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Administrative Decentralization and the Role of Information: The Case of Intimate Partner Violence During the COVID-19 Pandemic

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Abstract: The U.S. federal government often devolves administrative processes and decision-making to state and local governments. Prior studies have found that the success of decentralization and implementation depends on several mediating factors at the subnational level, such as a state's political ideology or administrative capacity. This study focuses on one mechanism – the ability of states to leverage their information advantage about the local context vis-à-vis the federal government. We are interested in whether the information advantage of state-level firearm background checks decreased the rates of intimate partner violence (IPV) involving a firearm compared to states that relied on federally-administered background checks. We take advantage of data from the period of state-mandated stay-at-home (SAH) orders during the COVID-19 pandemic, a temporal context with increased IPV rates. Using a Poisson fixed effects regression, we find that rates of IPV involving a firearm did not increase when the SAH orders were in effect. However, using decision-relevant information in state-administered background checks decreased the rates of IPV resulting in injury and murder-suicide, compared to states that relied on federal background checks.

The COVID-19 pandemic severely tested state and local governments' governing and administrative capabilities across the United States (U.S.). While seeking to mitigate the mortality and morbidity consequences of the pandemic, governments were forced to contend with its indirect impacts. These indirect impacts included disruptions to people's employment, depletion of family savings, problems in the accessibility of healthcare, housing, caregiving, transportation, and the social discontent arising from citizens' inability to obtain public goods promptly and efficiently. Outside of the U.S., governments also sought to tackle an uncertain and high-tempo environment in the backdrop of varying policy, fiscal and technical capacities (An & Tang, 2020; Solinas-Saunders, 2020; Yan et al., 2020; You, 2020). What became clear early on during the pandemic was that certain groups experienced the above effects at disproportionate rates. For instance, migrants, racial/ethnic minorities, the elderly, immunocompromised, and low-wage workers were more likely to contract and die from the disease (OECD, 2022). In the U.S., students in low-income communities fell behind academically, while those in wealthier communities were ahead on the same benchmarks (Hough, 2021). Moreover, Covid-19 directly impacted personal relationships because of the stay-at-home orders put in place.

The subject of this study is another indirect effect of the crisis – the occurrence of intimate partner violence (IPV) (Boserup et al., 2020). Many researchers and advocates alike were worried about a potential increase in IPV due to stay-at-home (SAH) orders that "left victims with their abusers" (Evans et al., 2020, p. 2303) amidst increased rates of psychological distress (Bierman & Schieman, 2020), and exacerbated economic strains (Moreira & Pinto da Costa, 2020; Sharma & Borah, 2020). This study interrogates whether firearm-involved IPV increased during SAH orders and whether differences between states vis-à-vis administrative

decentralization of firearm background checks had differential effects on the incidence of such IPV.

When one considers decentralization, the devolution of fiscal authority often comes to mind first (e.g., see Kelleher & Yackee, 2004). However, decentralization often involves the devolution of decision-making responsibilities to subnational bureaucracies. While there are many reasons to assume that decentralized decision-making might be preferable to top-down decision-making (Stone, 2012), this is not necessarily the case in practice (e.g., see Kogan, 2017). Moreover, there is little research on whether decentralization leads to better subnational decision-making due to an information advantage (Bednar, 2011). The addressal of this crucial gap is the main contribution of our study.

Understanding the decentralization of authority is a question of how policy should be implemented. As alluded to in the paragraph above, there are two competing implementation narratives: traditional or top-down versus decentralized or bottom-up implementation. Traditional policy implementation focuses on rules and processes formed by key leaders in the organization (Van Meter & Van Horn, 1975; Wildavsky & Pressman, 1973), firm commitment and direction from leaders within the organization (May & Winter, 2009), and precise preprogramming on how the program will be implemented in the backdrop of limited discretion for street level workers (Imperial, 2021).

Alternatively, a more decentralized approach to implementation focuses on how national policy is effected in local areas, which allows more flexibility on how policy is implemented (Lipsky, 1980; Prottas, 1979; Vinzant & Crothers, 1998; Whitford, 2007). When examining policy implementation through a decentralized context, local or state actors are considered to influence policy dissemination and adoption. Further, compared to centralized policy

implementation, street-level bureaucrats are central to creating conditions for policy to flourish and be seen as both necessary and credible to individuals who receive services (Lipsky, 1980). In the case of firearm background checks, states are responsible for setting requirements for who can and cannot purchase a firearm.

This study focuses on the decentralization of firearm background checks, which shapes the *information* states use for conducting background checks when an individual seeks to purchase a firearm from a federally licensed firearm dealer (FFL). Per the Brady Act (*Brady Handgun Violence Prevention Act 1993*), states must conduct background checks when a citizen attempts to buy a firearm through an FFL. The federally established baseline is that each state must do a background check using federal databases. However, the Brady Act allows states to use additional databases beyond the federal database to conduct a background check.

State-level databases may contain background information (e.g., state and local criminal history records, juvenile delinquency records, warrants, mental health records, and other protective order information) on prospective firearm purchasers that is not present in the federal databases (Sumner et al., 2008). Thus, states that use state-level databases in addition to the federal have an *information advantage* over those that only use the federal databases. We examine whether this information advantage leads to reduced incidence of firearm-involved IPV because of its potential for more effective screening of individuals prohibited by federal or state law from acquiring a firearm.

Using longitudinal data at the state-week level on firearm-involved IPV for the entire U.S. and controlling for socioeconomic and political characteristics, we first examine whether the imposition of SAH orders witnessed an increase in firearm-involved IPV. Using three different measures of firearm-involved IPV, we find no increase in such violence. Second, we

examine whether the administrative decentralization of background checks was associated with a decrease in IPV compared with those states whose checks were conducted through federal databases. We find that decentralized background checks had a protective effect against two types of IPV incidents, i.e., (1) incidents in which an intimate partner was injured and (2) incidents that resulted in a murder-suicide. While both effects were *only* observed in states conducting decentralized background checks, the latter effect was observed in states which *also* enacted SAH orders.

Our findings highlight the importance of using state-level databases in addition to federal databases as a credible strategy to address the risk of firearm-involved IPV. More broadly, they suggest that the effectiveness of decentralized implementation is enhanced when (a) subnational jurisdictions bring to bear *local* knowledge in administering federated policies and (b) the federal government robustly *backstops* the comprehensiveness of information that subnational bureaucracies use to make administrative decisions.

The remainder of this study proceeds as follows: First, we review the prior literature on the impact of decentralized policy implementation on policy outcomes to frame and develop expectations for the current study. Second, we describe the typical process through which background checks are implemented and discuss how this process differs across the levels of government. Third, we state our expectations regarding the likely impact of SAH orders on IPV and the protective impact of state-level firearm background checks on such violence. Fourth, we introduce the empirical strategy (a Poisson fixed effects regression) to evaluate our expectations while accounting for the context in which SAH orders were implemented by the states and the stringency of the existing state law intended to prevent IPV. In the fifth section, we present the results. In the sixth section, we discuss the results, elaborating upon the contributions of our

study to the literature on the effectiveness of administrative decentralization and highlighting the implications for future firearm regulation. Overall, our results demonstrate that the effectiveness of decentralized implementation is contingent on the comprehensiveness of information for making decisions.

