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From the Specific to the Diffuse: the Indirect Effect of Crime Victimization on Support for Democracy^{*,**}

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Can crime victimization affect support for democracy through its effect on satisfaction with democracy? Drawing upon AmericasBarometer data representative of eighteen Latin American countries, this study answers this question by employing an identification strategy that deals with two strong limitations to causal inference with observational data: covariate imbalance between treatment and control groups and unobserved confounders bias. This strategy combines matching, a novel estimation for mediation analysis, regression-with-residuals, sensitivity analyses, and tests that rule out the possibility of reverse causality. Results show that victimization indirectly affects support for democracy through its effect on satisfaction with democracy. Being a crime victim reduces satisfaction with democracy, which decreases support for democracy. No direct effects were found. These findings contribute to the debate on crime and legitimacy by investigating a new causal pathway for the effect of victimization on support for democracy that partially explains the current lack of consensus in the literature. It also demonstrates the importance of disentangling indirect effects from direct effects when studying the effects of crime-related variables on legitimacy.

Keywords: Legitimacy; support for democracy; crime victimization; satisfaction with democracy.

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Democratic legitimacy is one of the main fields of study in political science. Given that democratic stability has become a major concern in multiple regions of the world, especially among third-wave democracies (HUNTINGTON, 1991), studies have tried to explain the mechanisms that hinder or foster the development of legitimacy. A major part of this work has focused on explaining how government performance, particularly economic results, affects variables such as satisfaction and support for democracy (BOOTH and SELIGSON, 2009).

Nevertheless, in the last decade, the focus of the literature has expanded, and non-economics factors have also been considered. Crime-related variables emerged as potential and important predictors of legitimacy, especially in high-crime contexts, such as Latin America and some African countries. In these regions, where crime is an important public issue, it has been hypothesized that crime may affect several political attitudes. For example, various studies have found that crime victimization is negatively associated with satisfaction with democracy in Latin America (BLANCO, 2013; BLANCO and RUIZ, 2013; CEOBANU et al., 2011; FERNANDEZ and KUENZI, 2010). Others have also found effects of victimization on support for the overthrow of governments (MALDONADO, 2010), approval of strong-arm policies (VISCONTI, 2020), and support for the political system (CARRERAS, 2013).

Hence, many studies have endorsed the point of view that victimization reduces dimensions of democratic legitimacy. Nevertheless, a puzzle remains. Legitimacy can be conceived as being divided into two main categories: specific dimensions and diffuse dimensions (EASTON, 1975). Specific dimensions are those more linked to evaluations of government performance, directly affected by changes in citizens' perceptions regarding their quality of life and daily experiences. Satisfaction with democracy, for example, is a component of the specific dimension of legitimacy, mirroring individual's evaluations of regimes' efficacy in providing public goods. Diffuse dimensions, on the other hand, reflect people's general support and allegiance to their political regimes. Therefore, diffuse dimensions are expected to be less impacted by specific events – such as crime

victimization – and evaluations of government performance (BOOTH and SELIGSON, 2009; NORRIS, 1999).

There is extant evidence that crime victimization affects specific dimensions of democracy, such as satisfaction with democracy (BLANCO, 2013; BLANCO and RUIZ, 2013; CEOBANU et al., 2011; FERNANDEZ and KUENZI, 2010). Nevertheless, when it comes to diffuse dimensions like support for the regime, findings are mixed. In Latin America, some studies have encountered significant negative effects of victimization on support for democracy (BATESON, 2012; VISCONTI, 2020), while others have not (BLANCO, 2013; CEOBANU et al., 2011; FERNANDEZ and KUENZI, 2010; SALINAS and BOOTH, 2011).

I argue that the current absence of consensus in the literature stems from the fact that most studies did not directly take into account Easton's (1975) classic theory of legitimacy building when analyzing the effects of victimization on support for democracy. According to Easton (1975), diffuse dimensions may be affected by life experiences, such as crime victimization, but this effect occurs through a spill-over mechanism in which specific dimensions are first impacted and, because of this effect, diffuse aspects then change. Hence, when analyzing the effects of crime victimization on support for democracy, we need to consider how specific dimensions of democracy mediate this association.

In this paper, I provide an empirical test of this mechanism by running a mediation analysis of the effects of crime victimization on support for democracy through satisfaction with democracy. Since satisfaction with democracy has been found to be strongly associated with victimization and is the most general measure of satisfaction with regime performance, I believe it may be one of the main causal chains through which victimization affects support for democracy.

This research thus expands on previous work by developing a causal pathway that partially explains the negative association between victimization and support for democracy. It draws upon AmericasBarometer survey data of eighteen Latin American countries from 2018 to 2019 and a novel mediation analysis technique, the regression-with-residuals (RwR) (ZHOU and WODTKE, 2019), to test whether the effect of victimization on support for democracy is mediated by satisfaction with democracy. Results endorsed this causal mechanism, providing

evidence in favor of the hypothesis that victimization reduces satisfaction with democracy and, by doing so, also decreases support for the regime.

This paper is organized as follows. First, I discuss the concepts of legitimacy, satisfaction with democracy, and support for democracy. Second, I discuss the available empirical studies on the associations between crime and legitimacy. Third, I introduce the issue of crime in Latin America and show that the region is one of the best cases to analyze the association between crime and legitimacy. Fourth, I present the data and methods used. Finally, I present and discuss the results.

Democracy, performance, and regime legitimacy

As democracies spread throughout the world since the beginning of the second half of the twentieth century, scholars have tried to understand the mechanisms that could foster or hinder the development of democratic regimes (EASTON, 1975; HUNTINGTON, 1991; LINZ and STEPAN, 1996; LIPSET, 1994). The so-called third-wave democracies (HUNTINGTON, 1991), which include the Latin American countries that became democracies in the 1970s and 1980s, called for special attention given their authoritarian and unstable political history.

An influential point of view is that systemic failures (HUNTINGTON, 1991) of democratic regimes could undermine their consolidation, especially concerning the provision of welfare, justice, and domestic order. The stability of the political system is linked to the trust citizens bestow on it, and this trust is strongly related to individuals' evaluation of governments' ability to improve general well-being (LINZ and STEPAN, 1996; LIPSET, 1994). In the words of Lipset, "legitimacy is best gained by prolonged effectiveness, effectiveness being the actual performance of the government and the extent to which it satisfies the basic needs of most of the population" (LIPSET, 1994, p. 08).

Therefore, on one hand, consolidation of democratic regimes relies on the strengthening of a democratic political culture capable of sustaining the construction of equally stable democratic institutions. On the other hand, the entrenchment of this democratic political culture depends on the regime's capacity to deliver goods and services to its population, particularly economic opportunities and social welfare. The development of steady and widely accepted political support

for the democratic regime is important because this is the main link between citizens and the regime.

