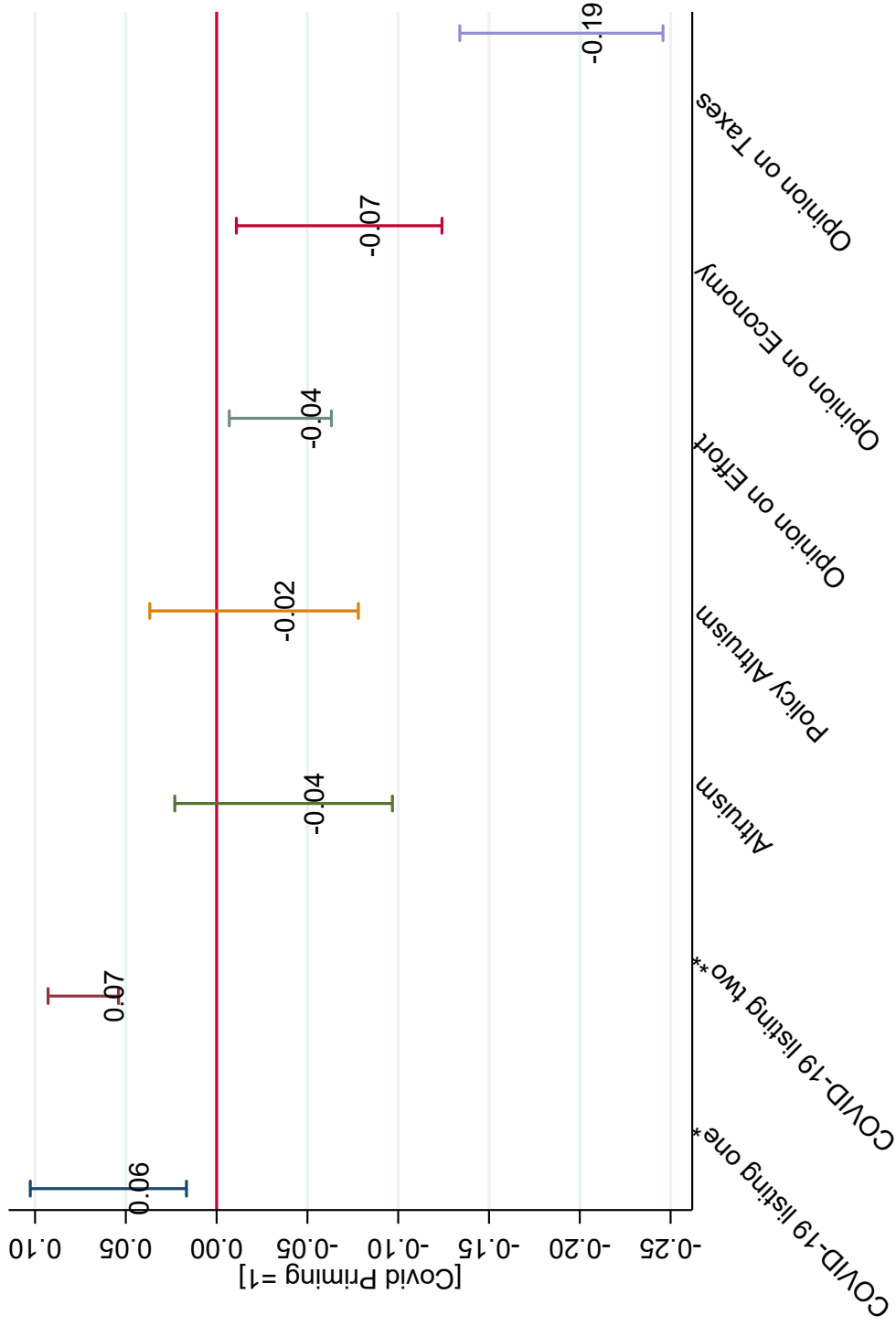
Notes: The figure presents the point coefficient estimates of a simple OLS regression of the dependent variable on the treatment status. The point estimates are written in black and the 95 percent confidence intervals are presented in bars. *COVID-19 listing one ranks three crises in last 10 years (the COVID-19 pandemic, drug trafficking, and internal conflict). It gives a score of 3 to anyone who ranks COVID-19 as the worst crisis, 2 if COVID-19 is the second worst crisis, and 1 if COVID-19 is listed as the third worst crisis. ** COVID-19 listing two codes an open answer question of what is the worst crisis in the last 50 years. It takes a value of one if the individual mentioned "COVID", the "pandemic", or "coronavirus" in their written responses.