Policy Implementation and Decentralization

According to Mazmanian and Sabatier (1983), implementation is the carrying out of basic policy actions by an administrator. Implementation has also been defined as the actions by individuals that are directed at achieving a set of goals or objectives set forth by policy directives (Van Meter & Van Horn, 1975). Policy implementation, therefore, is what happens or develops between the intention of the government to act and the ultimate impact that occurs because of the action of the policy directive (O'Toole, 2000). Within the policy implementation literature, implementation formally begins once goals and objectives have been established by policy decisions and funds committed (Van Meter & Van Horn, 1975). Policy implementation engages both the organizational systems and processes and subsequent actions of individuals and members of the organization responsible for implementing policy (Schofield & Sausman, 2004).

Since its inception, policy implementation research has seen three main approaches take shape: top-down, bottom-up, and a mix of both when it comes to implementation (Matland, 1995). Traditional top-down policy implementation begins with policy objectives and follows a linear process. The three key attributes are clear and consistent goals when speaking about implementation (Mazmanian & Sabatier, 1983), minimizing the number of actors involved with the policy-making process (Wildavsky & Pressman, 1973), and limiting the extent of change in content that appears for actors in the process (Mazmanian & Sabatier, 1983).

The appeal of decentralization is based on the expectation that localities are likely to devise policies more responsive to local needs by “being closer to the people” than the federal government (Arceneaux, 2005; Bowman, 2002; Kelleher & Yackee, 2004). Decentralization is also thought to encourage learning from the experiences of neighboring or similar jurisdictions (Chappell & Curtin, 2012; Cooper, 2017; Erk & Swenden, 2010; Habibov & Fan, 2010; Sapat, 2004). Finally, decentralization is often justified by the notion that subnational jurisdictions are likely to be more efficient and effective decision-makers than the federal government because the former face the pressure to attract tax-paying citizens (Borders et al., 2011).

Serving as the ‘counterpart’ to the federalism literature on optimal design (Bednar, 2011), the administrative decentralization literature seeks to foreground the implications of devolving decision-making powers to *bureaucratic actors* in subnational governments (Bowman, 2002). The latter literature suggests that the impact of decentralization is contingent on a range of factors such as local political ideology (Kogan, 2017; Whitford, 2002), task environment (Whitford, 2002), subnational administrative capacity, scope and nature of local needs, as well as the degree of openness to learn from neighboring jurisdictions (Borders et al., 2011). However, a motif in this literature is that the purported benefits of decentralization are never guaranteed (Chappell & Curtin, 2012). This point underscores the importance of being attentive to the *mechanism* through which decentralization is likely to shape local policy implementation and its subsequent impacts.

Whitford (2002) examined the impact of administrative decentralization on the enforcement of sanctions by the Regional Offices of the Nuclear Regulatory Commission (NRC). Using enforcement data between 1975 and 1996, he examined the civil penalties imposed by each of the five NRC Regions in each year while controlling for presidential

ideology, the median ideology of the NRC's oversight committees, median citizen ideology, and the task environment. Whitford found that decentralization insulated the NRC Regions from national political oversight as they became more responsive to local political sentiment. Whitford finds that bureaucratic discretion is more aligned with local political sentiment when decentralization occurs. Overall, these findings suggest that discretion at the subnational level is likely to be used by bureaucrats in a way that is consistent with the local political sentiment (also see Borders et al., 2011; Kogan, 2017; Soss et al., 2001, 2008).

Kelleher & Yackee (2004) examined second-order devolution in North Carolina (N.C.) to assess the impact of welfare reform on citizen perceptions of policy effectiveness and actual performance measured in terms of welfare caseload reduction, family poverty, and workforce participation. Devolution in N.C. occurred primarily through block grants to each of the hundred county governments, which were given considerable discretion regarding the spending of these grants provided they made progress on state-established goals for welfare reform. These authors found that while devolution created the *perception* of improvement in welfare caseload reduction, family poverty, and workforce participation, it did *not* improve any of the above outcomes. However, the researchers found that their second measure of devolution, operationalized as fiscal shifts in welfare spending, significantly reduced welfare caseloads and increased workforce participation.

Thus, Kelleher & Yackee (2004) found decentralization associated with improved policy effectiveness post-decentralization, as caseloads decreased and workforce participation increased. Moreover, they found that these positive impacts were more likely to result when decentralization was carried out through a transfer of fiscal resources from the state to the county

level. These findings suggest that the decentralization of fiscal authority to subnational jurisdictions is associated with improved policy effectiveness in the case of welfare reform.

While the above studies suggest that decentralization may lead to more responsive implementation, they offer mixed results about its impact on policy effectiveness. Other mechanisms might include the amount of discretion devolved to bureaucrats in any state agency, how bureaucrats are held accountable, and *how* they use decision-relevant information. Our study is concerned with the latter. Can the comprehensiveness of information for subnational policy implementation mediate the impact of decentralized firearm background checks?

The Role of Information in Policy Implementation under a Federated Policy Context

The role of information in shaping decision-making in various stages of the policy process has long been an area of interest for public administration scholars. Bozeman and Pandey (Bozeman & Pandey, 2004) assessed the impact of the type of the decision (political vs. technical) on the type of information that bureaucrats draw upon. They found that while bureaucrats tend to draw on political cues and information when making political decisions (e.g., budget cutbacks), they refer to technical information when making technical decisions (e.g., information technology (IT) decisions).

More closely aligned with the current study's focus on the role of information in federated contexts, a third stream of research delves into how the concept of information can be used analytically to understand public policy-making. Viewing information at the core of knowledge-based approaches to governance, Stewart (2013) posits four roles for information in the public policy process. First, information provides the *signal* through which politicians and administrators learn about societal problems which, in turn, paves the way for a collective

societal response in the form of public policy. Second, governments seek to exercise *control* over problems through planning and monitoring of information which allows them to assess how faithfully a given policy is being implemented. Third, governments publish information about policy outputs and outcomes to demonstrate adherence to norms of *accountability* and to cultivate legitimacy with the public. Fourth, public policy structures and selects information flows through institutional pattern-making. Alternative organizational structures (e.g., networks, hierarchy, markets, or combinations thereof) lead to different modes of dialogue and coordination between institutional actors, the generation of diverse forms of information, and consequently, distinctive *configurations* of responsiveness, control and accountability.

Structures that facilitate the generation and exchange of information will be more effective than those that do not. Thus, networks and hierarchies each have a role to play. While hierarchies are useful for maintaining centralized control over decision-making which, in turn, fosters organizational order and predictability, they can lead to various informational pathologies (e.g., bias, restrictive framing, or overload) if not balanced with the need for flexibility, adaptability and responsiveness. For instance, relying on a singular database or organization to drawn information for decision-making might lead to the exclusion of information from alternate sources, thereby biasing the decision making process, or restricting the potential frames through which the information can be interpreted.

The existence of a dual system of background checks (i.e., at the federal *and* state levels) each of which supplements the other offers a way of overcoming the informational pathologies of relying on one system alone. States which rely on the dual system in essence depend on the networked relationship between the federal and the state governments to conduct background checks for firearm sales through FFLs, as opposed to states which solely rely on a singular

hierarchy (i.e., the FBI). In the current study, we are interested in whether the increased comprehensiveness of information in states which use the dual system of background checks leads to lower levels of firearm-involved IPV as compared to states that solely rely on the federally-administered databases.

Study Context: The Impact of Firearm Background Checks on Intimate Partner Violence

Firearm Background Checks

The role of gun control policies in the U.S. has been to "limit misuses while preserving legitimate uses" (Cook et al., 1995, p. 65). Signed into law in 1993, the federal Brady Handgun Violence Prevention Act requires background checks on individuals attempting to purchase handguns and long guns. In addition, the Act called for the U.S. Attorney General to establish the National Instant Criminal Background Check System (NICS) by November 30th, 1998. Developed by the Federal Bureau of Investigation (FBI) in cooperation with other federal, state, and local agencies, the system conducts name-based inquiries of three distinct FBI databases. These include: (i) Interstate Identification Index (III) to check criminal histories, (ii) National Crime Information Center (NCIC) to check "hot files," including warrants and protection orders, and (iii) the NICS Index, which contains both criminal and non-criminal records on individuals prohibited from purchasing firearms including previously denied persons, mental defectives/commitments, controlled substance abusers, illegal aliens, dishonorable discharges, and citizenship renunciates (Government Accountability Office, 2000).