Political legitimacy is a complex concept that can be analyzed in several ways. Here I follow Easton's (1975) classic definition and divide legitimacy into two main dimensions: specific and diffuse. Variables associated with the specific dimension of legitimacy refer to citizens' views on how political authorities are fulfilling their needs. It is a direct response to how politicians in power are dealing with the problems citizens judge the most urgent. The mediator under study in this paper, satisfaction with democracy, is a component of the specific dimension of legitimacy. It denotes citizens' current perception of the political system's ability to deliver public goods, and it may change periodically given that citizens' sense of satisfaction with their daily lives oscillates (BOOTH and SELIGSON, 2009).

The diffuse dimension, on the other hand, is linked to the attitudes and goodwill citizens show not towards the incumbent political authorities but towards the regime itself. In democratic governments, diffuse support is the support given to democracy, not to the party currently in power or to a specific leader. The diffuse dimension of legitimacy is also composed of multiple variables. In this study, the outcome, support for democracy, is a component of the diffuse dimension of legitimacy (BOOTH and SELIGSON, 2009; NORRIS, 1999).

Hence, diffuse support is a perennial element of legitimacy, while specific support is more volatile. While the variables associated with the specific dimension of legitimacy tend to vary with short-term popular dissatisfactions, those associated with the diffuse dimension are considerably more stable. Diffuse dimension variables, however, are not immune to change: Deterioration of specific support might spill over into diffuse support, and poor government performance may lead to greater dissatisfaction not only with incumbent politicians but also with the democratic regime (EASTON, 1975). In the case of Latin America, where most countries do not have deeply rooted democratic cultures, the chances that popular discontent will spill over from specific support into diffuse support is even higher because the "reservoir of goodwill" (EASTON, 1975) towards democracy tends to be smaller.

Given that citizens may perceive crime victimization as a failure by governments to promote public safety, victimization may negatively impact

legitimacy, particularly specific dimensions of legitimacy, such as satisfaction with democracy. By affecting citizens' satisfaction with the regime's performance, crime victimization may also have an indirect negative effect on diffuse dimensions, such as support for democracy. This study directly tested this mechanism. Before presenting this study's hypothesis, however, I will discuss previous findings on the associations between crime-related variables and legitimacy.

Crime and legitimacy

It was only in the last decade that scholars have begun studying the links between crime and legitimacy. Most of this literature has been trying to address the effects of individual victimization and fear of crime on trust in institutions and on support for and satisfaction with democracy in Latin America.

Overall, there is a consensus that crime-related variables, such as victimization and fear of crime, are negatively associated with specific dimensions of legitimacy. Multiple studies have found that victimization produces negative effects on satisfaction with democracy (BLANCO, 2013; BLANCO and RUIZ, 2013; CEOBANU et al., 2011; FERNANDEZ and KUENZI, 2010). As for fear of crime, studies have also found negative associations with satisfaction with democracy and other specific dimensions of legitimacy, such as trust in democratic institutions (BLANCO and RUIZ, 2013). In line with Easton's (1975) legitimacy theory, these results are highly expected since specific dimensions of legitimacy, such as satisfaction with democracy and trust in institutions, are linked to the evaluation of government performance and tend to be directly affected by citizens' daily experiences.

However, analyzing the associations between crime and diffuse dimensions of legitimacy, such as support for democracy, is more complex. While satisfaction with democracy and other specific attitudes are more easily affected by life experiences, such as crime victimization, diffuse dimensions are expected to be more resilient (BOOTH and SELIGSON, 2009; NORRIS, 1999). Indeed, studies on the associations between victimization and support for democracy have led to mixed results. Some have found negative associations between victimization and support, while others have not found any significant results. Drawing upon cross-sectional data from Latin America, Bateson (2012) found a negative effect of

victimization on support for democracy. Using panel data from Brazil, Visconti (2020) obtained similar results. Negative associations were also found in Colombia (BLANCO and RUIZ, 2013). Other diffuse dimensions of legitimacy, such as support for the political system, have also been found to be affected by victimization (CARRERAS, 2013).

Another group of studies, however, found no significant associations. Ceobanu et al. (2011), for instance, found significant effects on satisfaction with democracy but not on support. Blanco (2013) obtained similar results by analyzing the Mexican case. Salinas and Booth (2011) also found no associations between victimization and support for democracy in Latin America. Another study has found significant effects of victimization on support for democracy in Africa but not in Latin America (FERNANDEZ and KUENZI, 2010).

Hence, the relationship between crime victimization and support for democracy remains a puzzle. I argue that this apparent confusion lies in the fact that most studies have not directly addressed the causal link between specific and diffuse aspects of legitimacy. According to Easton's (1975) classic formulation, diffuse dimensions, such as support for democracy, tend to be more resilient to the daily experiences of citizens and evaluations of government performance. Nevertheless, these dimensions may suffer a spill-over effect (EASTON, 1975) caused by changes in specific aspects of legitimacy, such as satisfaction with democracy. Therefore, to properly analyze the effect of victimization on support for democracy, one needs to consider that this might be an indirect – rather than direct – effect. This effect may occur through specific dimensions of legitimacy instead of flowing directly from victimization to support. Since there is a consensus that victimization affects satisfaction with democracy and that this variable is the specific dimension that more broadly measures satisfaction with regime performance, I believe it may act as the main causal chain through which the effect of crime victimization affects support for democracy. Victimization could reduce satisfaction with democracy and, by reducing it, could also diminish support for democracy. Thus, I hypothesize that:

H1: Victimization indirectly reduces support for democracy through its effect on satisfaction with democracy.

Finally, I should present the reasons why I believe victimization might affect legitimacy. First, victimization is an experience that triggers psychological mechanisms that provoke different responses in individuals. For example, victimization has been found to increase anger, which in its turn increases support for harsher punishments of criminals (GARCIA-PONCE et al., 2022). Crime victims may blame the state for their victimization and channel their anger towards it, which reduces their satisfaction with and support for the current political regime. Secondly, crime victimization increases victims' levels of fear, sadness, and general life dissatisfaction (GREENBERG and RUBACK, 2012). The causal chain is the following: Increased life dissatisfaction may spill over into citizens' level of satisfaction with democracy, reducing it, which in turn reduces support for the political regime. Finally, the relation between victimization and legitimacy could be explained by the saliency of crime in Latin America. Crime has been found to be one of the main public concerns in various Latin American countries (CARRERAS, 2013). When crime is perceived as a major social problem by multiple individuals, citizens may be less lenient to the state's inability to prevent them from being victimized, which reduces their satisfaction with and support for their democratic regimes.

