Supplementary Appendix
Policy Preferences after Crime Victimization: Panel and Survey Evidence from Latin America

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1 Appendix A: Description of Covariates Panel Data

Table A1: Covariates included in the matching (first part)

Variable	Categories
Neighborhood (wave t)	1:44
Perceptions of safety in the neighborhood (wave t-2)	(1) Very safe, (2) Safe, (3) Little safe, (4) Not safe
Do you watch TV news? (wave t)	(1) Yes, (2) No
Do you read about politics in newspapers (wave t)	(1) Yes, (2) No
Frequency of Internet usage (wave t)	(1) Everyday, (2) Few times per week, (3) Few times per month, (4) Few times per year, (5) Never
Talk about politics with friends (wave t)	(1) Frequently, (2) Sometimes, (3) Rarely, (4) Never
Talk about politics with family (wave t)	(1) Frequently, (2) Sometimes, (3) Rarely, (4) Never
Comparison with other families from same neighborhood (wave t)	(1) Similar, (2) Different, (3) Very different
Importance of combating crime (wave t-2)	(1) Most important priority, (0) otherwise
Attention paid to presidential election (wave t-1)	(1) A lot, (2) Some, (3) A little, (4) Very little, (5) Nothing
Have you persuaded others to vote? (wave t)	(1) Yes, (2) No
Military feeling thermometer (wave t-2)	0,1,2,3,4,5,6,7,8,9,10
Union feeling thermometer (wave t-2)	0,1,2,3,4,5,6,7,8,9,10
Business sector feeling thermometer (wave t-2)	0,1,2,3,4,5,6,7,8,9,10
President (FHC) feeling thermometer (wave t)	0,1,2,3,4,5,6,7,8,9,10
Do you identify with a party? (wave t)	(1) Yes, (0) No
Importance of party when you vote (wave t)	(1) Very important, (2) Important, (3) A little important, (4) No important
Ideology (wave t)	(1) Right, (2) Center-right, (3) It depends, (4) Center-left, (5) Left
Opinions about social spending (wave t)	(1) Strongly agree, (2) Agree a little, (3) It depends, (4) Disagree a little, (5) Strongly disagree
Opinions about minimum wage (wave t)	(1) Strongly agree, (2) Agree a little, (3) It depends, (4) Disagree a little, (5) Strongly disagree
Gender (wave t)	(1) Male, (2) Female

Table A2: Covariates included in the matching (second part)

Variable	Categories
Education (wave t-1)	(1) No education, (2) First grade, (3) Second grade, (4) Third grade, (5) Four grade, (6) Fifth grade, (7) Sixth grade, (8) Seventh grade, (9) Eight grade, (10) First grade second level, (11) Second grade second level, (12) Third second level, (13) College incomplete, (14) College complete, (15) Graduate school incomplete, (16) Graduate school complete
Stable job	(1) Yes, (2) No
Job in the formal sector	(1) Yes, (2) No
Job in the public sector	(1) Yes, (2) No
Worried about losing job in the future	(1) A lot, (2) A little, (3) Nothing
Age (wave t)	16:90
Name of one presidential candidate (wave t)	(1) Yes, (0) No
Support for strong-arm policies to reduce crime (wave t-2)	(1) Yes, (0) No
Support for death penalty to reduce crime (wave t-2)	(1) Yes, (0) No
Support for democracy (wave t-2)	(1) Yes, (0) No
Support for death penalty (wave t-1)	(1) Yes, (0) No
Vote for Ciro (wave t)	(1) Yes, (0) No
Vote for Lula (wave t)	(1) Yes, (0) No
Vote for Serra (wave t)	(1) Yes, (0) No
Vote for Garotinho (wave t)	(1) Yes, (0) No
Do you identify with the PMDB (wave t)	(1) Yes, (0) No
Do you identify with the PFL (wave t)	(1) Yes, (0) No
Do you identify with the PSDB (wave t)	(1) Yes, (0) No
Do you identify with the PT (wave t)	(1) Yes, (0) No
White (wave t-2)	(1) Yes, (0) No
Pardo/Mestizo (wave t-2)	(1) Yes, (0) No
Black (wave t-2)	(1) Yes, (0) No
Voted for FHC in 1998 (wave t-2)	(1) Yes, (0) No
Voted for Lula in 1998 (wave t-2)	(1) Yes, (0) No
Catholic (wave t-2)	(1) Yes, (0) No
Evangelical (wave t-2)	(1) Yes, (0) No
No religion (wave t-2)	(1) Yes, (0) No