However, like so many other policy areas, the U.S. does not have one but several ways of following the above law. While federal law mandates background checks whenever an FFL sells a firearm, the check can either be conducted by the FBI on behalf of the state or a state-level

agency can conduct the check independently. States that elect to conduct background checks are called Point-of-Contact or POC states. Furthermore, while all states are *required* to use the FBI databases, some POC states go beyond this and search state-level databases. As of the end of 2020, thirteen states in the U.S. had POC status, out of which eleven used state databases and the federal database to conduct background checks; thirty-one had non-POC status, and six served as 'partial' POCs. Partial POC states have agencies designated to conduct checks for handguns and handgun permits, while the FBI handles state transactions for long gun sales (FBI, 2021; Giffords Law Center, 2021).

A complete NICS check occurs in two steps when a prospective firearm purchaser approaches a federal firearm licensed dealer (or FFL) to buy a firearm. First, depending on a state's point-of-contact status, the FBI or a state POC agency compares an applicant's name and other identifying information against computerized records. Most state retrieval systems can process a check and provide a final response to a dealer in less than 5 minutes (Tien et al., 2008). Second, if necessary, a follow-up step is carried out by the FBI or the state POC to research potentially disqualifying "hits"; for example, to locate a missing arrest disposition.

For states that use the federal system, once a dealer or the state initiates a background check, a computerized search of federal databases is launched automatically. If this automated search does not result in a matched record (i.e., a "hit" or a flagged record, which could potentially block the purchase under federal or state law), then the purchase is allowed to proceed. On the other hand, if the search reports a hit, the sale is "delayed" pending further investigation. At this point, investigating officers at the FBI (or state POC agency) examine the case (e.g., by following up on a missing disposition with the state court). Typically, if the FFL

does not receive a denial from the FBI or state POC after a certain number of business days, as decided by the state, the sale may proceed (Tien et al., 2008).

As alluded to earlier, some states supplement the federal background check with state-level information. Such databases contain records that might not necessarily be included in the federal databases, like mental disability records, outstanding warrants, and restraining orders. Using state in addition to federal databases thus *expands* the set of decision-relevant information against which a prospective buyer's background could be assessed before a firearm purchase is allowed.

Given the information advantage of the states using a decentralized process, it is plausible that such states would be able to more effectively screen individuals prohibited from procuring a firearm, compared to non-POC or partial POC states. Moreover, while bureaucratic judgment can affect the outcome of the background check process if there is a potentially disqualifying "hit," the automated character of the initial record search reduces the scope for bureaucrats to sway the process one way or the other if the initial evaluation relied on a bureaucrat's subjective judgment alone. Thus, given the broader information available to states using decentralized background checks, we expect states with such checks to pose higher hurdles to potential assailants seeking a firearm. In short, we expect that the administrative decentralization of firearm background checks would lead to more *effective* implementation in preventing the transfer of firearms to individuals prohibited by federal or state law from acquiring one. Such decentralization is also likely to be *responsive* because it could potentially decrease the incidence of firearm-involved IPV.

Overall, past research demonstrates that background checks (Gius, 2015) or waiting periods before a firearm transfer (Ruddell & Mays, 2005) can decrease homicide and suicide

rates. Likewise, research has found decentralized background checks associated with decreased homicide and suicide rates (Sumner et al., 2008). Sen & Panjamapirom (2012) found that specific *types* of information included in backgrounds check had distinct impacts. Specifically, background checks that restricted purchases by individuals with a restraining order against them decreased homicide rates, while background checks that restricted transfers to individuals with mental health problems decreased suicide rates. This study proposes a broader mechanism through which background checks may reduce IPV involving using a firearm: the use of more comprehensive information for conducting background checks. In the next section, we briefly define IPV and the impact of background checks on IPV incidents.

Intimate Partner Violence

For this study, it is necessary to clarify our use of terms. While domestic and intimate partner violence are often used interchangeably, we follow the convention of advocates working in this area, i.e., organizations such as the Young Women's Christian Association (YWCA) and Women Against Abuse. Domestic violence is perpetrated between those living together in a domestic situation. The victim can include children or seniors within the household, which means that the victim and perpetrator do not have to be intimately involved. Intimate partner violence is "violence perpetrated by a partner in a romantic or dating relationship" (Lisitski & Greenspan, 2020), living together or separately. The distinction became important in the 1990s as advocates needed a more inclusive phrase for different types of relationships where violence could occur. Intimate partners are current or past spouses, boyfriends/girlfriends, dating partners, and ongoing sexual partners. The Centers for Disease Control and Prevention (CDC) classifies IPV by the type of violence: physical, sexual, stalking, and psychological aggression (Breiding et al., 2015).

Women are more likely to experience violence from someone they know in their home than from a stranger (Blocher, 2020) and much more likely to die from an IPV incident than men (Sorenson, 2006). In addition, a meta-analysis estimated that more than one-third of all female homicides globally were perpetrated by an intimate partner (Stöckl et al., 2013).

We model the impact of decentralized background checks on firearm-involved IPV incidents. We look at three types of firearm-involved IPV: incidents in which a victim is injured, incidents that result in the victim's homicide, or murder-suicide – where the perpetrator kills the victim and themselves (Sorenson, 2006). In a recent study that interviewed women who had experienced domestic violence, participants agreed that the presence of guns created uniquely dangerous situations for women (Lynch & Logan, 2018). For example, a respondent in the study reported that her intimate partner stabbed her several times, and had he possessed a firearm, she "would be dead."

One cross-country study found that gun ownership rates are positively associated with violence against women resulting in death (Stamatel et al., 2020). These authors also found that background checks intended to deter weapons purchases by individuals at risk of committing IPV had a negative but small impact on femicide due to gun violence. In the U.S., women are more likely to die during an IPV incident when the perpetrator has firearms access (Campbell et al., 2003).

The risk factors that explain IPV resulting in murder-suicides are less clear. For example, Panczak et al. (2013) found that murder-suicides' characteristics were unique and not similar to murders or suicides. More recently, though, Fridel & Zimmerman (2020) found that the risk factors of murder-suicides were more like those in homicides than suicides. In any case, one

systematic review of studies on the topic found that the presence of a firearm in the household was a consistent risk factor for murder-suicide (Eliason, 2009).

IPV and COVID-19

Public administration scholars have analyzed Intimate Partner Violence (IPV) through diverse theoretical lenses including representative bureaucracy (Andrews & Miller, 2013), policy implementation (Javakhishvili et al., 2017; L. Johnson et al., 2020; Wiley, 2022), policy diffusion and drift in decentralized contexts (Fay & Polischuk, 2022), complex adaptive systems (Gear et al., 2020), and critical media studies (Mahapatro & Prasad, 2022). This collective body of work recognizes that although IPV is a gendered issue, it is ultimately rooted in and mediated through cultural, social, and economic factors, necessitating multifactorial policy responses at behavioral, community, organizational, and structural levels. This means that even under ‘normal’ conditions (i.e., outside of a pandemic), meaningfully mitigating IPV requires policymakers in subnational jurisdictions to purposefully devise contextualized, holistic solutions that simultaneously offer physical protection to persons at risk of IPV, mitigate the socioeconomic strains which engender the conditions under which IPV is likely to occur, and restrict the opportunity structure for potential perpetrators to carry out IPV.