Crime in Latin America

Although Latin America is not facing any major international conflict, it is one of the most dangerous regions in the world. Data compiled by the United Nations Office on Drugs and Crime (UNODC) show that homicide rates in Latin America have been by far the highest in the world for at least the last two decades. The region is populated by various criminal groups, especially drug traffickers, which pose a serious threat to the rule of law in many Latin American countries. These groups often build alliances with law-enforcement agents, such as the police and judges, making it hard to build efficient policies to fight crime (ARIAS, 2006). Widespread unsafety also results in significant economic consequences in the region, with spending continuously increasing on policing, prison expansion, and private security systems in upper-class neighborhoods. The annual amount is estimated at around 03 percent of the region's GDP (JAITMAN and KEEFER, 2017).

Among the most important reasons for Latin America's high rates of violence are the historically high levels of inequality and the criminalization of poverty, which targets young, racialized individuals from poor neighborhoods (MISSE, 2019). Most leaders in the region resort to penal populism, implementing harsh policies and confrontation tactics under the logic of the war on crime. These solutions even include deploying the armed forces to fight drug cartels and occupy neighborhoods dominated by drug traffickers (PION-BERLIN and CARRERAS, 2017), resulting in low homicide clearance rates (CERQUEIRA, 2014) and an increase in drug trafficking (DAUDELIN and RATTON, 2017). Altogether, these factors have led to a process of social accumulation of violence in Latin America, which has kept homicide rates stable at very high levels since the 1990s (MISSE, 2019).

High crime rates have important effects on the daily lives of many Latin Americans, especially when it comes to accessing civil rights and social welfare (ARIAS and BARNES, 2017). High crime rates also increase fear, which has been leveraged by politicians in countries as different as the US and Brazil to promote authoritarian policies that undermine democratic principles such as due process and human rights (GARLAND, 2001; SIMON, 2007).

Data and method

Given this study's focus on the association between victimization and support for democracy in Latin America, I use data provided by the Latin American Public Opinion Project (LAPOP). The 2018/19 round of the Americas Barometer is the eighth regional survey produced by LAPOP and is based on stratified probability samples representative of each country's population. The data is composed of samples from 18 Latin American countries, totaling 26,396 observations. All cases with missing data for the outcome, support for democracy, and the mediator, satisfaction with democracy, were dropped. The data set was then imputed using multiple imputations with the mice package in R. The treatment, crime victimization, had only 30 missing cases and was also imputed. Descriptive statistics can be found in Table 01.

The means of the outcome, support for democracy, and of the mediator, satisfaction with democracy, were 4.8 and 2.3, respectively. Since both variables

have different scales (from 01 to 07 in the first case, and 01 to 04 in the second), I must compare them accordingly. The aggregated mean of support for democracy for all countries was above half of the scale. This is also true for satisfaction with democracy, even though the mean was closer to the center of the scale than in the case of support for democracy. The mean of the explanatory variable, victimization, was considerably high, 0.25, meaning that 25 percent of the sample suffered some type of crime in the 12 months before responding to the survey. The victimization rate by country is shown in Table A1 of the online Appendix. Question wording of the main variables used in the study can be found in Table A5."

Table 01. Descriptive statistics of the unmatched data set

Statistic	N	Mean	St. Dev.	Min	Max
Support for democracy	26,396	4.763	1.720	1	7
Satisfaction with democracy	26,396	2.317	0.795	1	4
Victimization	26,396	0.248	0.432	0	1
Race	26,396	0.267	0.442	0	1
Urban	26,396	0.718	0.450	0	1
Sex	26,396	0.491	0.500	0	1
Income	26,396	6.769	2.476	0	13
Education	26,396	10.052	4.254	0	18
Age	26,396	39.658	16.551	16	97

Source: Elaborated by the author with data from AmericasBarometer 2018/19.

Causal mediation analyses rely on strong assumptions, the most important of which is the sequential ignorability assumption. To make meaningful claims about the relations between a treatment, a mediator, and an outcome, the sequential ignorability assumption requires that there must not be any unobserved confounders 01. between the treatment and the outcome and 02. between the mediator and the outcome (VANDERWEELE and VANSTEELENDT, 2009). In most observational designs, it is often unrealistic to assume that all confounders are observed and controlled for, rendering causal studies with observational data virtually unfeasible. This limitation is hard to overcome because the introduction of post-treatment controls biases most estimations, rendering the coefficients that were found unreliable.

Recently, however, some techniques have been developed to help address the limitations of observational designs, especially the challenge of making causal claims under the sequential ignorability assumption. This study employs some of

these techniques to develop an efficient identification strategy with observational data. This strategy consists of three main steps. First, I run several matching estimations to achieve covariate balance between treatment and control groups, reducing the risk of selection bias generated by treatment allocation (MORGAN and WINSHIP, 2015). Second, I employ a novel mediation analysis approach, the regression-with-residuals (RWR), which allows the introduction of post-treatment controls in outcome models without generating biases, making it possible to control for important covariates while maintaining coefficients' reliability (WODTKE and ZHOU, 2020; ZHOU and WODTKE, 2019). Third, I run sensitivity analyses to calculate how robust my results are to unobserved treatment-outcome and mediator-outcome covariate bias. In addition, I run an alternate estimation using the causal mediation analysis framework by Imai et al. (2010) as a robustness test.