2 Appendix B: Summary Statistics Before Matching

Table A3: Descriptive statistics before matching

Statistic	N	Mean	St. Dev.
Perceptions of safety	2,236	2.68	0.75
Do you watch TV news?	2,236	1.05	0.23
Do you read about politics in newspapers	2,236	1.49	0.50
Frequency of internet usage	2,236	4.37	1.25
Talk about politics with friends	2,236	2.16	1.02
Talk about politics with family	2,236	1.80	0.90
Comparison with other families	2,236	1.32	0.55
Importance of combating crime	2,236	0.40	0.49
Attention paid to presidential election	2,236	2.38	1.27
Have you persuaded others to vote?	2,236	1.70	0.46
Military feeling thermometer	2,236	6.46	2.54
Union feeling thermometer	2,236	5.67	2.70
Business sector feeling thermometer	2,236	5.37	2.60
President (FHC) feeling thermometer	2,236	4.20	3.19
Do you identify with a party?	2,236	0.50	0.50
Importance of party when you vote	2,236	2.66	1.02
Ideology	2,236	2.88	1.38
Opinions about social spending	2,236	1.88	1.45
Opinions about minimum wage	2,236	2.16	0.93
Gender	2,236	1.57	0.49
Education	2,236	8.94	3.63
Stable job	2,236	1.59	0.49
Job in the formal sector	2,236	1.21	0.41
Job in the public sector	2,236	1.93	0.25
Worried about losing job in the future	2,236	1.89	0.31
Age	2,236	43.83	16.31
Name of one presidential candidate	2,236	0.48	0.50
Support strong-arm policies to reduce crime	2,236	0.15	0.36
Support death penalty to reduce crime	2,236	0.25	0.43
Support for democracy	2,236	0.49	0.50
Support for death penalty	2,236	0.33	0.47
Vote for Ciro	2,236	0.08	0.27
Vote for Lula	2,236	0.52	0.50
Vote for Serra	2,236	0.20	0.40
Vote for Garotinho	2,236	0.10	0.30
Do you identify with the PMDB	2,236	0.11	0.31
Do you identify with the PFL	2,236	0.01	0.10
Do you identify with the PSDB	2,236	0.02	0.14
Do you identify with the PT	2,236	0.32	0.47
White	2,236	0.54	0.50
Pardo/Mestizo	2,236	0.20	0.40
Black	2,236	0.09	0.28
Voted for FHC in 1998	2,236	0.32	0.46
Voted for Lula in 1998	2,236	0.24	0.43
Catholic	2,236	0.67	0.47
Evangelical	2,236	0.10	0.30
No religion	2,236	0.18	0.38