Table (A.1)   Order of survey modules in treatment and control groups

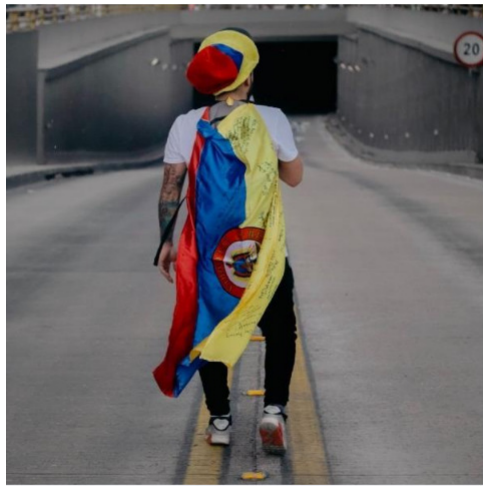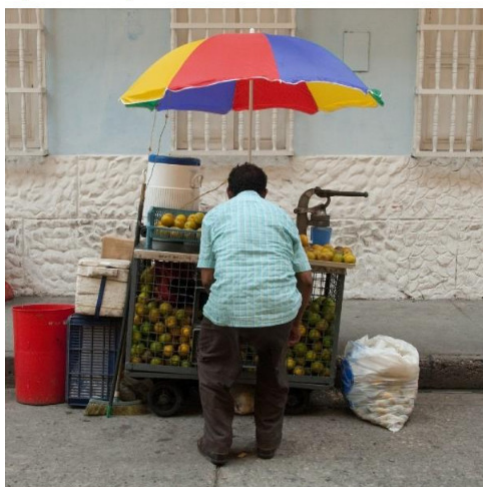| Treatment	Control
Sociodemographics	Sociodemographics
COVID-19	Attitudes towards migrants
Crisis questions	Crisis questions
Attitudes towards migrants	COVID-19
Social Desirability	Social Desirability

Figure (A.1) Recruiting Facebook Adds

Figure (A.2) Location of Survey Respondents
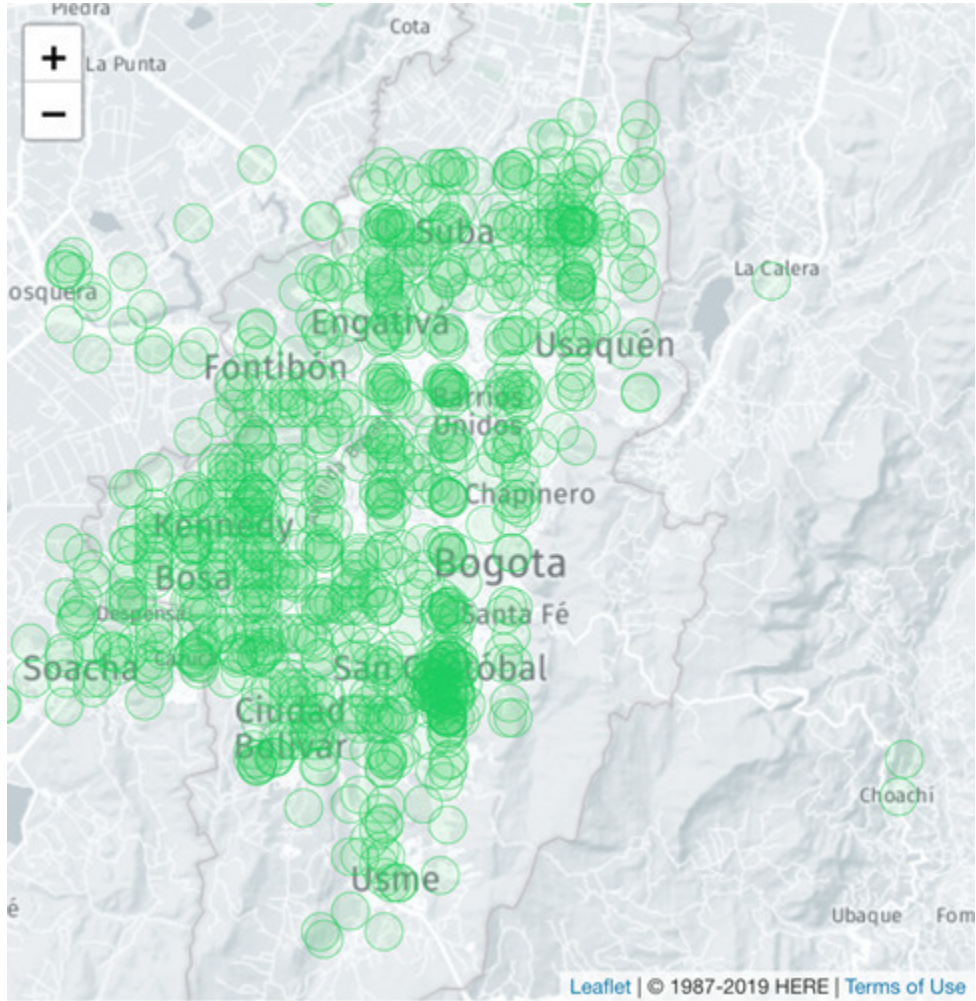
Table (B.1) Priming Efficacy