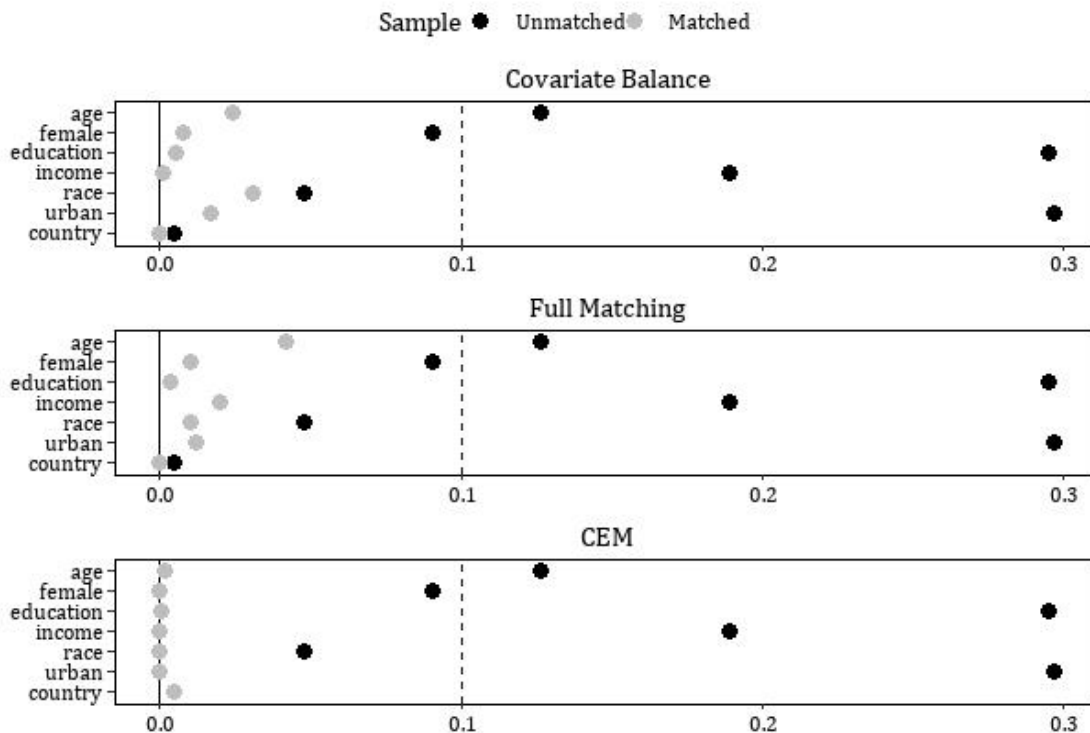
Figure 01 displays covariate balance before and after matching with three different matching methods. Coarsened exact matching (CEM) (IACUS et al., 2012) achieves the best balance, but the sample size was significantly reduced after matching. Full matching with propensity scores achieved great covariate balance while maintaining the original sample size. Despite its name, full matching applies weights instead of dropping cases, allowing it to maintain sample size while improving balance (STUART, 2010). Nearest neighbor 1:1 matching with propensity scores matched all treated units, reducing imbalance and resulting in a larger sample than CEM. Data sets were matched by crime victimization on seven pre-treatment covariates: age, years of schooling, sex, income, race, whether the individual lived in an urban area or not, and country. In the matching estimations with propensity scores, nearest neighbor and full matching, I employed exact match for countries, meaning that individuals were matched only with others that responded to the survey in the same countries. Exact matching for countries is important because victimization patterns may differ from country to country. In the results section, I draw upon all three matched data sets to run estimations. Descriptive statistics of the matched data sets can be found in the online Appendix (Tables A2 to A4).

The RWR method is a recent development of the methodological literature dedicated to the study of mediation that builds on previous methods such as the causal mediation approach (IMAI et al., 2010) and the sequential g-estimation

(ACHARYA et al., 2016). RWR estimation allows the researcher to compute indirect (mediated) and direct effects. It is an advance to previous estimations as it allows for the inclusion of post-treatment controls, that control for moderating effects, rendering the sequential ignorability assumption more plausible. The RWR does so by residualizing post-treatment covariates that could otherwise bias the direct and indirect effects estimators. Through residualizing, the estimation blocks the causal paths between the treatment, the baseline confounders, and the post-treatment controls. Since they are no longer a consequence of the treatment and baseline confounders, post-treatment controls can then be included in models without generating bias (ZHOU and WODTKE, 2019). The RWR estimation can be formally conceived as

$$\hat{Y} = \tilde{\alpha} + \tilde{B}_1^T Z + \tilde{B}_2 X + \tilde{B}_3 A + \tilde{B}_4 K + M(\tilde{\gamma}_0 + \tilde{\gamma}_1^T Z + \tilde{\gamma}_2^T X + \tilde{\gamma}_3 A) \quad (1)$$

Figure 01. Covariate balance

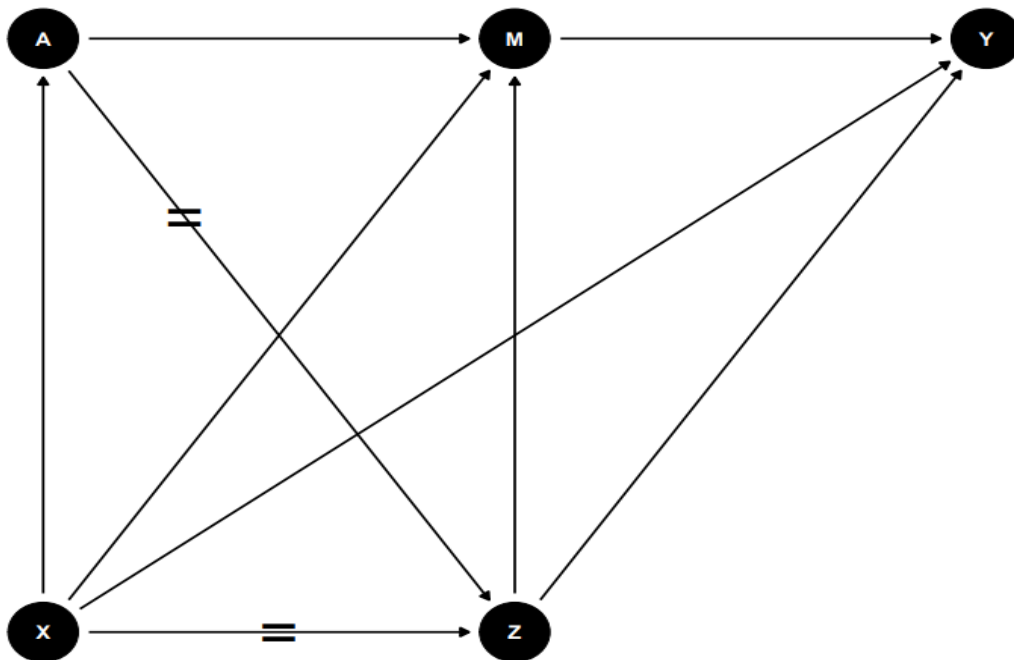


Source: Elaborated by the author with AmericasBarometer 2018/2019 data.

Where Y denotes the outcome (support for democracy), Z is a vector of residualized post-treatment controls (fear of crime), X is a set of baseline

confounders (age, sex, race, income, education, and urban), A is the treatment (crime victimization), K is a vector of country dummies, and M is the mediator (satisfaction with democracy). The tested pathway is depicted in the directed acyclical graph (DAG) below. In Figure 02, the arrows marked with equals signs correspond to the paths which the residualization of Z must block for the ignorability assumption to hold. Blocking $A \rightarrow Z$ and $X \rightarrow Z$ is important to avoid post-treatment bias while also preventing omitted variable bias by keeping Z in the equation (ZHOU and WODTKE, 2019).