The Covid-19 pandemic brought a unique perspective to the study of IPV. Rozell and Wilcox's (2020) compared the United States' with Australia, Canada, and Germany's, and attributed the former's ineffective response to the pandemic to neoliberal policies, leadership failures, political partisanship, and poor inter-state coordination. These factors hamstrung the scope, extent, and timeliness of the assistance that the state and federal governments were able to provide to citizens and small businesses, which led to job and wage losses, shortages of personal

protective equipment (PPE) and ventilators, deepening of social inequalities, and undermining of trust in government. Focusing specifically on the heightened risk of IPV during the pandemic, Rahaus et al. (2020) highlighted the need for a collaborative, inter-sectoral policy approach. This approach involves raising awareness, offering protection to victims, standardizing training for identifying and reporting domestic violence, enhancing reporting mechanisms, and addressing underlying issues like gender inequality and patriarchal norms as a means for stemming the risk of IPV.

Our study also situates itself during the Covid-19 pandemic, a pivotal moment in global history marked by widespread stay-at-home (SAH) orders. Most researchers expected that IPV rates would increase during the pandemic as people were home much more while experiencing increased economic and psychological distress (Bierman & Schieman, 2020; Evans et al., 2020). In addition, domestic violence rates increased substantially globally, and early coverage found that reporting and arrests went up in some cities and states in the U.S. (Boserup et al., 2020). While it is likely that the impacts of the pandemic on IPV are far-reaching and we will not know the full impact until years after the pandemic, what we do know is that for the duration of SAH orders, calls to the police reporting IPV increased in some regions (Bullinger et al., 2021) and went down in others by as much as fifty percent (Evans et al., 2020).

While a decrease in reporting is surprising, advocates and researchers assume this is due to victims' inability to call as they were home with their abusers (Evans et al., 2020). One study did find an increase in the number and severity of IPV injuries at one hospital (Gosangi et al., 2021). The authors of the preceding study argue that victims were delaying reporting abuse to police, which suggested that they were reporting IPV *after* being injured. To the best of our

knowledge, no studies examine firearm-involved IPV in the U.S. while SAH orders were in effect.

IPV and Background Checks

The question is how background checks might curtail the incidence of firearm-involved IPV. The answer, however, is not so straightforward. In an in-depth systematic review, Webster and Wintemute (2015) found that the impact of the Brady Bill overall is mixed. However, they found support for the idea that background checks decreased the probability of violence among those denied the right to buy a firearm from an FFL. In addition, some studies show that background checks that denied firearm sales to individuals subject to an IPV-based restraining order were associated with fewer homicides between intimate partners (Goodyear et al., 2020; Vigdor & Mercy, 2006). Unfortunately, the same does not hold for the rates of IPV incidents which resulted in a misdemeanor charge. Nevertheless, there is some evidence that more information used during background checks results in fewer homicides. This study extends this question for all additional information gathered at the state level and looks at the three types of IPV addressed above: injury, homicide, and murder-suicide.

Hypothesis: States that use both the NICS and additional state databases will have a lower incidence of all three types of firearm-involved IPV, i.e., IPV that results in an injury, IPV that results in a homicide, and IPV that results in a murder-suicide.

We explain the empirical strategy for assessing our argument in the next section. Firearm regulation is a complex policy area, with substantial variation across states regarding the stringency of regulations enacted to prevent guns from falling into the wrong hands. Moreover, IPV is a multifaceted issue shaped by political, social, and economic factors (Breiding et al., 2015). We respond to the challenge posed by this complicated issue by using a novel data set

created by combining data from several independent sources and employing a quasi-experimental design to estimate the causal impact of administrative decentralization of background checks on firearm-involved IPV.

Empirical Strategy

We examine the impact of administrative decentralization of background checks on different types of IPV incidents involving firearm use. *Injuries* represents the number of IPV incidents in which an intimate partner was injured (by a gunshot); *Homicides* refers to the number of IPV incidents in which a partner died due to a gunshot; *Murder – Suicides* refers to the number of IPV incidents in which an individual committed suicide after murdering their partner (with a firearm used in both instances). The Poisson fixed effects model used for estimating the impact of decentralization takes the following form:

$$\begin{aligned}
 & \left\{ \begin{array}{l} \mathbf{Injuries}_{syw} \\ \mathbf{Homicides}_{syw} \\ \mathbf{Murder - Suicides}_{syw} \end{array} \right. \\
 & = \gamma \mathbf{SAH}_{syw} + \delta \mathbf{Weeks}_{syw} + \vartheta \mathbf{Decentralization}_{syw} \\
 & + \theta (\mathbf{Decentralization}_{syw} \times \mathbf{Weeks}_{syw}) + \mathbf{X}_{syw} \beta + \pi_s + \tau_y \\
 & + \varepsilon_{syw} \quad (1)
 \end{aligned}$$

Where \mathbf{s} , \mathbf{y} , and \mathbf{w} index state, year, and week respectively. Thus, the dependent variables represent the number of injuries, homicides, and murder-suicides in a particular state-year-week. \mathbf{SAH}_{syw} is an indicator that equals one if the state had a SAH order in week \mathbf{w} and year \mathbf{y} and equals zero otherwise; $\mathbf{Decentralization}_{syw}$ is an indicator variable that equals one if a state's background checks utilize state-level databases and are conducted by a state-specific agency; \mathbf{Weeks}_{syw} is a running total of the number of weeks the SAH order is in effect; and

Decentralization_{syw} × ***Weeks***_{syw} represents the interaction term of the preceding two variables, capturing whether the impact of decentralization varied during the SAH order. ***X***_{syw} is a vector of covariates that includes indicators for state laws and measures that restrict access to firearms by persons at risk of committing IPV, measures of the restrictiveness of SAH orders, and socioeconomic and political variables.

ϑ estimates the buffering impact of decentralization on the number of IPV incidents involving firearm use. θ estimates whether the above effect changed during the SAH order. Finally, π_s , and τ_y represent fixed effects for state and year, respectively, and ε_{syw} represents the mean-zero random error. Thus, the model above represents a two-way fixed effects model in which the year fixed-effects controls for secular trends in IPV and the state-specific fixed effects control for time-invariant, unobservable state-specific characteristics. This empirical strategy, in which the coefficients can be interpreted as within-state effects, is often used to evaluate the impact of a policy adopted at different points in different jurisdictions (e.g., Albalade, 2008 and Autor, 2003).

Covariates for state-level laws intended to restrict access to firearms include the following:

- i. An indicator of whether a state allowed the POC agency more than the three-day minimum allowed under federal law to complete the background check.
- ii. The state-level running total of the number of laws specifically intended to deter firearm access by individuals at risk of committing IPV.
- iii. An indicator for a state law prohibiting firearm possession by people convicted of a misdemeanor crime of domestic violence regardless of the relationship to the victim.

- iv. An indicator of a state law prohibiting all people convicted of domestic violence from possessing firearms.
- v. An indicator for a state law that required law-enforcement officials to remove firearms from people subject to a domestic violence-related restraining order.
- vi. An indicator for a state law requiring all firearms to be removed from the scene of a domestic violence incident; an indicator for a state law requiring law enforcement officers to remove firearms from misdemeanor crime of domestic violence offenders.

The above variables were included because they could increase the difficulty with which a potential IPV assailant could acquire a firearm through an FFL. As such, these variables reflected the stringency of the state laws governing access to firearms which, in turn, could explain variation in IPV incidents involving the use of a firearm.