Dep. Variable	COVID-19 listing one	COVID-19 listing two
	(1)	(2)
Treatment (Priming=1)	0.060**	0.073***
	(0.026)	(0.012)
R-squared	0.002	0.011
Observations	3,278	3,413
Mean Dep. Variable (Control Group)	1.420	0.102

Notes: The COVID-19 listing one variable ranks three crises in last 10 years (the COVID-19 pandemic, drug trafficking, and internal conflict). It gives a score of 3 to anyone who ranks COVID-19 as the worst crisis, 2 if COVID-19 is the second worst crisis, and 1 if COVID-19 is listed as the third worst crisis. The COVID-19 listing two variable codes an open answer question of what is the worst crisis in the last 50 years. It takes a value of one if the individual mentioned COVID, the pandemic, or coronavirus in their written responses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Standard errors are reported in parentheses.

Table (B.2) Heterogeneous Effects by Social Desirability

Dep. Variable	Altruism	Policy Altruism	Opinion on Effort	Opinion on Economy	Opinion on Taxes
	(1)	(9)	(5)	(3)	(7)
Priming=1 × STD (Social Desirability Index)	-0.028	-0.028	-0.033*	-0.105***	-0.039
	(0.037)	(0.035)	(0.017)	(0.035)	(0.035)
Priming=1	-0.043	-0.008	-0.027	-0.056	-0.190***
	(0.037)	(0.035)	(0.017)	(0.035)	(0.034)
STD (Social Desirability Index)	0.094***	-0.037	-0.031***	0.007	-0.008
	(0.025)	(0.024)	(0.012)	(0.024)	(0.024)
R-squared	0.007	0.003	0.011	0.005	0.010
Observations	3,100	3,347	3,311	3,324	3,376

Notes: The dependent variable Y_i represents the outcome for individual i as measured in the survey and standardized using the mean and standard deviation of the control group. The variable *Treatment (Priming=1)* is the assigned treatment status to COVID priming of the individual. The variable Social Desirability Index is constructed using 4 of the 33 questions of Crowne and Marlowe (1960) scale. Each question's answer was assigned a score of 1 or 0 depending on whether the scale identified the answer with someone that wanted to be socially desirable as explained in Crowne and Marlowe (1960). Then, we add the answer of the 4 questions having a scale from 1 (no social desirability) to 4 (maximum social desirability) and standardize it for ease of interpretation. We interact the variable on *Treatment (Priming=1)* with the standardized variable of Social Desirability Index. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Standard errors are reported in parentheses.