Figure 02. DAG of the causal pathway of victimization, satisfaction with democracy, and support for democracy under the logic of the regression-with-residuals estimation



Elaborated by the author.

In this paper, I applied RWR estimation to compute the natural direct effect (NDE) and the natural indirect effect (NIE) of victimization on support for democracy. The NDE measures “the effect of treatment on the outcome operating through all pathways other than the mediator by comparing outcomes under different levels of treatment after fixing the mediator to the level it would have ‘naturally’ been for each individual under the reference level of treatment.” (WODTKE and ZHOU, 2020, p. 02). This means that, with the NDE, one can estimate

all the effects of victimization on support for democracy operating through any channels other than satisfaction with democracy.

The NIE, in its turn, “measures the effect of treatment operating specifically through the mediator by fixing the level of treatment for each individual and then comparing outcomes under the different levels of the mediator” (WODTKE and ZHOU, 2020, p. 02). It is, therefore, a measure of mediation. With the NIE, I can analyze the effect of victimization on support for democracy that flows specifically through satisfaction with democracy. As hypothesized above, I expect the NIE to be negative, that is, I expect that people who were crime victims in the year before responding to the survey will express, on average, lower support for democracy and that this effect is mediated by satisfaction with democracy. To compute both the NDE and the NIE, I applied the `rwrmed` package in R (WODTKE and ZHOU, 2020). The following section presents the results.

Results

This section analyzes the associations between victimization, satisfaction with democracy, and support for democracy. Specifically, it tests whether victimization is negatively associated with support for democracy and if this association is mediated by satisfaction with democracy. I control for sociodemographic characteristics, also called pre-treatment covariates, namely age, sex, income, education, race, and whether the individual lives in an urban area or not. Following the regression-with-residuals approach, I also control for a residualized post-treatment covariate, fear of crime, which has been found to affect satisfaction with democracy and support for it (CRUZ, 2011; FERNANDEZ and KUENZI, 2010; SALINAS and BOOTH, 2011). Country variance is addressed with fixed effects, that is, dummies for countries are included.

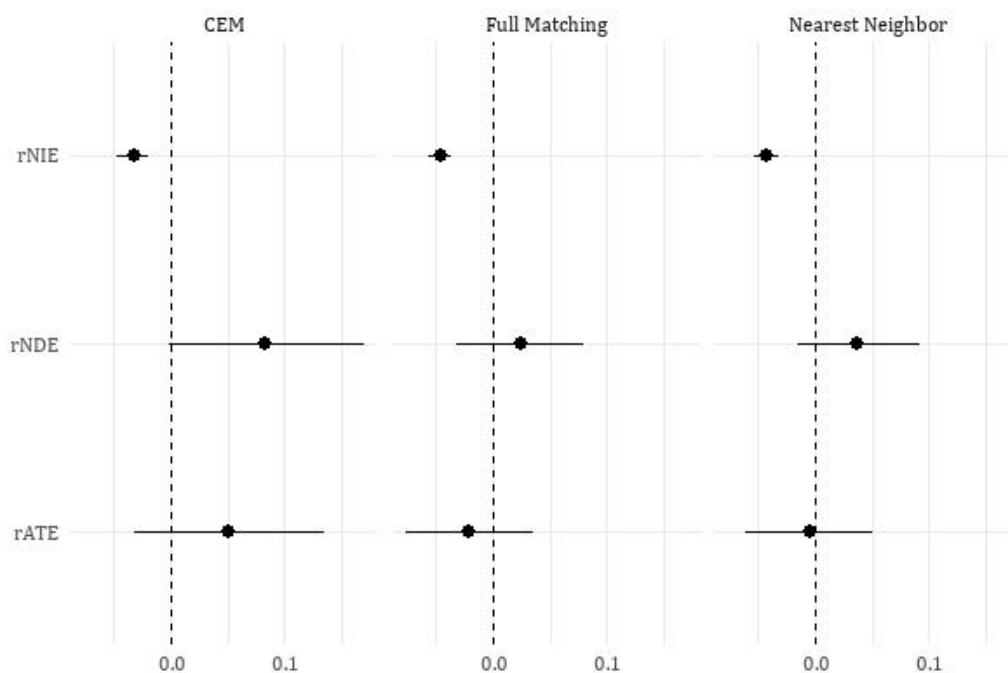
Figure 03 displays the indirect (NIE), direct (NDE), and average total effects (ATE) of crime victimization on support for democracy. The NIE of victimization on support for democracy is significant and negative at the 95 percent threshold in all tested matching specifications. Drawing upon the results of the full matched data set, which achieves covariate balance while maintaining sample size, the NIE was -0.04 (bootstrapped 95 percent CI: [-0.05, -0.04]), meaning that victimization affects support for democracy indirectly through satisfaction with democracy. Crime

victimization lowers satisfaction with democracy, which then reduces support for democracy. On average, victims feel less satisfied with democracy and, because of it, exhibit lower levels of support for this political regime. These results confirm H1.

In addition, the NDE was statistically indistinguishable from zero at the 95 percent threshold, meaning that there are no observable direct effects of victimization on support for democracy. These results relate to previous findings that encountered no effect of victimization on support for democracy when both variables were included in simple regression models with no specifications for mediation analysis (BLANCO, 2013; CEOBANU et al., 2011; FERNANDEZ and KUENZI, 2010).

The ATE, in its turn, is also insignificant at the 95 percent level. Since it consists of the sum of the NIE and the NDE, it may be that the uncertainty level of the NDE, which displays a large confidence interval, and its direction contrary to the NIE, brings the ATE to zero. However, the insignificance of the total effect does not harm the finding of the negative indirect effect. There is a consensus in the methodological literature that a total effect of A on Y is not a prerequisite for encountering significant indirect effects. On the contrary, indirect effects may be discovered in many situations where total effects are absent (HAYES, 2018).

Figure 03. Natural indirect (NIE), natural direct (NDE), and average total effects (ATE) of victimization on support for democracy



Source: Elaborated by the author with AmericasBarometer 2018/2019 data.

Robustness tests

In this section, I performed two robustness tests. First, I ran a causal mediation analysis (IMAI et al., 2010) as an alternate estimation so that the stability of the findings could be tested. The causal mediation estimation allows the researcher to estimate average causal mediation effects (ACME) and average direct effects (ADE). The ACME consists of the part of the effect of the treatment on the outcome that was mediated. Hence, the treatment first affects the mediator and then the outcome. Like the NIE, with the ACME I can calculate specifically the effect of victimization on support for democracy that occurred through the causal path of satisfaction with democracy.