3 Appendix C: Summary Statistics After Matching

Table A4: Descriptive statistics after matching

Statistic	N	Mean	St. Dev.
Perceptions of safety	542	2.70	0.77
Do you watch TV news?	542	1.06	0.23
Do you read about politics in newspapers	542	1.47	0.50
Frequency of internet usage	542	4.40	1.22
Talk about politics with friends	542	2.11	1.02
Talk about politics with family	542	1.77	0.88
Comparison with other families	542	1.32	0.55
Importance of combating crime	542	0.42	0.49
Attention paid to presidential election	542	2.34	1.27
Have you persuaded others to vote?	542	1.69	0.46
Military feeling thermometer	542	6.41	2.55
Union feeling thermometer	542	5.56	2.77
Business sector feeling thermometer	542	5.34	2.51
President (FHC) feeling thermometer	542	4.21	3.28
Do you identify with a party?	542	0.52	0.50
Importance of party when you vote	542	2.69	1.03
Ideology	542	2.89	1.39
Opinions about social spending	542	1.82	1.42
Opinions about minimum wage	542	2.16	0.95
Gender	542	1.59	0.49
Education	542	9.05	3.37
Stable job	542	1.59	0.49
Job in the formal sector	542	1.22	0.42
Job in the public sector	542	1.94	0.23
Worried about losing job in the future	542	1.87	0.33
Age	542	43.34	16.09
Name of one presidential candidate	542	0.50	0.50
Support strong-arm policies to reduce crime	542	0.15	0.36
Support death penalty to reduce crime	542	0.26	0.44
Support for democracy	542	0.45	0.50
Support for death penalty	542	0.33	0.47
Vote for Ciro	542	0.07	0.25
Vote for Lula	542	0.49	0.50
Vote for Serra	542	0.23	0.42
Vote for Garotinho	542	0.11	0.31
Do you identify with the PMDB	542	0.12	0.33
Do you identify with the PFL	542	0.01	0.10
Do you identify with the PSDB	542	0.03	0.17
Do you identify with the PT	542	0.31	0.46
White	542	0.53	0.50
Pardo/Mestizo	542	0.19	0.39
Black	542	0.08	0.28
Voted for FHC in 1998	542	0.32	0.47
Voted for Lula in 1998	542	0.21	0.41
Catholic	542	0.66	0.48
Evangelical	542	0.10	0.30
No religion	542	0.19	0.39

4   Appendix D: Description of Panel Data

The two cities panel data was conducted between 2002 and 2006. The first wave was implemented in March/April 2002, the second in August 2002, the third in October 2002, the fourth in May 2004, the fifth in July 2006, and the sixth in October 2006.

The question that captures the main outcome of interest was only asked in wave 1 and wave 4. Wave 3 provides the baseline for the study, because I subset the sample to subjects that in that wave were not crime victims to study the impact of victimization in the following wave. Wave 1 cannot be the baseline for the study because the outcome was not asked in wave 2 and because there were no pretreatment covariates for the first wave. I refer to wave 3 as wave t. Meanwhile, waves 1 and 2 are waves $t-1$ and $t-2$. I study the effect of victimization on "strong-arm policy preferences" only in wave 4 because those questions were not included in the subsequent waves.

Because there are 19 months between wave t (October 2002) and wave $t+1$ (May 2004), it is possible that someone was a crime victim in the first 7 months after wave t and is included in the control group. That person should not have reported a crime in wave $t+1$ because this event did not happen in the previous 12 months. This should not be problematic because, in a worse case scenario, any effect can be interpreted as a conservative estimate.

I include 48 pretreatment covariates (from waves 1, 2, and 3) in the matching procedure. For missing values in the covariates I impute the median and include a binary indicator of missingness as a mean balance constraint.

I apply some data exclusion criteria. I exclude from the analysis those respondents that: (i) were crime victims in wave t, (ii) did not answer the crime victimization question in wave t, (iii) did not answer the crime victimization question in wave $t+1$.

I do not exclude units with missing outcome data because it would be too costly in terms of dropping missing values. Therefore, I construct a binary variable of support for strong-arm policies to reduce crime, and support for democracy. The main outcome of interest is coded 1 when respondents support the following statement: "the best way to reduce crime is with repression and

an iron fist," and 0 otherwise. Meanwhile, support for democracy is coded 1 when respondents support the statement: " democracy is always better than other forms of government," and 0 otherwise. In the sake of consistency, I follow the same approach when constructing outcomes in the external validity analysis.

For the X vector in the estimation equation, I include two predictors of the outcomes: education and age. I also add missing value indicators for these covariates.

The matching procedure was implemented by using the `Gurobi` 6.5.0 solver and the `designmatch` package for R.