Table (B.3) Heterogeneous Effects by Education

Dep. Variable	Altruism	Policy Altruism	Opinion on Effort	Opinion on Economy	Opinion on Taxes
	(1)	(9)	(5)	(3)	(7)
Panel A: Heterogeneous Effects - Secondary or More					
Treatment (Priming=1) × Secondary or More	0.147	0.413*	-0.008	0.012	-0.256
	(0.247)	(0.223)	(0.109)	(0.217)	(0.214)
Treatment (Priming=1)	-0.181	-0.425*	0.044	-0.077	0.061
	(0.244)	(0.220)	(0.108)	(0.214)	(0.211)
Secondary or More	-0.132	-0.041	-0.060	0.317**	0.184
	(0.156)	(0.146)	(0.072)	(0.143)	(0.143)
Marginal Effects [Secondary or More=1]	0.0148	0.371**	0.068	0.329*	0.013
	(0.191)	(0.168)	(0.082)	(0.163)	(0.048)
R-squared	0.001	0.002	0.002	0.004	0.009
Observations	3,125	3,378	3,340	3,354	3,407

Notes: The dependent variable Y_i represents the outcome for individual i as measured in the survey and standardized using the mean and standard deviation of the control group. The variable *Treatment (Priming=1)* is the assigned treatment status to COVID priming of the individual. For the heterogeneous effects, we interact the variable on *Treatment (Priming=1)* with a dummy for Education Level: Secondary or More. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Standard errors are reported in parentheses.

Table (B.4) Exploring Secondary Outcomes: Priming Effects on Beliefs on the Impacts of Migrants

Dep. Variable	Opinion on Jobs	Opinion on Culture	Opinion on Crime
	(1)	(2)	(3)
Treatment (Priming=1)	0.002	-0.021	0.031
	(0.026)	(0.026)	(0.025)
R-squared	0.000	0.000	0.000
Observations	6,174	6,180	6,181

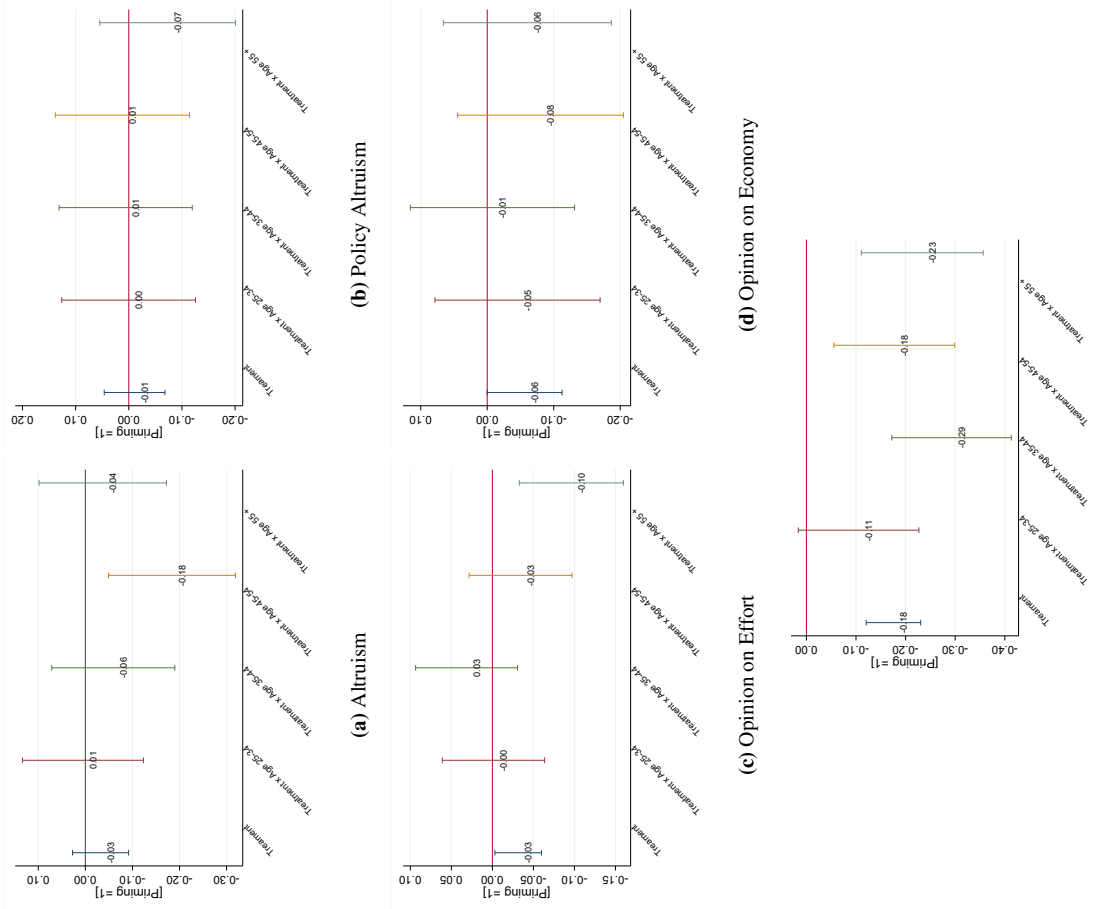*Notes*: The dependent variable Y_i represents the outcome for individual i as measured in the survey and standardized using the mean and standard deviation of the control group. The variable *Treatment (Priming=1)* is the assigned treatment status to COVID priming of the individual. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Standard errors are reported in parentheses.