The ADE, in its turn, consists of the part of the effect of the treatment on the outcome that did not happen due to the causal mechanism under evaluation. Despite the name, this is not necessarily a direct effect. It might also flow from the treatment to the outcome through unobserved causal chains. Hence, in this study, the ADE refers to the portion of the effect of victimization on support for democracy that did not occur due to alterations in satisfaction with democracy. The third quantity of interest discussed by Imai et al. (2010) is the average total effect (ATE). The ATE is found by simply adding the ACME and the ADE, and it consists of the total effect, both mediated and non-mediated, of the treatment on the outcome. In this study, the ATE comprises the total effect of victimization on support for democracy. Formally, we have:

$$\hat{Y} = B_0 + B_1X + B_2A + B_3K + M \quad (2)$$

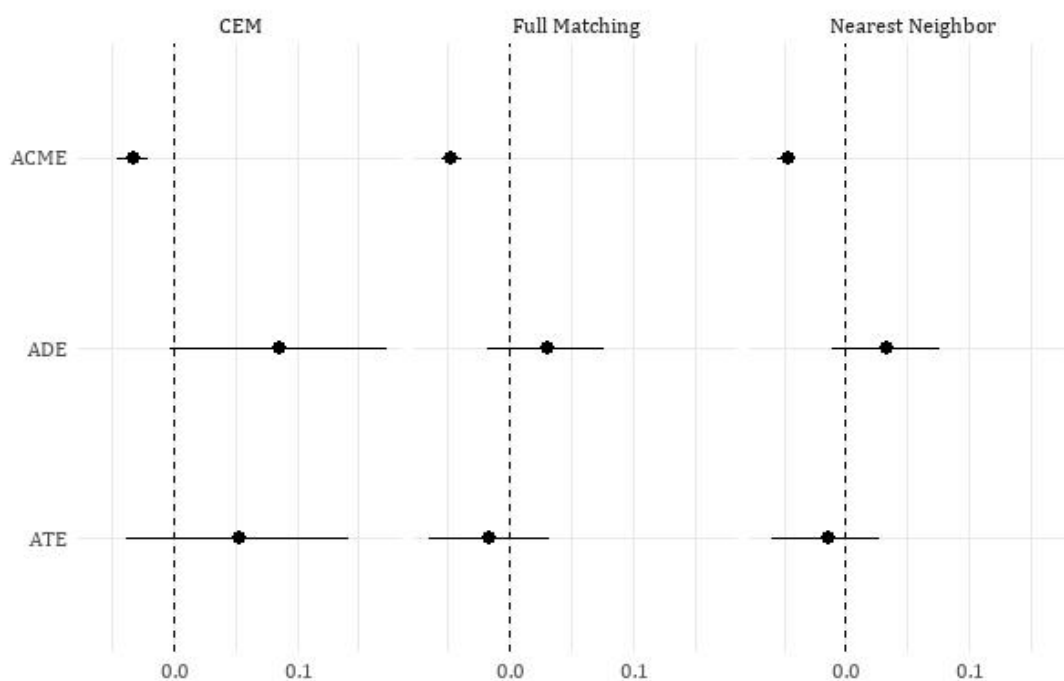
$$\hat{M} = \gamma_0 + \gamma_1X + \gamma_2A + \gamma_3K \quad (3)$$

Equation (2) is the outcome equation, where Y denotes the outcome (support for democracy), X is a vector of baseline confounders (age, sex, race, income, education, and urban), A is the treatment (victimization), K is a vector of country dummies, and M consists of the mediator (satisfaction with democracy). The mediator is also regressed on the same set X of baseline confounders, the treatment A, and the country dummies, as in equation (3). The causal mediation analysis is different from the RWR because it does not allow the inclusion of post-

treatment confounders in the outcome equation. Notwithstanding, its estimates are very similar to those I encountered with RWR estimation.

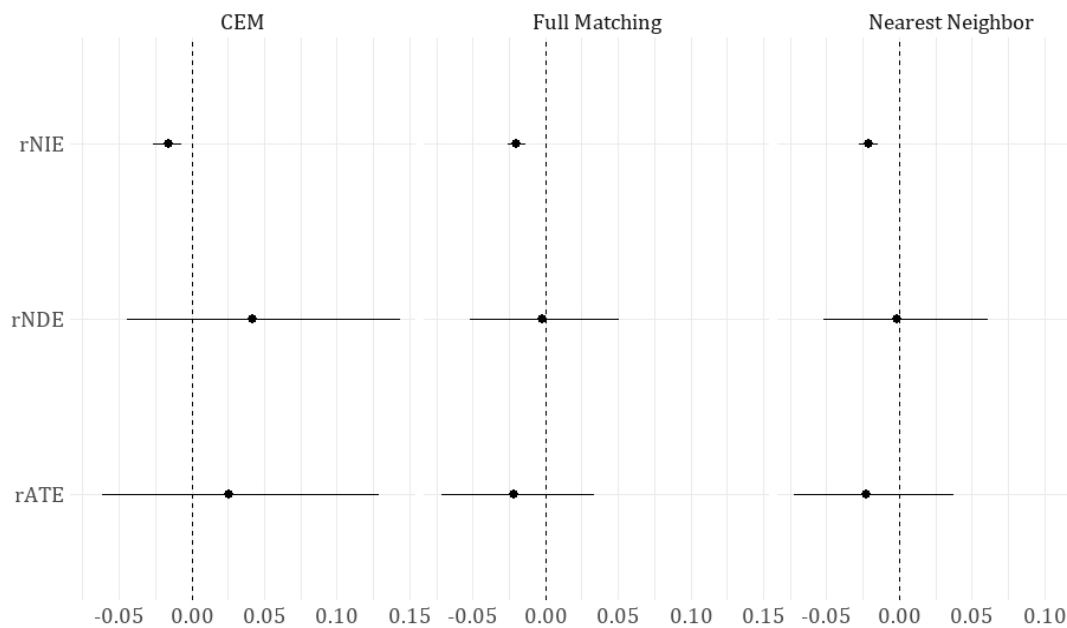
Figure 04 demonstrates that causal mediation analysis leads to the same findings as those obtained with RWR in the results section. The ACME is negative, meaning that victimization indirectly reduces support for democracy through satisfaction with democracy, while the ADE and the ATE are indistinguishable from zero.

Figure 04. Average causal mediated effect (ACME), average direct effect (ADE), and average total effect (ATE) of victimization on support for democracy



Source: Elaborated by the author with AmericasBarometer 2018/2019 data.