We also accounted for the possibility that IPV incidents could be higher in states where SAH orders were more restrictive than in other states. For instance, curtailments on business operations; closures of K-12 schools, gyms, and religious gatherings; mandates of face mask use that were enforced by fines, criminal charges, or citations; and closures of courts where victims of IPV could obtain restraining orders against a current or former intimate partner were measures which could restrict IPV victims from venturing outside and obtaining assistance. We constructed a time-varying, state-specific measure based on adding the number of restrictions in effect in any given week. We used this covariate to account for the possibility that emotional and economic strains could plausibly be higher in households in states where such measures were in effect, which, in turn, could lead to higher IPV in those states.

The third set of covariates includes socioeconomic and political variables. Socioeconomic variables include the unemployment rate, the percentage of the state's population

that is female, the percentage of the state's population that is non-white, the percentage of 25 or above with a bachelor's degree or higher, and the percentage of the population that is below the poverty level. Political variables included time-varying indicators for whether the state government was led by a Democratic Party trifecta or divided government (Republican Party trifecta was the omitted category) as proxies to account for the 'permissiveness' of state gun control policy and the possibility that IPV across states might vary along partisan lines.

Even though state-level stay-at-home orders (first issued in March 2020) were in effect through June 2020, we decided to limit our analysis till May 24th, 2020, because of the murder of George Floyd in Minneapolis, Minnesota, on May 25th. Following the death of Mr. Floyd, people turned out in large numbers to participate in protests unfolding across the United States. Therefore, as many people may have violated SAH orders following Mr. Floyd's death, we limited our analysis to end on May 24th, 2020.

All of the above models accounted for unequal exposure to the risk of domestic violence by specifying the population at risk of IPV from a significant other, which we assume to be women above 18 in each state. In addition, all models included month-, year-, and state-specific fixed effects and used robust standard errors clustered at the state level.

Data

Dependent Variables

Table 1 summarizes the data sources used in this study, and table 2 provides descriptive statistics. Data on domestic violence were obtained from the Gun Violence Archive (www.gunviolencearchive.org), a non-profit that gathers data on gun violence incidents across the United States since 2014. GVA records of interpersonal firearm violence are based on

reviews of 7,500 sources, such as local and state police, independent news outlets, and other government sources. Records frequently contain internet links to news reports of the actual incident, that in turn, allow for independent verification of each case as well as information on the exact location of the incident, time of the incident, what kind of weapon(s) were used, whether bystanders were also killed or wounded, among other details. GVA data have been used in recent peer-reviewed studies in criminology, public health, medicine, and epidemiology to study assaults on police officers (Sierra-Arévalo & Nix, 2020), homicides (Kim, 2019), mass shootings (Geller et al., 2021), community violence (B. Johnson et al., 2021), legal intervention shootings, and have performed well compared to other sources (Conner et al., 2019).

Given that domestic violence incidents may involve physical violence against a family member who is not a significant other, we retained only those incidents in the data known to involve violence against a current or former significant other and involved the use of a firearm. In addition, to focus on incidents with a high degree of intentionality, we excluded non-shooting incidents and incidents in which a firearm was discharged accidentally. This winnowing process left us with 1,220 unique incidents in which a firearm was discharged, and at least one victim was injured, 1,475 unique incidents in which the victim was murdered, and 638 unique murder-suicides. Thus, 3,333 IPV incidents between January 2017 and May 24th, 2020, merited inclusion in our study.

Independent Variables

Data on the dates of enactment and expiry of state stay-at-home orders were obtained from the Covid-19 US State Policy Database (Raifman et al., 2020). Dates provided in the above database were cross-verified through other sources tracking state-level policy changes. These included the database provided by the Kaiser Family Foundation (Jennifer et al., 2020) and

various news sources, e.g., *The Washington Post* (T. Johnson & Fritz, 2020). In case of a conflict between the above three sources, we used the date in the Covid-19 US State Policy Database, which was the most frequently updated of the three sources mentioned above. If a state had a stay-at-home order in effect in a given week, the indicator term ***SAH_{syw}*** was coded as one and zero otherwise.

Data on the level of government at which background checks were conducted were obtained from the State Firearm Law Database at Boston University (Siegel, 2021) and corroborated by the Gifford Law Center to Prevent Gun Violence (Giffords Law Center, 2020) and the FBI website. This information was used to code the ***Decentralization_{syw}*** variable. Other covariates, such as unemployment rate and per capita salary, were obtained from the database maintained by the Research Division of the Federal Reserve Bank of St. Louis. In addition, data on the percentage of African American population was obtained from the monthly Current Population Survey.

Regarding endogeneity, we sought to examine whether there were sudden changes in the dependent variables before enacting the stay-at-home orders. Towards this end, we conducted tests (based on Autor 2003) that regressed each dependent variable on indicators for the three weeks preceding the enactment of the order, the week of enactment, the subsequent weeks, and an indicator for the second week beyond. These regressions also include a complete set of controls, year-, month-, and state-specific fixed effects. Figures C.1 through C.3 in Appendix C show plots of the coefficients of the year indicators and their associated 95% confidence intervals. The coefficients and confidence intervals for the three weeks preceding the stay-at-home order in each graph show that the pre-treatment trend in the dependent variable did not

exhibit sudden changes before the enactment of the above order, thereby allaying endogeneity concerns.

Results

Model estimates are shown in table 3. Column A uses the count of IPV incidents resulting in injuries as the dependent variable, while models B and C use the count of IPV incidents resulting in a homicide, and murder-suicide, respectively. In none of the models are the coefficients for **SAH**_{syw} or **Weeks**_{syw} statistically significant, which suggests that neither the enactment of SAH orders nor their duration affected IPV incidents involving firearm use.

The coefficient of **Decentralization**_{syw} is negative and significant in model A ($\vartheta = -1.08$; $p = .000$), which demonstrates that decentralized background checks were associated with 66% [$= (e^{-1.08} - 1) \times 100$] fewer IPV incidents in which in an intimate partner experienced a firearm injury. However, this buffering effect was observed for states that enacted a SAH order and for states that did not. Administrative decentralization of firearm background checks was associated with 66% fewer IPV incidents that resulted in a firearm injury, regardless of whether the state enacted a SAH order. On the other hand, decentralized background checks were not associated with a change in firearm-involved IPV incidents resulting in a murder (model B) or murder-suicide (C).

The coefficient for **Weeks**_{syw} \times **Decentralization**_{syw} is negative and significant in model C ($\theta = -.49$; $p = .008$), which, in turn, suggests that decentralized background checks were associated with 38.8% [$[(e^{-.49} - 1) \times 100]$] fewer murder-suicides for each additional week that states with decentralized background checks remained under SAH orders than states without decentralized checks.

Figures 1 and 2 plot the average marginal effect of decentralized background checks on IPV resulting in injuries and murder-suicides over the SAH orders. This allows us to map when the above effects assumed statistical significance. For example, in figure 1, the marginal effect is negative when the length of the SAH order is zero, showing that the protective effect of decentralized background checks was present both in states that enacted a SAH order and those that did not implement one.

Nevertheless, among states which did implement SAH orders, the above protective effect dissipates as the duration of the SAH order increases, as can be seen by the fact that the confidence interval of the decentralized background checks overlaps zero by week 5.

Figure 2 shows that the protective effect of decentralized background checks against murder-suicides did not, on average, manifest until around week seven of the SAH orders. Then, in the seventh week of SAH orders, the negative marginal effect of decentralized background checks becomes statistically significant. Thus, our results suggest that while decentralized background checks helped reduce the number of IPV incidents resulting in a firearm injury and incidents resulting in a murder-suicide, they were mainly instrumental in decreasing the incidence of the latter in states with relatively long SAH orders.