Table (B.5) Exploring Secondary Outcomes: Priming Effects on Information Misconceptions

Dep. Variable	Perception about Size	Perception about Education
	(1)	(2)
Treatment (Priming=1)	6.225***	-0.391***
	(0.885)	(0.142)
R-squared	0.015	0.003
Observations	3,273	2,901
Av. dep. var before treatment	29.18	6.84

Notes: The dependent variable Y_i represents the outcome for individual i as measured in the survey of their personal beliefs about the Venezuelans' share of Colombian population and the Venezuelans' average years of education. The variable *Treatment (Priming=1)* is the assigned treatment status to COVID priming of the individual. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Standard errors are reported in parentheses.

Figure (C.1) Heterogeneous Effects - Age (Excluded Category: Impressionable Years)

(a) Altruism

(b) Policy Altruism

(c) Opinion on Effort

(d) Opinion on Economy

(e) Opinion on Taxes

Notes: Each graph depicts the coefficient estimate for the *Treatment (Priming=1)* and their interaction with five age group dummies defined in the X axis of the Figure C.1. The excluded age group is age between 18 to 25 years old corresponding of the impressionable years.

Table (D.1) Testing Balance Between Groups (Second Wave)

| | Means by Treatment Assignment | | Overall Sample | | P-value |
| | Priming Group | Control Group | Mean | St. Deviation | (1) vs (2) |
	(1)	(2)			
Male [=1]	0.52	0.55	0.54	0.5	0.16
Age	42.8	43.98	43.41	14.14	0.06
Ed: Secondary or More	0.98	0.98	0.98	0.14	0.22
Economic Strata: 1	0.09	0.08	0.08	0.28	0.18
Economic Strata: 2	0.33	0.31	0.32	0.47	0.56
Economic Strata: 3	0.39	0.39	0.39	0.49	0.71
Economic Strata: 4	0.13	0.15	0.14	0.35	0.26
Economic Strata: 5	0.05	0.04	0.04	0.21	0.18
Economic Strata: 6	0.01	0.03	0.02	0.15	0.02
Religious [Yes =1]	0.82	0.82	0.82	0.39	0.98
Ideology (1 Left - 10 Right)	5.34	5.25	5.3	1.9	0.27
Joint orthogonality test p-value					0.01
Sample Size	1,012	1,070		2,082	

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) Priming Effects of Altruism and Attitudes Towards Migrants (Second Wave)

| Dep. Variable | Altruism | Policy Altruism | Opinion on Effort | Opinion on Economy | Opinion on Taxes |
	(1)	(2)	(3)	(4)	(5)
Treatment (Priming=1)	-0.033	0.008	-0.018	-0.007	0.009
	(0.038)	(0.037)	(0.019)	(0.037)	(0.037)
R-squared	0.000	0.000	0.000	0.000	0.000
Observations	2,710	2,892	2,876	2,874	2,916

Notes: The dependent variable Y_i represents the outcome for individual i as measured in the survey and standardized using the mean and standard deviation of the control group. The variable *Treatment (Priming=1)* is the assigned treatment status to COVID priming of the individual. *** significant at the 1%, ** significant at the 5%, * significant at the 10%. Standard errors are reported in parentheses.