As a second robustness test, I added more post-treatment controls to the original RWR model analyzed in the results section. Omitted covariates could harm the fulfillment of the sequential ignorability assumption, making it important to run models with more covariates as robustness tests. These additional post-treatment covariates are trust in the National Congress, in the police, in political parties, in the President/Prime Minister, in the Supreme Court, and the 01 to 10 ideology scale. Figure 05 displays the results. The negative indirect effect of crime victimization on support for democracy through satisfaction holds.

Figure 05. NIE, NDE, and ATE of victimization on support for democracy with more post-treatment controls

Source: Elaborated by the author with AmericasBarometer 2018/2019 data.

Sensitivity analysis

Mediation analysis is complex and relies on strong assumptions. The most important of them is the sequential ignorability assumption (IMAI et al., 2010). In short, sequential ignorability assumes that there are no important unobserved confounders that affect the treatment-mediator and mediator-outcome associations (VANDERWEELE and VANSTEELANDT, 2009). In observational studies, it is impossible to test the sequential ignorability assumption. Nevertheless, there are sensitivity analysis tools that allow researchers to estimate the extent to which their findings are robust to unobserved confounders.

Here, I applied the sensitivity analysis approach developed by Cinelli and Hazlett (2020). Their method implements a simple and clear sensitivity analysis, which can be easily performed in R with package `sensemakr` (CINELLI et al., 2019). Cinelli and Hazlett's (2020) method assesses how strong an unobserved variable would have to be to explain away the observed effects. The method employs a control variable in the model as a benchmark and then evaluates how many times stronger than the chosen control would an unobserved confounder have to be to render the observed effect irrelevant. I selected income as a benchmark because the

literature deems it to be an important predictor of satisfaction with democracy and support for democracy (BOOTH and SELIGSON, 2009; SALINAS and BOOTH, 2011). All sensitivity analyses were performed on the full matched data set, given that this matching method provided the best equilibrium between sample size and covariate balance.

The sensitivity analysis demonstrated that unobserved confounders would have to bear an effect much larger than three times the slope of income for the treatment effect on the mediator to become statistically indistinguishable from zero. In variance terms, unobserved confounders would have to explain more than 5.2 percent of the residual variance of both the treatment and the mediator to be strong enough to bring the point estimate to zero. Given that the proportion of variance explained by statistical models in the political behavior field is generally quite low, it is hard to think of confounders that would simultaneously explain more than 5.2 percent of the residual variance of both the treatment and the mediator.

The second step of the sequential ignorability assumption assumes that there are no unobserved confounders between the mediator and the outcome. Again, it is almost impossible to prove that assumption in social sciences. Hence, I also performed a sensitivity analysis for this association. One more time, the sensitivity analysis showed that unobserved confounders must have an effect stronger than three times the slope of income to bring the mediator estimate to zero. As for variance, these unobserved confounders would have to be responsible for more than 13 percent of the residual variance of both the mediator and the outcome to explain away the association found. Altogether, the sensitivity analyses of the treatment-mediator and mediator-outcome effects render the results quite robust.

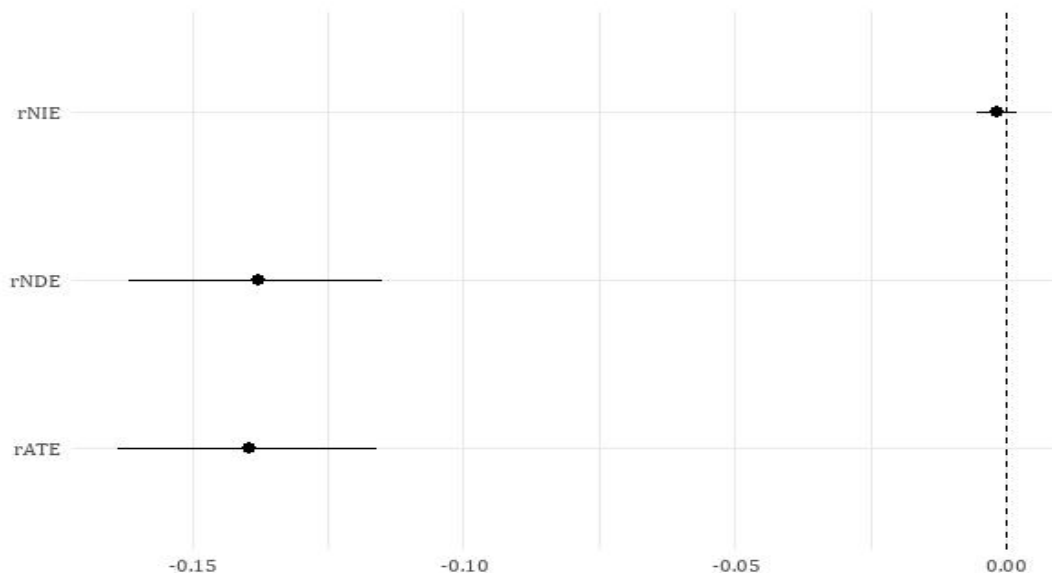
Alternate explanations

It is not easy to address causal questions with cross-sectional data. This paper tried to do that by building an identification strategy that significantly improved covariate balance between treated and control groups through matching. Then, it employed a novel estimation method for causal mediation analysis, the regression-with-residuals, which makes the sequential ignorability assumption more plausible as it allows for post-treatment controls to be included in equations.

However, a subsequent test should address the issue of reverse causality. Since variables were all measured simultaneously, I cannot rule out the possibility that the effects that were found follow the opposite direction of causality (VANDERWEELE, 2015). It might be that victimization affects satisfaction with democracy through support for democracy, i.e., support would be the mediator while satisfaction would be the outcome. In this case, victimization would reduce support for democracy and, by doing so, it would also affect satisfaction with democracy. Although this hypothesis contradicts the extant literature, I conducted additional tests to rule out this alternate causal pathway.

First, I ran a RWR estimation with satisfaction with democracy as the outcome and support for democracy as the mediator using the full matched data set. Figure 06 displays the results. With support for democracy as the mediator and satisfaction with democracy as the outcome, no indirect effect was found. On the contrary, the RWR estimation found a negative direct effect, meaning that the effect of victimization on satisfaction with democracy is not mediated by support for democracy, thus ruling out reverse causality.