Table 3 also includes estimates of coefficients on some control variables. These variables appear to have limited explanatory power as few coefficients approach conventional significance levels. However, some findings are noteworthy. For instance, while the coefficients for the number of domestic violence laws restricting firearm access are individually non-significant in models A through C, they are consistently negative, which might suggest that at least some of the laws used in computing our measure might mitigate the extent of IPV involving the use of firearms.

Furthermore, the coefficients on Democratic trifecta and divided government are positive, with the coefficient for divided government approaching significance in models A ($\beta = .34; p = .076$) and B ($\beta = .36; p = .076$). These results suggest that IPV involving a firearm that resulted in an injury or a murder was modestly higher in states with a divided government than in states with a Republican executive and legislature. This result might appear counterintuitive because Republican-dominated states are assumed to have lax gun regulations, which could plausibly be associated with higher levels of gun violence.

An explanation for the above result might be that states under entrenched Republican control might have shorter SAH orders (or no SAH orders at all) than states under Democratic control or states under divided rule. Short or no SAH orders might have reduced the emotional and economic strain that could have led to IPV in the first place. Future studies should seek to develop more detailed explanations of how and why state and citizen ideology influenced the incidence of IPV while state SAH orders were in effect.

Discussion and Conclusion

We sought to examine the impact of decentralizing firearm background checks on IPV during the SAH orders induced by the coronavirus pandemic. While *prima facie* intended to slow the spread of the virus, many feared that SAH orders precipitated a perfect storm of risk factors for IPV, including a spike in firearm purchases (Barton et al., 2020), a reduction in the extent of the police response to IPV complaints (Bullinger et al., 2021), the confinement of potential IPV victims with abusive partners (Evans et al., 2020; Lennard, 2020), and strains due to job loss and emotional stress.

Nevertheless, SAH orders, coupled with the decentralized nature of background checks, presented an opportunity to empirically examine whether the availability of more decision-relevant information contributed to a decrease in firearm-involved IPV in states which enacted SAH orders compared to states that did not. We found that decentralization accompanied by more decision-relevant information was associated with reducing the incidence of firearm-involved IPV incidents that resulted in an injury and incidents that culminated in a murder-suicide.

While the former effect was observed even in states that did not declare a SAH order, the latter effect was observed only in states that declared a SAH order. In short, SAH orders did not lead to an increase in firearm-involved IPV. However, states with decentralized background checks experienced a *decreased* risk of the above IPV that resulted in an injury or murder-suicide compared to states with centralized background checks. Our results support prior findings regarding the effectiveness of decentralized background checks in reducing overall firearm homicides and suicides (Sumner et al., 2008) and the protective effect of additional background checks against homicide rates (Sen & Panjamapirom, 2012).

Our findings suggest that the benefits of decentralization do not simply accrue from the abstract notion of decision-making being 'closer to the people' – which implies a lack of contingency vis-à-vis the impact of decentralization. Instead, our findings contribute to the literature on the *contingent* impacts of decentralization by highlighting the comprehensiveness of information as shaping the effectiveness of subnational policy implementation. The comprehensiveness of information for decision-making is a conduit for shaping policy implementation along with factors suggested in the prior literature, such as political ideology (Kogan, 2017), task environment (Whitford, 2002), administrative capacity, the scope and nature

of local needs (Chappell & Curtin, 2012), and the degree of openness to learning from neighboring jurisdictions (Borders et al., 2011). Future research should seek to establish how these mechanisms may reinforce or counteract each other in shaping subnational IPV outcomes.

While there are reasons to be optimistic regarding the role that information can play in preventing gun purchases by individuals likely to commit IPV and thereby enhance the protection afforded to potential victims, we believe that our results should not be construed as suggesting that 'more decentralization is beneficial for vulnerable populations.' Specifically, it is possible that comprehensive information on citizens', under an assumption of race-, class-, or gender-blindness, could be used to sanction individuals belonging to historically marginalized outgroups differentially. For instance, prior research has found that after the welfare reform in the mid-1990s, states sought to use the information on citizens' employment history to decide whether to withhold child support payments from benefits (Keiser & Soss, 1998) and imposed sanctions on welfare recipients who failed to meet minimum work requirements (Fording et al., 2007; Soss et al., 2011).

Our findings also draw attention to the importance of the federal government in setting the tone for states and promulgating laws in ways that afford a sufficiently high level of 'minimum protection' for vulnerable or systematically disadvantaged communities. Given that thirty-one non-POC states in the U.S. solely rely on the FBI for certain background checks, it stands to reason that richer information at the federal level would create a higher hurdle for potential perpetrators who might use firearms to carry out IPV in the above states.

A limitation of our study is that we focused on firearm-involved IPV rather than overall IPV. This constraint was inherent to the data source we used, which reported incidents reporting firearm use only. Researchers may examine the impact of decentralization on overall IPV by

using alternate data sources, such as hospital records and police reports to construct counts of IPV incidents. In addition, given that women of color are likely to be overrepresented in IPV incidents, future research should also seek to assess whether decentralization of background checks was associated with lower levels of firearm-involved IPV against this population group.

As public administration scholars, administrative decentralization and its impacts on policy outcomes remain a crucial question. Just as the nature of the policy area and socio-political conditions matter when we determine the impact of administrative decentralization, we argue that the *mechanism* through which federated policies are administered can protect or jeopardize the life chances of citizens. When a state implements a federated policy, firearm-involved IPV that results in injury or murder-suicide decreases when a state uses more information.

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Table 1 Variables and data sources

Variable	Type	Source
IPV involving firearm incidents resulting in injuries, homicides, and murder-suicides	Panel; 2017-2020	www.gunviolencearchive.org
Stay-at-home (SAH) order dates	Panel; 2017-2020	Covid-19 US State Policy Database (Raifman et al., 2020); State Data and Policy Actions (Jennifer et al., 2020)
Administrative level of background check	Panel; 2017-2020	Federal Bureau of Investigation, State Firearm Law Database (Siegel, 2021); Giffords Law Center (Giffords Law Center, 2020)
Number of restrictions during SAH order	Panel; 2017-2020	Covid-19 US State Policy Database (Raifman et al., 2020)
Number of IPV-preventative laws restricting firearm use	Panel; 2017-2020	State Firearm Law Database (Siegel, 2021)
Indicator for states prohibiting possession of firearms by people who have been convicted of misdemeanor crime of domestic violence	Panel; 2017-2020	State Firearm Law Database (Siegel, 2021)
Indicator for states allowing more than three days to conduct background check for gun sales or permits	Panel; 2017-2020	State Firearm Law Database (Siegel, 2021)
State and Legislative Partisan Composition	Panel; 2017-2020	National Conference of State Legislatures (National Conference of State Legislatures, 2021)
Percentage of state population that is female	Panel; 2017-2020	US Census Bureau
Percentage non-white	Panel; 2017-2020	US Census Bureau
Percentage of population 25+ with bachelors degree	Panel; 2017-2020	US Census Bureau
Unemployment Rate	Panel; 2017-2020	Bureau of Labor Statistics
Percentage of population below poverty line	Panel; 2017-2020	US Census Bureau
Number of women (in state) age 18+	Panel; 2017-2020	US Census Bureau