5 Appendix E: More about the Matching Algorithm

After obtaining a matched sample it is possible to re-pair the units to minimize heterogeneity in the treated-minus-control response differences, which will lead to a reduction in the sensitivity to unmeasured biases (Zubizarreta, Paredes and Rosenbaum, 2014). Following Zubizarreta, Paredes and Rosenbaum (2014), an effect τ is less sensitive to an unmeasured bias u, if the treated-minus-control response Y is tightly packed or has a compact distribution around its center. One alternative for re-pairing units is to use a Mahalanobis distance computed with covariates that are good predictors of the outcomes. I implement this post-matching step (re-pairing) using the following pretreatment covariates: support for strong-arm policies to reduce crime and a military feeling thermometer. The process of pairing for heterogeneity has no impact when using regressions, but its benefits can be observed when implementing a Rosenbaum sensitivity analysis (Rosenbaum, 2005; Zubizarreta, Paredes and Rosenbaum, 2014).

6   Appendix F: Amplification of a Sensitivity Analysis

The matching procedure was able to eliminate overt biases generated by imbalances in observed covariates. However, it is still possible that certain unobserved covariates are introducing biases and then explaining the outcomes. How can we address such concerns about the possible existence of unmeasured biases?

First, design sensitivity is the effect that research design can have on sensitivity to hidden biases (Rosenbaum, 2004, 2010). For example, the statistical theory of design sensitivity recommends reducing the heterogeneity of the sample. In this paper I attempt to achieve that goal by focusing on two cities in Brazil and generating balance at the neighborhood level,.

Second, unobserved pretreatment differences can be studied by using a sensitivity analysis, which asks how large the unmeasured covariates need to be to explain away a given effect. I implement the amplification of a Rosenbaum sensitivity analysis by using a one-sided Wilcoxon signed rank test statistic. A naive model will assume that two subjects with the same observed covariates x will have the same chance of receiving the treatment: for example, 50% each. A sensitivity analysis studies how different odds of receiving the treatment, explained by the existence of an unmeasured covariate u, can alter the conclusions of the observational study. The odds of differential assignment to the treatment are represented by the parameter Γ, and when this is equal to one it means that two units with the same observed covariates have the same chance of receiving the treatment. If this is true, the study is free of hidden biases, which can be seen as a strong assumption. The parameter Γ makes the assumption that the unobserved factor is a quite strong predictor of the outcome. Meanwhile, the amplification analysis allows us to interpret Γ in two different parameters. Λ, which controls the relationship between the hidden factor and treatment assignment. And Δ, which controls the relationship between the hidden factor and the outcome (Rosenbaum, 2015). The amplification shows that the p-values will still be lower than 0.05 even if there is an unobserved covariate that doubles the odds of being a crime victim ($\Lambda = 2$) and increases in one and a half the odds of supporting strong-arm policies ($\Delta = 1.57$).

7 Appendix G: Description of Survey Data

To conduct this analysis I use the 2012 survey from the Latin American Public Opinion Project. The study conducted in 2014 does not ask the question about support for iron-fist policies in most of the countries. I incorporate 18 Latin American countries in the analysis: Mexico, Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, Panama, Colombia, Ecuador, Bolivia, Peru, Paraguay, Chile, Uruguay, Brazil, Venezuela, Argentina, and the Dominican Republic.

I use the following question to construct the treatment: "Have you been a victim of crime in the last 12 months?" When respondents answered "yes" the treatment was coded as a 1, and when they answered "no" it was coded as a 0.

I focus on four covariates: age, education (years of schooling), gender (1: female, 0: male), and ethnicity (mestizo: 1, white: 2, indigenous: 3, black: 4, otherwise: 5). I also include country fixed effects, and ethnicity as a factor variable (mestizo is the reference category).

Support for iron-fist policies is coded 1 when respondents support the statement, "In order to catch criminals, authorities occasionally can cross the line," and 0 otherwise. Support for democracy is coded 1 when respondents support the statement, "Democracy is preferable to any other form of government," and 0 otherwise.

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