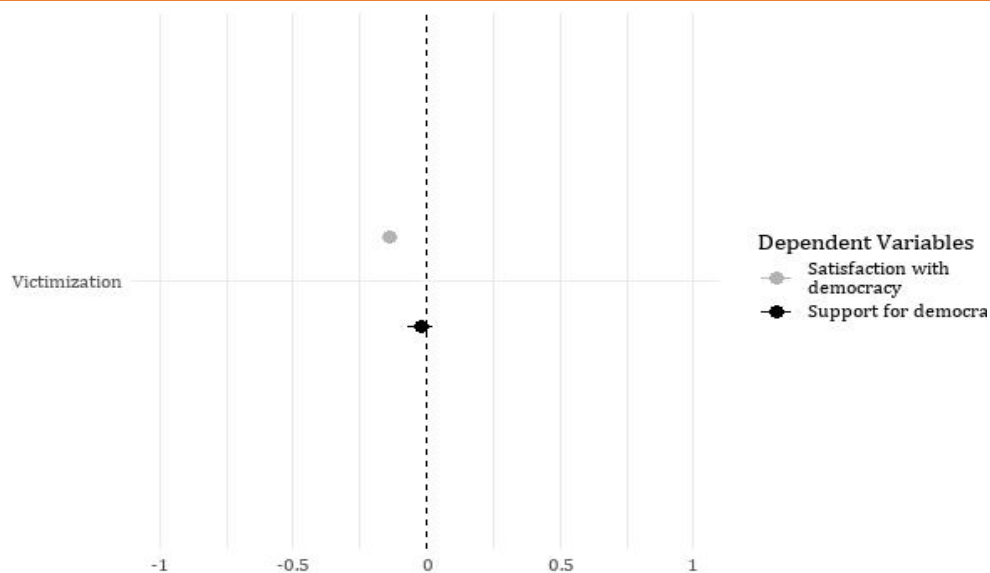
Figure 06. Direct and indirect effects of victimization on satisfaction with democracy through support for democracy



Source: Elaborated by the author with AmericasBarometer 2018/2019 data.

Second, I ran two linear regressions with support for democracy and satisfaction with democracy as outcomes and victimization as the treatment, controlling for the same pre-treatment controls as those controlled for in previous tests. As depicted in Figure 07, the coefficient for the effect of victimization on support is indistinguishable from zero, while it is negative and significant when it comes to satisfaction with democracy. Reverse causality is ruled out because victimization cannot affect satisfaction through support if it does not directly affect the latter in the first place.

Figure 07. Total effects of victimization on satisfaction with democracy and support for democracy



Source: Elaborated by the author with AmericasBarometer 2018/2019 data.

Finally, one could also argue that victimization was measured simultaneously to satisfaction and support for democracy. However, the event of victimization happened before the survey was conducted. Victimization is an account of a past event; therefore, the risk of reverse causality is reduced. It is also an account of a life event, not an attitudinal variable, which further decreases the chances of reverse effects.

Discussion

Political scientists are familiar with the idea that legitimacy variables can be split into two main dimensions: a specific dimension, which is directly affected by

the everyday experiences of citizens, and a diffuse dimension, which is only indirectly impacted by life events. Notwithstanding, not many formal tests of this hypothesis are available. One of the main reasons for this lack of testing is that techniques for mediation studies are still being developed.

This study applied a novel estimation for mediation analysis, the regression-with-residuals, to analyze the indirect effects of crime victimization on support for democracy through satisfaction with democracy. As expected, it found that victimization has a negative, indirect effect on support for democracy, meaning that, on average, crime victims feel less satisfied with the regime and, because of it, they express less support¹. This finding contradicts previous studies that reported no effect of victimization on support for democracy – such studies relied on unsophisticated regressions that cannot disentangle direct and indirect effects from each other (BLANCO, 2013; CEOBANU et al., 2011; CRUZ, 2011; FERNANDEZ and KUENZI, 2010; SALINAS and BOOTH, 2011). On the other hand, the present study's finding not only corroborates other studies' results – which have found that victimization has significant negative effects on support for democracy (BATESON, 2012; VISCONTI, 2020) – but also reveals a novel causal pathway for these effects. By simultaneously studying various Latin American countries, this study shows that the association between victimization and support for democracy can emerge in different countries and should be of concern in any high-crime, low-legitimacy context.

Conclusion

The literature on the associations between crime victimization and support for democracy has been divided, with mixed results. Even in the same region, Latin America, some studies have found significant negative effects of victimization on support for democracy (BATESON, 2012; VISCONTI, 2020) while others have not (BLANCO, 2013; CEOBANU et al., 2011; FERNANDEZ and KUENZI, 2010). This study sheds some light on this debate by showing that victimization could have

¹I also ran robustness tests with support for military coups as an alternate dependent variable. These models showed that victimization indirectly increases support for coups through satisfaction with democracy. These results align with those analyzed in the text. The full table about this test is available upon request to the author.

mostly indirect effects on support for democracy, operating through satisfaction with democracy. If this is true, previous studies that have not found significant associations would have reached such conclusion because they did not take into account the mediating role played by satisfaction. Hence, victimization affects support for democracy, but this association might be missed if mediation models are not applied.

The mechanism tested here is based on theories of democracy that split legitimacy into a specific dimension, which is more directly connected to citizens' everyday life experiences, and a diffuse dimension, whose components are less susceptible to changes associated with significant events in individual lives, such as losing a job or being a crime victim. Diffuse variables do change, but the impact of life events does not affect them directly. Instead, events directly decrease specific dimensions of legitimacy, such as satisfaction with democracy, and then they indirectly change citizens' more stable preferences, such as support for democracy.

This study provided evidence to support this causal mechanism, demonstrating that the effect of victimization on support for democracy is mediated by satisfaction with democracy. While direct effects were not found, the indirect effect through satisfaction was negative and significant. This finding is robust to three different matching specifications, sample sizes, and two distinct mediation estimations. This study points out the importance of disentangling direct effects from indirect effects since sometimes one may be significant while the other is not, or they may follow different directions. It also contributes to the growing body of research on the erosion of democratic legitimacy by showing that victimization affects both satisfaction and support for the regime.

The findings presented here are limited by the fact that Easton's legitimacy-building theory (1975) has a temporal component. Citizens' reservoir of goodwill towards democracy depletes over time. Bad experiences, such as crime victimization, reduce specific dimensions of legitimacy, which later reduce diffuse dimensions. This temporal component of the theory is not tested here. Further research could draw upon panel data to directly test this time mechanism. It may be that, over time, the indirect effects of victimization on support for democracy through satisfaction are even greater than those found in this paper.

Moreover, this study's findings suggest that further research focused on the effects of life events, such as victimization, on diffuse legitimacy dimensions, such as support for democracy, should consider that specific dimensions might be playing a mediating role. As for the association between victimization and support for democracy, more analyses focused on high-crime contexts other than Latin America are needed to expand the external validity of this study. Given the evidence that different types of crime have different effects on attitudes (GARCÍA-PONCE et al., 2022), there is room to analyze the effects of different kinds of victimization on dimensions of legitimacy – such as violent compared to non-violent victimization.

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