Table 2 Descriptive Statistics

Variable	2017	2018	2019	2020 (till 5/24/2020)
Mean of firearm-involved IPV incidents resulting in injuries (per state-week)	.10	.11	.11	.11
Mean of firearm-involved IPV incidents resulting in homicide (per state-week)	.12	.13	.14	.17
Mean of firearm-involved IPV incidents resulting in murder-suicide (per state-week)	.06	.06	.06	.05
Number of states issuing stay-at-home (SAH) orders	0	0	0	40
Mean weeks for which SAH orders were in effect	0	0	0	5.61
Mean of COVID restrictions (per state-week)	0	0	0	2.44
Mean of IPV-preventative laws restricting firearm access	4.52	4.76	5.01	5.09
Number of states allowing more than three days for a background check	10	11	12	12
Number of states with Democratic trifecta	6	7	13	14
Number of states with divided government	14	14	13	12
Mean percentage of state population that is female	50.60	50.60	50.55	50.49
Mean percentage of state population that is non-white	23.88	24.12	25.57	27.46
Mean percentage of state population that is 25+ with at least bachelors degree	30.9	31.47	31.38	30.85
Mean Unemployment rate	4.16	3.79	3.61	8.12
Mean percentage of state population that is below poverty line	13.49	13.03	13.67	14.95

Table 3: Impact of Administrative Decentralization on Intimate Partner Violence Involving the Use of a Firearm

Independent Variables	IPV Incidents Involving a Firearm		
	Incidents involving Injuries (A)	Incidents involving Homicide (B)	Murder Suicides (C)
SAH Order Indicator	-.20	.07	.43
Duration of SAH Order	.05	3.3×10^{-3}	-.13
Decentralized Background Check Indicator	-1.08***	-.17	.83*
Duration of SAH Order \times Decentralized Background Check Indicator	.09	-.06	-.49***
Number of COVID Restrictions	.07	.09*	-.13
Number of Domestic Violence Laws Restricting Firearm Access	-.03	-.07	-.02
+3 days allowed for a background check?	.03	-.01	-.03
Democratic Trifecta Indicator	.27	.49	.58
Divided Government Indicator	.36*	.34*	.30
<i>All covariates included</i>	Yes	Yes	Yes
<i>Year, Month and Jurisdiction-specific Fixed Effects Included</i>	Yes	Yes	Yes
<i>Standard Errors clustered at Jurisdiction level</i>	Yes	Yes	Yes
<i>Exposure term included</i>	Yes	Yes	Yes
Observations	9,073	8,862	9,284
AIC	5,766.79	6,559.34	3,726.75

$\wedge p < .15$; * $p < .1$; ** $p < .05$; *** $p < .01$

Figure 1

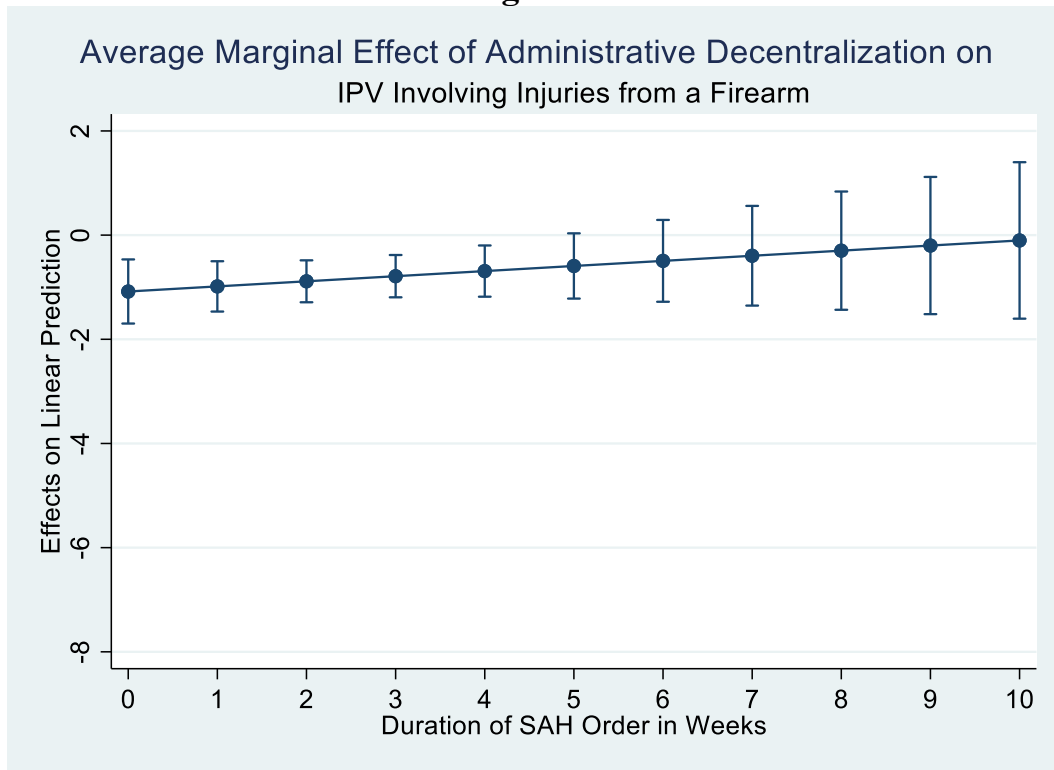
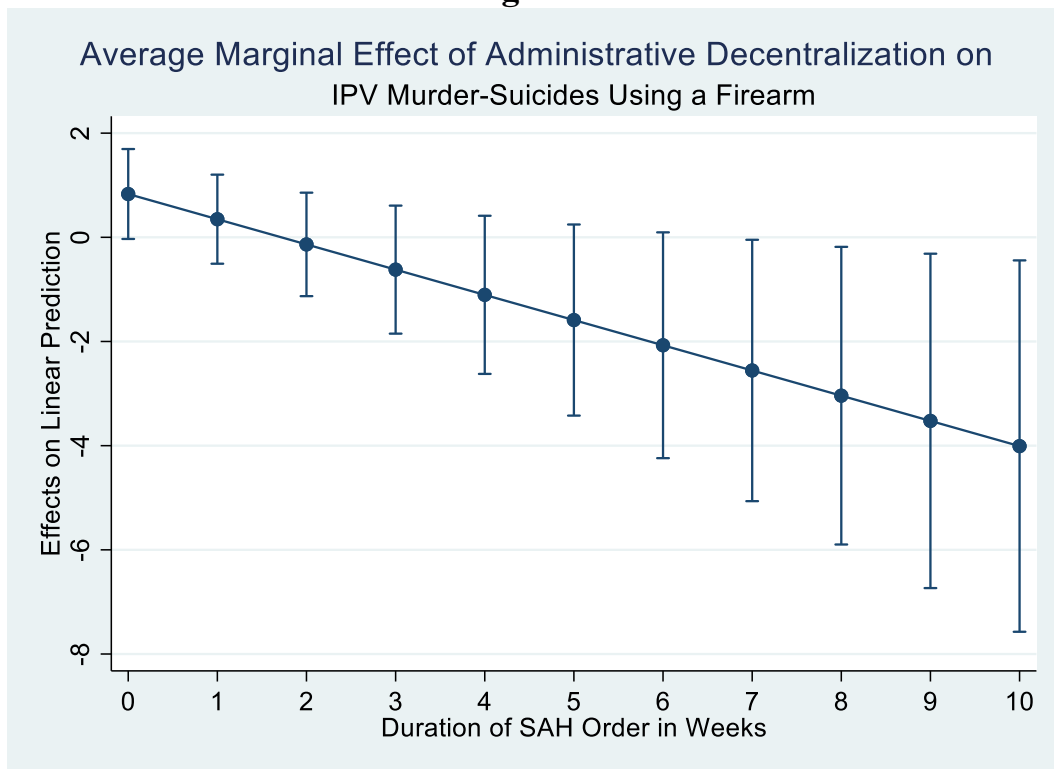


Figure 2



Appendix A

Several state laws were considered while computing a state-specific running total of the number of laws intended to deter firearm acquisition or possession by individuals at risk of committing intimate partner violence. The following list represents a list of the laws that were finally included in this running total, whereby the presence of a law added one to the running total, whereas its absence did not:

1. A law that prohibits people convicted of a misdemeanor crime of domestic violence against a spouse, ex-spouse, or cohabitating partner from possessing firearms.
2. A law that requires people convicted of a misdemeanor crime of domestic violence against a spouse, ex-spouse, or cohabitating partner to surrender their firearms.
3. A law that requires people convicted of a misdemeanor crime of domestic violence against a spouse, ex-spouse, or cohabitating partner to surrender their firearms with no exceptions.
4. A law that enables the above surrender provisions to apply if the defendant is a dating partner of the victim.
5. A state law that allows law enforcement to remove firearms from a misdemeanor crime of domestic violence (MCDV) offender.
6. A state law that *requires* law enforcement officers to remove firearms from MCDV offenders.
7. A state law that *requires* law enforcement to remove firearms from the scene of a domestic violence incident.
8. A state law that requires that all firearms must be removed from the scene of a domestic violence incident.

9. A state law that automatically prohibits domestic violence-related restraining order (DVRO) subjects from possessing firearms.
10. A state law whereby DVROs are automatically prohibiting if the subject is a dating partner of the petitioner.
11. A state law whereby ex parte (temporary) DVRO subjects are automatically prohibited from possessing firearms.
12. A state law whereby ex parte DVROs are prohibiting if the petitioner is a dating partner of the DVRO subject.
13. A state law whereby DVRO subjects are required to surrender their firearms.
14. A state law whereby no additional finding is required before the above firearm surrender provisions apply.
15. A state law whereby the surrender provisions apply if the subject is a dating partner of the petitioner.
16. A state law whereby ex parte DVRO subjects are required to surrender their firearms.
17. A state law whereby no additional finding is required before the ex parte DVRO firearm surrender provisions apply.
18. A state law whereby the ex parte DVRO surrender provisions apply if the subject is a dating partner of the petitioner.
19. A state law whereby law enforcement officials are *required* to remove firearms from people subject to a domestic violence-related restraining order.
20. A stalking conviction is prohibitive for firearm possession.

Appendix B

Several state-level measures were enacted to mitigate the spread of Covid-19. We computed a running total of the state-specific measures, whereby the presence of a measure added one to the running total, whereas its absence did not. The following measures were used to calculate this running total:

1. A statewide order to close K-12 schools.
2. A statewide order to close daycares.
3. A statewide order to close non-essential businesses.
4. A statewide order mandating face mask use in public spaces.
5. A statewide order to close restaurants (except for takeout).
6. A statewide order to close indoor gyms/fitness centers.
7. A statewide order to close movie theaters.
8. A statewide order to close bars (bars are defined as establishments that derive more than 50 percent of their gross revenue from the sale of alcoholic beverages).

Appendix C

Figure C.1: Impact of SAH Orders on Firearm-Involved IPV Resulting in Injury

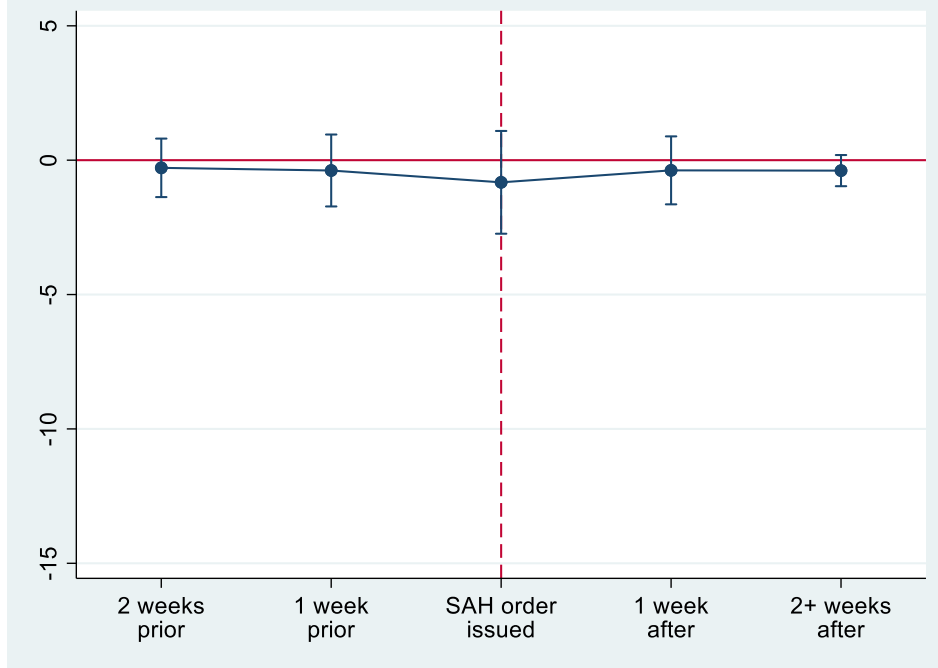


Figure C.2: Impact of SAH Orders on Firearm-Involved IPV Resulting in Homicide

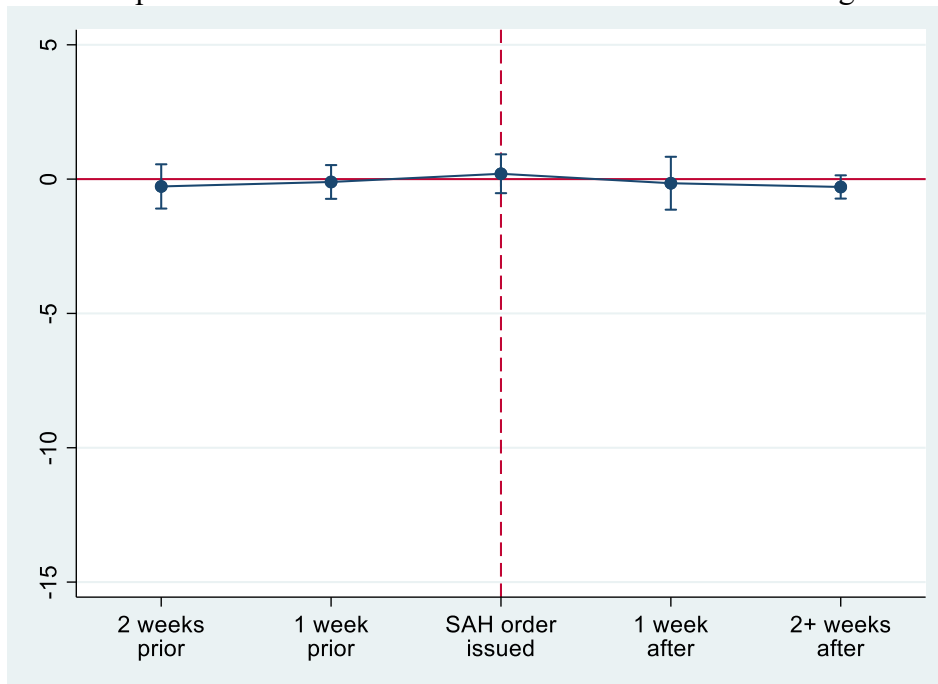


Figure C.3: Impact of SAH Orders on Firearm-Involved IPV Resulting in Murder-Suicide

